

# **M3 Junction 9 Improvement**

**Scheme Number: TR010055**

## **5.1 Consultation Report Appendix E - EIA Scoping**

**APFP Regulation 5(2)(q)**

**Planning Act 2008**

**Infrastructure Planning (Applications: Prescribed Forms and  
Procedure) Regulations 2009**

**Volume 5**

**November 2022**

## Infrastructure Planning

Planning Act 2008

### **Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009**

M3 Junction 9 Improvement  
Development Consent Order 202[x]

#### **5.1 CONSULTATION REPORT APPENDIX E – EIA SCOPING**

<b>Regulation Number:</b>	Regulation 5(2)(q)
<b>Planning Inspectorate Scheme Reference:</b>	TR010055
<b>Application Document Reference:</b>	5.1
<b>BIM Document Reference:</b>	HE551511-VFK-LSI-X_XXXX_XX-RP-LE-0004
<b>Author:</b>	M3 Junction 9 Improvement Project Team, National Highways

Version	Date	Status of Version
Rev 0	November 2022	Application Submission



## **Appendix E – EIA Scoping**

- E.1. 2019 Scoping Opinion**
- E.2. 2019 EIA Scoping Report – Cover Letter**
- E.3. 2020 Scoping Opinion**
- E.4. 2020 EIA Scoping Report – Cover Letter**
- E.5. 2020 EIA Scoping Report**

## **E.1. 2019 Scoping Opinion**



# **SCOPING OPINION:**

## **Proposed M3 Junction 9 Improvement Project**

**Case Reference: TR010055**

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Adopted by the Planning Inspectorate (on behalf of the Secretary of State pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

**March 2019**

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# 1. INTRODUCTION

## 1.1 Background

- 1.1.1 On 28 January 2019, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from Highways England (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed M3 Junction 9 Improvement Project (the Proposed Development).
- 1.1.2 In accordance with Regulation 10 of the EIA Regulations, an Applicant may ask the SoS to state in writing its opinion *'as to the scope, and level of detail, of the information to be provided in the environmental statement'*.
- 1.1.3 This document is the Scoping Opinion (the Opinion) provided by the Inspectorate on behalf of the SoS in respect of the Proposed Development. It is made on the basis of the information provided in the Applicant's report entitled M3 Junction 9 Improvements Environmental Impact Assessment Scoping Report (the Scoping Report). This Opinion can only reflect the proposals as currently described by the Applicant. The Scoping Opinion should be read in conjunction with the Applicant's Scoping Report.
- 1.1.4 The Applicant has notified the SoS under Regulation 8(1)(b) of the EIA Regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development. Therefore, in accordance with Regulation 6(2)(a) of the EIA Regulations, the Proposed Development is EIA development.
- 1.1.5 Regulation 10(9) of the EIA Regulations requires that before adopting a scoping opinion the Inspectorate must take into account:
- (a) *any information provided about the proposed development;*
  - (b) *the specific characteristics of the development;*
  - (c) *the likely significant effects of the development on the environment; and*
  - (d) *in the case of a subsequent application, the environmental statement submitted with the original application.*
- 1.1.6 This Opinion has taken into account the requirements of the EIA Regulations as well as current best practice towards preparation of an ES.
- 1.1.7 The Inspectorate has consulted on the Applicant's Scoping Report and the responses received from the consultation bodies have been taken into account in adopting this Opinion (see Appendix 2).
- 1.1.8 The points addressed by the Applicant in the Scoping Report have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the Inspectorate will take account of relevant legislation and guidelines. The Inspectorate will not be precluded from

requiring additional information if it is considered necessary in connection with the ES submitted with the application for a Development Consent Order (DCO).

- 1.1.9 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (on submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.
- 1.1.10 Regulation 10(3) of the EIA Regulations states that a request for a scoping opinion must include:
- (a) *a plan sufficient to identify the land;*
  - (b) *a description of the proposed development, including its location and technical capacity;*
  - (c) *an explanation of the likely significant effects of the development on the environment; and*
  - (d) *such other information or representations as the person making the request may wish to provide or make.*
- 1.1.11 The Inspectorate considers that this has been provided in the Applicant's Scoping Report. The Inspectorate is satisfied that the Scoping Report encompasses the relevant aspects identified in the EIA Regulations.
- 1.1.12 In accordance with Regulation 14(3)(a), where a scoping opinion has been issued in accordance with Regulation 10 an ES accompanying an application for an order granting development consent should be based on '*the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion)*'.
- 1.1.13 The Inspectorate notes the potential need to carry out an assessment under The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). This assessment must be co-ordinated with the EIA in accordance with Regulation 26 of the EIA Regulations. The Applicant's ES should therefore be co-ordinated with any assessment made under the Habitats Regulations.

## **1.2 The Planning Inspectorate's Consultation**

- 1.2.1 In accordance with Regulation 10(6) of the EIA Regulations the Inspectorate has consulted the consultation bodies before adopting a scoping opinion. A list of the consultation bodies formally consulted by the Inspectorate is provided at Appendix 1. The consultation bodies have been notified under Regulation 11(1)(a) of the duty imposed on them by Regulation 11(3) of the EIA Regulations to make information available to the Applicant relevant to the



preparation of the ES. The Applicant should note that whilst the list can inform their consultation, it should not be relied upon for that purpose.

- 1.2.2 The list of respondents who replied within the statutory timeframe and whose comments have been taken into account in the preparation of this Opinion is provided, along with copies of their comments, in Appendix 2, to which the Applicant should refer in preparing their ES.
- 1.2.3 The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.
- 1.2.4 Any consultation responses received after the statutory deadline for receipt of comments will not be taken into account within this Opinion. Late responses will be forwarded to the Applicant and will be made available on the Inspectorate's website. The Applicant should also give due consideration to those comments in preparing their ES.

### **1.3 Article 50 of the Treaty on European Union**

- 1.3.1 On 23 June 2016, the United Kingdom (UK) held a referendum and voted to leave the European Union (EU). On 29 March 2017 the Prime Minister triggered Article 50 of the Treaty on European Union, which commenced a two year period of negotiations regarding the UK's exit from the EU. On 26 June 2018 The European Union (Withdrawal) Act 2018 received Royal Assent and work to prepare the UK statute book for Brexit has begun. The European Union (Withdrawal) Act 2018 will make sure that UK laws continue to operate following the UK's exit. There is no immediate change to legislation or policy affecting national infrastructure. Relevant EU Directives have been transposed into UK law and those are unchanged until amended by Parliament.

## **2. THE PROPOSED DEVELOPMENT**

### **2.1 Introduction**

2.1.1 The following is a summary of the information on the Proposed Development and its site and surroundings prepared by the Applicant and included in their Scoping Report. The information has not been verified and it has been assumed that the information provided reflects the existing knowledge of the Proposed Development and the potential receptors/ resources.

### **2.2 Description of the Proposed Development**

2.2.1 The Applicant's description of the Proposed Development, its location and technical capacity (where relevant) is provided in Scoping Report Section 2.4.

2.2.2 The Proposed Development is to improve the existing M3 Junction 9 in order to maintain connectivity, whilst providing enhanced capacity, simplified routing and improved facilities for non-motorised users.

2.2.3 The main elements of the scheme provide the following modifications: Free flow grade separated links between the M3 to/from Southampton and the A33/A34 to/from Basingstoke; widening of part of the M3 from dual lane to a four lane motorway; a grade separated dumbbell roundabout within the footprint of the existing roundabout, including a new bridge connection over the M3, improved slips to and from the M3 and connector roads from the new free flow links; and new subways through the junction providing an access route between South Downs National Park, Winnall and Abbots Worthy.

2.2.4 The existing M3 Junction 9 is joined with the A34 towards Newbury and Oxford to the North, the A272 towards Petersfield to the East, Easton Lane towards Winnall and North Winchester to the West.

2.2.5 Land use is described in Section 2.3 and Figure 1-1 in Appendix B. The land is primarily urban to the west of the M3. Part of the urban area to the immediate west includes an area of commercial development, and four schools that are located within proximity to the junction. To the east the land is part of the South Downs National Park and primarily rural green field with isolated farm holdings and rural dwellings ( ).

2.2.6 The Proposed Development extents are given as being approximately 94 hectares. Approximately 29 hectares of this land is outside of the existing highways boundary. The Proposed Development extents includes land required for gantries, signage, an indicative satellite compound area, areas for environmental mitigation and areas for drainage requirements. It is noted that the Order Limits may be subject to change as the design process progresses but that the proposed extents given are considered to be the land take required (based on the present design).

## 2.3 The Planning Inspectorate's Comments

### Description of the Proposed Development

- 2.3.1 Chapter 2 of the Scoping Report provides a description of the Proposed Development. The Inspectorate notes that the Scoping Report lacks in-depth detail on all elements of the Proposed Development and proposes to allow flexibility in the final design (as detailed in Section 2.6). The ES must include a description of all physical characteristics of the Proposed Development. Where uncertainty exists and flexibility is sought this should be explained not only in terms of the maximum parameters but also the anticipated limits of deviation, the dimensions, locations and alignments of the various project elements, including points of access and key structures. This information is important to ensure that any potential significant effects associated with the construction and operation stages have been appropriately assessed. The ES should provide figures to support the project description and depict the necessary detail.
- 2.3.2 No detail is provided relating to the anticipated duration of the construction phase of the Proposed Development and when the likely operational stage would commence. The ES should contain a general construction programme so that it is clear how and when the specific works will take place, and how resulting effects on road networks are to be managed. It should provide a description of the land use requirements during both the construction and operational phases. It is also important that the ES clearly identifies and distinguishes areas of land which are required either permanently or on a temporary basis.
- 2.3.3 Section 2.4.17 provides comment on construction activities and states that the proposals allow for satellite construction compounds, haul roads, stockpiling and storage areas and areas of traffic management. The ES should adequately detail the locations and extents of these features and factor them into the assessments undertaken.
- 2.3.4 It is considered that the Proposed Development may require the diversion of various cables and utilities. This will necessitate associated ground moving activities, such as excavation and the establishment of temporary work areas. However, limited further information is provided on any diversions. The Applicant should ensure that the ES provides specific detailed information on this element of the Proposed Development, including plans to identify the diversions, and should ensure that any assessment is consistent with works specified within the dDCO.
- 2.3.5 The Scoping Report states that the proposals allow for 'areas for drainage requirements' and mentions detention pond(s) within the scheme. The ES should provide a sufficiently clear and specific textual description of the proposed drainage arrangements, indicating the location of any proposed pipework or balancing ponds by reference to plans.
- 2.3.6 The Scoping Report states that it is not currently anticipated to light the proposed junction or associated slip roads. Should the Applicant decide that

lighting is required the ES should assess any impacts associated with lighting, such as light spill, as part of the relevant aspect assessments with evidence as to how this has been taken into account.

- 2.3.7 Diversions and closures of roads are listed to be required throughout in the construction phase. The ES should contain a full explanation of such closures and diversions, including whether they are temporary or permanent, and associated impacts should be fully assessed. This should also include any closures or diversions to Public Footpaths or Rights of Way.
- 2.3.8 This information should also be depicted on figures in the ES, to provide further clarity.

### **Alternatives**

- 2.3.9 The EIA Regulations require that the Applicant provide 'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'.
- 2.3.10 Supplementary to the detail provided in the Scoping Report, The Inspectorate acknowledges the Applicant's intention to consider alternatives within the ES. The Inspectorate would expect to see a discrete section in the ES that provides details of the reasonable alternatives studied and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects.

### **Flexibility**

- 2.3.11 The Inspectorate notes the Applicant's desire to incorporate flexibility into their draft DCO (dDCO) and its intention to apply a Rochdale Envelope approach for this purpose. Where the details of the Proposed Development cannot be defined precisely, the Applicant will apply a worst case scenario. The Inspectorate welcomes the reference to Planning Inspectorate Advice Note Nine, 'Using the 'Rochdale Envelope'', in this regard.
- 2.3.12 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the Proposed Development have yet to be finalised and provide the reasons. At the time of application, any Proposed Development parameters should not be so wide-ranging as to represent effectively different developments. The development parameters will need to be clearly defined in the dDCO and in the accompanying ES. It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the Proposed Development in the ES must not be so wide that it is insufficiently certain to comply with the requirements of Regulation 14 of the EIA Regulations.

- 2.3.13 It should be noted that if the Proposed Development materially changes prior to submission of the DCO application, the Applicant may wish to consider requesting a new scoping opinion.

## **3. ES APPROACH**

### **3.1 Introduction**

- 3.1.1 This section contains the Inspectorate's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. General advice on the presentation of an ES is provided in the Inspectorate's Advice Note Seven 'Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements'<sup>1</sup> and associated appendices.
- 3.1.2 Aspects/matters (as defined in Advice Note Seven) are not scoped out unless specifically addressed and justified by the Applicant and confirmed as being scoped out by the Inspectorate. The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report.
- 3.1.3 The Inspectorate has set out in this Opinion where it has/has not agreed to scope out certain aspects/matters on the basis of the information available at this time. The Inspectorate is content that the receipt of a Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultees to scope such aspects/matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.
- 3.1.4 Where relevant, the ES should provide reference to how the delivery of measures proposed to prevent/ minimise adverse effects is secured through DCO requirements (or other suitably robust methods) and whether relevant consultees agree on the adequacy of the measures proposed.

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

- 3.2.1 Sector-specific NPSs are produced by the relevant Government Departments and set out national policy for NSIPs. They provide the framework within which the Examining Authority (ExA) will make their recommendation to the SoS and include the Government's objectives for the development of NSIPs. The NPSs may include environmental requirements for NSIPs, which Applicants should address within their ES.
- 3.2.2 The designated NPS relevant to the Proposed Development is the NPS for National Networks (NPSNN).

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<sup>1</sup> Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements and annex. Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

### 3.3 Scope of Assessment

#### General

- 3.3.1 The Inspectorate recommends that in order to assist the decision-making process, the Applicant uses tables:
- to demonstrate how the assessment has taken account of this Opinion;
  - to identify and collate the residual effects after mitigation for each of the aspect chapters, including the relevant interrelationships and cumulative effects;
  - to set out the proposed mitigation and/ or monitoring measures including cross-reference to the means of securing such measures (e.g. a dDCO requirement);
  - to describe any remedial measures that are identified as being necessary following monitoring; and
  - to identify where details are contained in the Habitats Regulations Assessment (HRA report) (where relevant), such as descriptions of European sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.
- 3.3.2 The Inspectorate considers that where a DCO application includes works described as 'Associated Development', that could themselves be defined as an improvement of a highway, the Applicant should ensure that the ES accompanying that application distinguishes between; effects that primarily derive from the integral works which form the proposed (or part of the proposed) NSIP and those that primarily derive from the works described as Associated Development. This could be presented in a suitably compiled summary table. This will have the benefit of giving greater confidence to the Inspectorate that what is proposed is not in fact an additional NSIP defined in accordance with s22 of the PA2008.
- 3.3.3 The Inspectorate notes the statement in the Scoping Report regarding demolition and decommissioning and accepts that as decommissioning is not envisaged as part of the Proposed Development that it can be excluded from consideration in the ES. The Inspectorate considers that this is a reasonable approach taking into account the specific characteristics of the Proposed Development. However, the Inspectorate considers that any decommissioning associated with dismantling and replacing particular elements of the Proposed Development (e.g. lighting columns) once they reach the end of their design life should be assessed if significant effects are likely to occur. The design life should be specifically defined for these elements.
- 3.3.4 Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES. The Scoping Report omits any comment on this and it is expected that the final ES will address such matters (see 3.3.14 -3.3.15 below).

### **Baseline Scenario**

- 3.3.5 The ES should include a description of the baseline scenario with and without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.

### **Forecasting Methods or Evidence**

- 3.3.6 The ES should contain the timescales upon which the surveys which underpin the technical assessments have been based. For clarity, this information should be provided either in the introductory chapters of the ES (with confirmation that these timescales apply to all chapters), or in each aspect chapter.
- 3.3.7 The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the assessment, which clearly distinguishes effects that are 'significant' from 'non-significant' effects. Any departure from that methodology should be described in individual aspect assessment chapters.
- 3.3.8 The ES should include details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

### **Residues and Emissions**

- 3.3.9 The EIA Regulations require an estimate, by type and quantity, of expected residues and emissions. Specific reference should be made to water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases, where relevant. This information should be provided in a clear and consistent fashion and may be integrated into the relevant aspect assessments.

### **Mitigation**

- 3.3.10 Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should also address how any mitigation proposed is secured, with reference to specific DCO requirements or other legally binding agreements.

### **Risks of Major Accidents and/or Disasters**

- 3.3.11 The ES should include a description and assessment (where relevant) of the likely significant effects resulting from accidents and disasters applicable to the Proposed Development. The Applicant should make use of appropriate guidance (e.g. that referenced in the Health and Safety Executives (HSE) Annex to Advice Note 11) to better understand the likelihood of an occurrence and the Proposed Development's susceptibility to potential major accidents and hazards. The description and assessment should consider the vulnerability of the Proposed Development to a potential accident or disaster and also the



Proposed Development's potential to cause an accident or disaster. The assessment should specifically assess significant effects resulting from the risks to human health, cultural heritage or the environment. Any measures that will be employed to prevent and control significant effects should be presented in the ES.

- 3.3.12 Relevant information available and obtained through risk assessments pursuant to European Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

### **Climate and Climate Change**

- 3.3.13 The ES should include a description and assessment (where relevant) of the likely significant effects the Proposed Development has on climate (for example having regard to the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. Where relevant, the ES should describe and assess the adaptive capacity that has been incorporated into the design of the Proposed Development. This may include, for example, alternative measures such as changes in the use of materials or construction and design techniques that will be more resilient to risks from climate change.

### **Transboundary Effects**

- 3.3.14 Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES.
- 3.3.15 Whether the Proposed Development is likely to have significant effects on another European Economic Area (EEA) State and whether transboundary effects may occur needs to be considered within the ES. The Inspectorate recommends that, for the avoidance of doubt, the ES details any such assessment.

### **A Reference List**

- 3.3.16 A reference list detailing the sources used for the descriptions and assessments must be included in the ES.

## **3.4 Confidential Information**

- 3.4.1 In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to information about the presence and locations of rare or sensitive species such as [REDACTED], rare birds and plants where disturbance, damage, persecution or commercial exploitation may result from publication of the information. Where documents are intended to remain confidential the Applicant should provide these as separate paper

and electronic documents with their confidential nature clearly indicated in the title and watermarked as such on each page. The information should not be incorporated within other documents that are intended for publication or which the Inspectorate would be required to disclose under the Environmental Information Regulations 2004.

## 4. ASPECT BASED SCOPING TABLES

### 4.1 Air Quality

(Scoping Report Chapter 6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.1.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.1.2		General	The impact of road diversions, closures and congestion through the Winchester AQMA should be appropriately assessed in the ES. This is also relevant when considering Population and Human Health receptors (in Chapter 13)
4.1.3	6.1.1	Study area	The extent of the study area for the assessment should be illustrated on a plan in the ES.
4.1.4	6.2.10	Ecological receptors	The Scoping Report identifies three designated sites within proximity of the Proposed Development. The Scoping Report states that the background nitrogen oxide (NO <sub>x</sub> ) deposition is below the critical load within St Catherine's Hill SSSI, but above within River Itchen SSSI and SAC. Any specific mitigation measures required to address the effects on these sites from NO <sub>x</sub> should be clearly identified and secured, through consultation with the relevant consultation bodies.
4.1.5	6.2.16	Local Authority baseline data	Paragraph 6.2.16 of the Scoping Report explains that the latest monitoring data indicates no exceedances of the Nitrogen Dioxide (NO <sub>2</sub> ) Air Quality Objective (AQO) except at the St Catherine's Hill SSSI ecological site. However, the Environment Agency (EA) (Appendix 2) has identified that there is another exceedance;

ID	Ref	Other points	Inspectorate's comments
			recorded in the River Itchen SSSI. The ES should be based on up to date information and take into account the existing baseline conditions.
4.1.6	6.3.1	PM2.5	Paragraph 6.2.9 states that 'Concentrations of NO <sub>x</sub> , NO <sub>2</sub> , PM10 and PM2.5 around the Proposed Scheme are below the relevant Air Quality objectives'. The Scoping Report also suggests that the Proposed Development is expected to result in changes to emissions of NO <sub>x</sub> , NO <sub>2</sub> and Particular Matter (PM10) along the M3 and linked routes as a consequence of changes in traffic flows and speeds. The ES should ensure that any significant health effects associated with the Proposed Development and increased emissions of Particular Matter, PM2.5 are also assessed.
4.1.7	6.3.5	Potential Impacts – Construction Phase	The EA raise concerns regarding the methodology for assessment of 'how air quality and dust impacts as a result of construction activities will be fully assessed if sufficient construction information is not available' (See Appendix 2). It is the opinion of the Inspectorate that this methodology should be clarified and explicitly detailed in the ES. Efforts should be made to agree the necessary information regarding construction activities with consultation bodies.
4.1.8	6.5.1	Description of likely significant effects	This paragraph suggests that no significant effect on local air quality is anticipated from proposed scheme. However, this statement is contradicted by commentary in Paragraph 6.3.4 which states that the proposed scheme is likely to result in 'both beneficial and adverse changes to local air quality'. Furthermore, Table 6-5 acknowledges the potential for significant effects to the designated site adjacent to the A34. Based on these contradictory statements in relation to anticipated effects from changes in Air Quality. The Inspectorate considers that the ES should be consistent in presenting the effects. This is corroborated by the EA consultation response, presented in

ID	Ref	Other points	Inspectorate's comments
			Appendix 2.
4.1.9	6.6.2	Human receptors	<p>The DMRB guidance used to underpin the assessment methodology states that particular attention should be paid to the location of the young, elderly and other susceptible populations, such as schools and hospitals. The ES should clearly set out the type and location of both human and ecological receptors which could be affected. A plan depicting these features would be expected in the ES.</p> <p>It is recommended that these are agreed with the relevant local planning authorities. Relevant ecological receptors responsive to impacts to air quality should be agreed with Natural England.</p>
4.1.10	6.6.3	Methodology	<p>Reference is given to documents which will inform the assessment methodology. The methodology should be clearly explained in the ES, including how the significance of effect will be determined.</p> <p>The Inspectorate considers that the assessment of Air Quality in the ES should explain the relationship between the anticipated effects from increased air emissions and impacts to landscape features e.g. trees and hedges. The explanation should specifically address where removal or introduction of these features would contribute to the findings of significant effects.</p>

## 4.2 Cultural Heritage

(Scoping Report Chapter 7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.2.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.2.2		General	<p>The South Downs National Park Authority (SDNPA) response presents a series of other matters (archaeology and historic landscape character) to consider when compiling the ES. The Inspectorate recommends these points are appropriately addressed in the ES. The full response from SDNPA is presented in Appendix 2.</p> <p>Historic England's consultation response indicates that the Scoping Report does not address key heritage features (scheduled monuments) in proximity to the Proposed Development and which could experience impacts. The Inspectorate considers that the ES should identify and address all such features. The ES should also assess impacts to these features where significant effects are likely to occur.</p> <p>The Scoping Report also does not explain how/if impacts to undesignated assets will be assessed. The Inspectorate considers that the ES should assess impacts to undesignated assets where significant effects may occur. Furthermore, the impacts on buried archaeological resources should also be appropriately assessed in the ES.</p>
4.2.3	7.6.5	Archaeological remains - assessment	The Scoping Report proposes a detailed assessment of impacts to archaeological remains. The scope and methodology of any archaeological investigations undertaken to inform the impact assessment should be detailed in the ES and/or associated Technical

ID	Ref	Other points	Inspectorate's comments
			Appendix. The Applicant should make effort to agree the detailed approach to such investigations with relevant consultation bodies.

## 4.3 Landscape and Visual

(Scoping Report Chapter 8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.3.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.3.2		General	As stated in Chapter 10 (Geology and Soils) the ES should ensure that effects on surrounding land uses e.g. industry, commerce, community facilities and tourism will be dealt with in this chapter.
4.3.3	8.2	Baseline Conditions	<p>This section focusses predominantly on Highways England owned land when discussing the baseline landscape conditions. SDNPA reiterate this point (Appendix 2) and 'query this approach' and 'suggest the 2km study area is more appropriate'.</p> <p>The Inspectorate requested that full justification for the defined study area should be presented in the ES.</p>
4.3.4	8.3.1	Potential effects	To support a robust assessment of likely significant effects, the ES should include plans and visualisations which highlight the elements of the Proposed Development which would impact on landscape character and be visually prominent to visual and amenity receptors (for example, the removal of 5ha of trees and approximately 1000m of hedgerow, and the views of local residents and PRoW in the area). Cross sections and photomontages should be included for this purpose. The landscape and visual assessment should reflect any parameters within the dDCO and if necessary the assessment should be undertaken based on the worst case scenario. The applicant should make effort to agree the list of receptors with relevant consultation



ID	Ref	Other points	Inspectorate's comments
			bodies.
4.3.5	8.1.2	Zone of Theoretical Visibility (ZTV)	The ES should describe the model/method used to define the ZTV and include the dates of the ZTV surveys. The ES should demonstrate how the findings of the ZTV and assessment of likely significant effects influence decisions regarding mitigation both on site and off site.

## 4.4 Biodiversity

(Scoping Report Chapter 9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.4.1	Table 9-1 & Table 9-6	Great Crested Newt	<p>The Scoping Report says that none of the waterbodies included within the baseline analysis contained great crested newt DNA and no inhibition or degradation has been identified within any of the samples. As such, great crested newt (GCN) are considered to be absent from the study area and the extent of the Proposed Development.</p> <p>However, should any new water bodies be identified through amendments to the red line boundary of the Proposed Development; the Applicant should carry out the necessary surveys to confirm the presence or absence of GCN and assess any likely significant effects.</p>

ID	Ref	Other points	Inspectorate's comments
4.4.2		General	<p>The Inspectorate considers that the Scoping Report lacks detail on landscaping measures within the Proposed Development; including the extent, location and timing of such features. The ES should include this information so that the efficacy of any such proposals can be understood. The ES should also explain how any such measures will be delivered and secured with reference to the dDCO or other legally binding methods. If the delivery of such measures cannot be guaranteed they should not influence the assessment of likely significant effects in the ES.</p>
4.4.3	9.2.7	Statutory Designated sites	<p>The Ecology chapter states that there is only one designated site – River Itchen SAC, which is also an SSSI, and that there a no further UK statutory designated sites within a 2km study area. However,</p>

ID	Ref	Other points	Inspectorate's comments
			<p>other chapters identify a further ecological receptor at St Catherine's Hill SSSI which is in close proximity to the Proposed Development, which is not referred to in the Ecology chapter.</p> <p>The study area for the assessments should be defined by the extent of the likely impact rather than arbitrary limits of distance and the ES should assess all impacts to designated sites where significant effects are likely.</p>
4.4.4	9.2.8	Non Statutory Designated sites	The Inspectorate considers that the Applicant should assess impacts to non-designated sites where likely significant effects would occur from the scheme.
4.4.5	Table 9-2	General	The Applicant should make effort to agree the classification of habitats and species for the assessment in the ES with relevant consultation bodies. The consultation response from the SDNPA (Appendix 2) indicates that the current classification provided in the Scoping Report undervalues certain habitats and species.
4.4.6		General	<p>The ES should ensure that indirect effects of European site is considered from impacts to habitats and species beyond the designated site area.</p> <p>This is evidenced by SDNPA, who indicate that further assessment of the River Itchen SSSI is required, owing to it being 'intrinsically linked to the SAC' and that it 'contains large areas of Priority habitat'.</p>
4.4.7	9.7.4	Urban habitats	The Applicant should ensure that the ES provides justification as to how conclusions have been reached regarding the approach that has been adopted with regards to the assessment of habitats and species in the urban environment.
4.4.8	9.7.5	Survey limitations	The Scoping Report says technical malfunctions and stolen equipment affected the otter and bat activity surveys, and some areas of land were not accessible due to land access or health and safety issues. It

ID	Ref	Other points	Inspectorate's comments
			<p>concludes that survey limitations have not been deemed to affect the robustness of the scoping exercise.</p> <p>Given the limitations to the surveys undertaken and the information provided by the consultation bodies. The Inspectorate does not agree with the Applicant's assumptions with respect to these species. The Applicant should make efforts to agree the approach to the assessment of impacts to these species with relevant consultation bodies.</p>

## 4.5 Geology and Soils

(Scoping Report Chapter 10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.5.1	10.8 & Table 10-9	Waste Disposal	The Scoping Report indicates that this matter is scoped out of this aspect chapter and is to be dealt with in Chapter 11 of the ES (Materials). The Inspectorate agrees with this approach.
4.5.2		Physical effects on hydrology & hydrogeology.	The Scoping Report indicates that this element is scoped out of this aspect chapter and is to be dealt with in Chapter 14 of the ES (Road Drainage and the Water Environment). The Inspectorate agrees with this approach.
4.5.3		Effects on surrounding land uses e.g. industry, commerce, community facilities and tourism	The Scoping Report indicates that this element is scoped out of this aspect and is to be dealt with in Chapter 8 of the ES (Landscape and Visual Effects). The Inspectorate agrees with this approach.

ID	Ref	Other points	Inspectorate's comments
4.5.4	10.2	Baseline Conditions	<p>This Scoping Report provides a 'summary of the baseline conditions' and notes that it was informed by the listed information sources including an Environmental Assessment Report (EAR) of 2017. The Applicant should ensure that a full description of baseline conditions is included within the ES.</p> <p>Information that is not readily available, but which has been used to inform the baseline conditions should be clearly referenced and appended to the ES.</p> <p>Paragraph 10.2.3 of the Scoping Report states that where additional data source/assessments are required; comment has been provided as necessary. The resulting ES should detail all of these additional</p>

ID	Ref	Other points	Inspectorate's comments
			inclusions and provide explanation with regard to the origin of their requirement.
4.5.5	10.2	Table 10-1	<p>The Inspectorate agrees that Made Ground deposits are expected along the existing road alignment. The historic mapping used to inform the Scoping Report indicates the potential presence of infilled ground.</p> <p>These are further described at paragraph 10.2.14 and detailed in Table 10-4. Adequate assessment relating to the potential presence of Made Ground of unknown chemical and physical composition should be undertaken, to assess likely significant effect to identified receptors.</p>
4.5.6	10.2	Table 10-1	<p>The superficial materials identified to lie beneath the scheme footprint are, by nature likely to be compressible, particularly with the recorded presence of peat. This is supported by the information in the Envirocheck Report, used to inform the Scoping Report (presented in Table 10-2).</p> <p>Peat deposits are also a potential source of ground gas.</p> <p>The ES should adequately assess these potentially challenging ground conditions.</p>
4.5.7	10.2	Table 10-1	<p>The bedrock underlying the scheme comprises three facies of the Upper Chalk. Within the scheme extents there is the potential for dissolution features to be present in the underlying chalk. This is demonstrated in Paragraph 10.2.7, which lists the presence of dissolution features and a cavity in the locale.</p> <p>Due consideration to this inherent characteristic of chalk should be detailed in the ES.</p> <p>This is supported by the EA consultation response of 22 February 2019 (Appendix 2) which identifies solution features in the vicinity and</p>

ID	Ref	Other points	Inspectorate's comments
			requests that they are appropriately investigated and detailed in the resulting ES.
4.5.8	10.2.5	Mineral Resources	<p>Mineral resources, namely sands and gravel, have been identified in the northern section of the Proposed Development. Furthermore, in the proposed area of a satellite compound; it is noted that the Local Authority's Mineral and Waste Plan will require a more detailed review.</p> <p>The ES should detail this review and its findings but only where likely significant effect would occur.</p>
4.5.9	10.2.8, Figure 10.1 & Figure 1-1	Groundwater Source Protection Zones	<p>Areas of both Inner and Outer groundwater Source Protections Zones (SPZs) lie within the northern section of the Proposed Development. Inner protections zones tend to be located in close proximity to abstraction points (as noted in Table 10-6) and therefore denote areas of greater sensitivity. The ES should assess impacts to the SPZs where significant effects are likely. The Applicant should make effort to discuss and agree the sensitivity of the SPZs with relevant consultation bodies including the EA.</p>
4.5.10	10.2	Table 10-3, Table 10-5 & Table 10-7	<p>Table 10-3 of the Scoping Report is based on a review of available historic mapping to identify historic land uses in the vicinity of the Proposed Development. Table 10-4 summarises potentially contaminative land uses.</p> <p>The Inspectorate notes that the former gas works identified (approximately 100m) to the west of the scheme has not been included in Table 10-5 or Table 10-7. Historic 'Town Gas Works' sites are notable potential sources of metals, metalloids, cyanide, PAH, cresols, phenol and petroleum hydrocarbons. The Inspectorate considers that the presence of this feature should be taken into account in the assessment, particularly as the Proposed Development is underlain by Principal aquifers.</p>

ID	Ref	Other points	Inspectorate's comments
4.5.11	10.2	Table 10-6	The Applicant should make effort to agree the sensitivity of affected features e.g. aquifers with relevant consultation bodies including the EA and noting comments made regarding the transmissivity of contaminants (See Appendix 2).
4.5.12	10.2	Potential for existing contamination	<p>The construction phase of the Proposed Development has the potential to generate road planings/waste which may contain coal tars. The ES does not consider such arisings during demolition and construction.</p> <p>Such materials are classified as hazardous waste and should be dealt with accordingly. The ES should assess impacts associated with these materials where significant effects are likely to occur.</p>
4.5.13	10.2.17	Identification of sensitive receptors	<p>Where professional judgement has been used to assess sensitivity of receptors; information should be provided on the criteria used to determine the resulting sensitivities.</p> <p>The ES should include a full explanation of how the sensitivity is determined and state explicitly where professional judgment has been applied.</p>
4.5.14	10.4	Table 10-8	The table mentions the potential for soils to be retained and reused. An appropriate Material Management Plan (MMP) should be formulated to ensure suitability of materials, the certainty of their re-use and detail of the volumes involved. Further details of the proposed plan should be provided in the ES, to provide assurance that industry best practice is being followed. It is acknowledged the proposed sustainable use of materials is discussed further in Chapter 11 of the Scoping Report.



## 4.6 Material Assets and Waste

(Scoping Report Chapter 11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.6.1	11.8, 11.3.3 Table 11-5 & 11.5.3	Consumption of material resources, and site arisings and waste during operation.	<p>The Inspectorate agrees that impacts associated with the consumption of material resources, site arisings and waste production during operation is unlikely to result in significant effects.</p> <p>However, the Inspectorate considers that this matter should be considered where likely significant effect may occur.</p>

ID	Ref	Other points	Inspectorate's comments
4.6.2		General	<p>The Scoping Report states that materials will be required and waste will be produced. It is presumed this commentary relates to the construction phase. The Scoping Report does not include any specific detail regarding the quantities and type of materials and waste. It is acknowledged that this is difficult to quantify at this stage.</p> <p>The ES should include sufficient detail to ensure there is a robust description of the materials that will be required and the waste that will be produced within the ES.</p>
4.6.3		General	<p>As discussed in Section 4.5 of this document, there is the potential for the generation of road planings/waste which may contain coal tars. Such coal tar bearing materials would be classified as hazardous waste and should be dealt with accordingly. The ES should assess impacts associated with these materials.</p>
4.6.4	11.2	Baseline Conditions/Sensitivity of Receptors	<p>No information is provided on the criteria used to determine the identified sensitivities. The ES should include a full explanation of how the sensitivity is determined and if/when professional judgment has been applied.</p>

ID	Ref	Other points	Inspectorate's comments
4.6.5	Table 11-1 & Table 11-7	Mineral Safeguarding Areas	<p>There is a potential risk for the sterilisation of mineral resources (including peat deposits) which has been identified, particularly in the northern area of the Proposed Development. Table 11-7 indicates that sterilisation of mineral resources/Mineral Safeguarding Areas are considered a significant effect. Given this, the Applicant should ensure this is assessed in this aspect chapter and any other relevant aspect chapter.</p>
4.6.6	Table 11-6	Material Resources	<p>The Inspectorate agrees that the proposed sustainable principles approach to address arisings and waste should be followed and which includes:</p> <ul style="list-style-type: none"> <li>• attempts to minimise the export and import of materials;</li> <li>• proper characterisation of materials (both arisings and waste);</li> <li>• development of a Site Waste Management Plan(s); and</li> <li>• compilation of a Material Management Plan</li> <li>• in line with the CL:AIRE Definition of Waste Code of Practice (DoWCoP) to ensure effective management of excavated materials within the scheme extents during the construction phase(s).</li> </ul>

## 4.7 Noise and Vibration

(Scoping Report Chapter 12)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.7.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.7.2	12.1	General & Study Areas	<p>The Scoping Report proposes a 'reduced study area' for construction noise and vibration effects, which would be widened as appropriate, to include temporary sources during the construction phase. The Applicant should make effort to agree the suitable study areas with relevant consultation bodies, according to the extent of the impacts and the potential for likely significant effects. The ES should include figures to depict the relevant study areas applied to the assessment.</p> <p>The Applicant should ensure that the ES clearly sets out the anticipated construction programme and working hours, including any night time working that may be required. Details on the type, number and location of plant and equipment should also be provided, including information on simultaneous working and the length of time plant and equipment is due to be operational in order to provide justification for the final construction noise study area.</p>
4.7.3	12.1.5	Construction Noise Study Areas	The Scoping Report identifies the study area for vibration traffic nuisance as being within '40m of any roads identified' in the wider study area. The ES will need to provide further justification for the selection of this buffer distance and seek to agree with relevant consultation bodies.

ID	Ref	Other points	Inspectorate's comments
4.7.4	12.2.1 – 12.2.3	Baseline Conditions - Sensitive Receptors	<p>The ES should clearly identify, and include assessment of, impacts to sensitive ecological and human receptors. The ES should address how receptors have been identified and chosen. Paragraph 12.2.3 mentions the 'calculation area'. The ES should provide a clear definition of this term and detail the basis for its derivation.</p> <p>The ES should also ensure that the impact from noise and vibration should include an ecological assessment, and that sensitive receptors including species or habitats are identified where significant effects are likely.</p>
4.7.5	12.2.4 – 12.2.5	Baseline Conditions - Noise Important Areas (NIAs)	<p>The Scoping Report notes the presence of three NIAs (at Round 2 of the UK Noise Mapping Project) within the 'calculation area'. As stated above the ES should explain and detail the basis for the calculation area selected.</p> <p>Once the study area has been finalised on the basis of traffic modelling establishing the Affected Road Network (ARN), the Applicant should ensure that impacts within the three identified NIAs or any other newly identified NIAs (as relevant) are assessed where significant effects are likely.</p>
4.7.6	12.2.7	Baseline Conditions – Existing Noise Climate	<p>The Scoping Report indicates that the noise climate across much of the study area is dominated by road traffic noise, particularly areas close to the M3, but also the A34 and A33. Additional assumptions regarding other contributing factors are given including: local commercial areas; arrivals and departures from Southampton Airport; and a very limited contribution from rail traffic using the line to the west of the Proposed Development. These assumptions would be revisited once the 'model calculation area' has been defined.</p> <p>The ES should detail the iterative process of assessing the assumptions to be included in the modelling undertaken.</p>

ID	Ref	Other points	Inspectorate's comments
4.7.7	12.2.10	Baseline Conditions – Existing Noise Climate	The Scoping Report states that baseline noise monitoring would be undertaken at locations close to the M3 and the A34 and will include both daytime and night-time monitoring data. The Inspectorate consider this approach to be acceptable providing appropriate monitoring locations are selected.
4.7.8	12.3	Potential Impacts	The Inspectorate considers that the assessment of noise impact in the ES should explain the relationship between the anticipated effects from increased emissions and retained/new landscape features e.g. trees and hedges. The explanation should specifically address where removal or introduction of these features would contribute to the findings of significant effects.
4.7.9	12.4	Design, Mitigation and Enhancement Measures	The Scoping Report states that appropriate mitigation will be determined once detailed assessments have been undertaken (informed/governed by other topics/constraints). The Applicant should ensure that the effectiveness of any proposed mitigation measures are taken into account in the assessment to the ES.
4.7.10	12.6.10 – 12.6.37	Construction Noise and Vibration (including nuisance)/Operational Road Traffic Noise and Vibration (including nuisance)	The Scoping Report states that the assessments will be undertaken in accordance with DMRB 213/11 and BS5228:2009+A1:2014, but it does not stipulate the calculation methodology according to which vibration levels during construction and operation are to be predicted. The ES should provide information on the methodology used to calculate predicted vibration levels for the purposes of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.7.11	12.6.11	Assessment of Construction Noise	<p>The Scoping Report highlights that BS5228:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites refers to two methods for assessing construction noise, being the ABC method and the 5dB(A) change method.</p> <p>It is presumed that as information on the construction activities and associated plant emerges, consideration will be given to which method is most appropriate. The Applicant should ensure that the method applied is described and justified in the ES and effort is made to agree the approach with relevant consultation bodies.</p>
4.7.12	12.6.18	Assessment of Construction Vibration	<p>The Scoping Report refers to BS5228:2009+A1:2014 for the assessment of potential vibration during construction. Table 12-3 of the Scoping Report details the assessment thresholds for building receptors and Table 12-4 presents thresholds for human receptors. The Applicant should ensure that impacts to sensitive ecological receptors are also assessed, where significant effects are considered likely to occur.</p>

## 4.8 Population and Health

(Scoping Report Chapter 13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.8.1	Table 13.7	Views from the Road	This matter is proposed to be scoped out given that the reconfiguration of the junction is unlikely to make a noticeable difference in terms of views from the road. The Inspectorate agrees that this matter can be scoped out of the assessment as significant effects are unlikely.
4.8.2	Table 13.7	Land Use	<p>The Applicant proposes to scope out an assessment of impacts on land use, as the land take is near the existing transport corridor, it would not affect land use patterns or the community beyond the individual landowners concerned. The Inspectorate is content to scope this matter out however, it is noted that there is some proposed land take from the SDNPA.</p> <p>The Inspectorate considers that any likely significant effect to land use within the SDNP should be assessed.</p>

ID	Ref	Other points	Inspectorate's comments
4.8.3	13.1.4 – 13.1.5 & Table 13-4	Study area	<p>The study area proposed is a 2km buffer around the proposed development, on the grounds that it represents the journey distance that can be reasonably undertaken by most people on foot (13.1.5). The ES should justify why travel by foot is considered the most appropriate way of identifying the chosen study area.</p> <p>In addition, Table 13-4 limits the study area for certain types of community facilities to 1km, and Table 13-7 (row 2) refers to an undefined "wider study area" in the context of active travel journeys. Paragraph 131.4 also notes that the study area could be expanded to</p>

			<p>consider the study areas for the air quality and noise assessments.</p> <p>The Inspectorate considers that the choice of study area in the ES should be properly justified with reference to the type of community amenities and the likely modes of transport to such resources.</p>
4.8.4	Table 13-5	Sensitivity of receptors	<p>Table 13-5 of the Scoping Report sets out the proposed criteria for assigning sensitivity and value for population and health resources and receptors. In practice the criteria relates to assigning value to resources rather than sensitivity of receptors. If it is judged appropriate to differentiate between the receptors and assign them categories of sensitivity, the ES should clearly define these categories and apply them consistently throughout the assessment.</p>
4.8.5	13.6.3	Driver stress	<p>A qualitative assessment of driver stress categorising impacts as low, medium or high is proposed (as per the DMRB, Vol 11). The ES should be clear what this categorisation corresponds to in terms of significance of the effect.</p>
4.8.6	Table 13-7	Matters to be scoped in	<p>Regarding the following matters to be scoped in: Access to the countryside/ recreational journeys; Opportunities for active travel journeys; Community severance; and Health impacts.</p> <p>It is unclear if the Applicant intends to assess these matters during the construction phase, operational phase, or both. The Inspectorate considers that the ES should assess both phases for all matters with the exception of community severance, whereby construction impacts only would suffice, given that no new severance is anticipated during operation.</p>



## 4.9 Road Drainage and the Water Environment

(Scoping Report Chapter 14)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.9.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.9.2		General	As stated in Chapter 10, the ES should assess the effects from physical impacts to hydrology & hydrogeology receptors within this aspect chapter.
4.9.3	14.1.2	Scoping	The Scoping Report states that groundwater pollution risks and groundwater risks to habitats and designated sites are scoped in Chapter 10 (Geology and Soils) and Chapter 9 (Biodiversity) respectively. The ES should ensure that the details and interaction of these risks are referred to in detail in this chapter.
4.9.4	14.1.3	Study Area	<p>The overall study area proposed includes a 500m buffer surrounding the maximum extents of the Proposed Development. It is stated that 'This buffer is considered a suitable extent to assess direct potential impacts as well as encompassing indirect pathways, such as the migration of surface-borne pollutants, and the effects of any prolonged interception of groundwater flows'. However, the information provided in the Scoping Report does not detail the rationale for the approach. Full justification for the selection of this buffer should be provided in the ES.</p> <p>Furthermore, the Scoping Report suggests that the buffer would be extended during the EIA process 'if needed'. Again, full justification and explanation for this occurrence (if realised) should be presented in</p>

ID	Ref	Other points	Inspectorate's comments
			the ES.
4.9.5	14.1.4	Study Area	The Scoping Report states that when considering surface water features, groundwater features and abstractions a buffer of 'approximately 1km from the site' would be allowed. The Scoping Report also explains that should individual sensitive features be identified at distances >1km from the Proposed Development, these would also be considered. Full justification and explanation for this occurrence (if realised) should be presented in the ES.
4.9.6	14.2.13	Use of Highways Agency Drainage Data Management System (HADDMS) data	The Inspectorate commends the use of available HADDMS data relating to the 'Priority Assets/Outfalls' in the wider scheme area and specifically the existing drainage system of the M3, the existing Junction 9 roundabout and the A34 approach.
4.9.7	14.2.14	Water Abstraction Licences - Consultation	The Inspectorate agrees that the Applicant should consult with the EA in relation to abstractions in the vicinity of the site; in light of the existing mapping not being maintained or updated.
4.9.8	14.2.19	Hydrogeology	The Inspectorate considers that the assessment of impacts to hydrogeology should be based upon independent monitoring of groundwater levels near the Proposed Development. The EA's consultation response suggests that the current baseline information presented by the Applicant does not account for the worst-case temporal conditions. The Applicant should make effort to agree the approach to establishing the baseline with the EA and any other relevant consultation bodies.
4.9.9	14.2.27	Non-licensed abstractions - consultation	The Inspectorate agrees that consultation with the EA and other relevant consultation bodies should undertake in effort to obtain any details of non-licensed abstractions in the vicinity of the Proposed Development. The ES should include an assessment of any likely significant effects associated with these receptors.

ID	Ref	Other points	Inspectorate's comments
4.9.10	14.4	Design, Mitigation and Enhancement Measures	<p>The Inspectorate acknowledges that at this stage the details of the drainage design have not been finalised but the Scoping Report lists the use of SuDS design in accordance with a 'robust surface water drainage strategy (SWDS)'. Considering the reliance on the strategy; the efficacy of the SWDS should be discussed in the ES, particularly as there is the increased surface water flood risk (as stated in the Scoping Report).</p>
4.9.11	14.4	Design, Mitigation and Enhancement Measures	<p>The ES should clearly describe the mitigation measures relied upon for the assessment of likely significant effects. The ES should explain how any measures which are not an inherent part of the design will be appropriately secured.</p> <p>It is noted that the use of attenuation and subsequent discharge is mentioned during the construction phase to mitigate flood risk. Paragraph 14.4.23 describes the use of soakaways within the scheme. Due consideration to the anticipated ground conditions (including archaeological remains) and the Proposed Development features is required; along with appropriate design of such drainage features.</p> <p>The Inspectorate would expect to see detail of the future maintenance programmes for any outfalls, attenuation/drainage ponds etc. in the ES.</p> <p>The ES should also detail the assessment undertaken relating to the impacts to the River Itchen from contaminants entering the watercourse. The ES should detail associated mitigation in the ES, which would be implemented in agreement with relevant consultation bodies, including the EA.</p>
4.9.12	14.4.6	Use of a Material Management Plan	<p>The Scoping Report states that an 'appropriate Materials Management Plan' would be compiled 'to minimise any hydromorphological disturbances and minimise flood risk'. The ES should assess the impacts of material placement and how the protection alluded to</p>

ID	Ref	Other points	Inspectorate's comments
			would be secured through demonstration of the principles of the Definition of Waste Code of Practice (DoWCoP).
4.9.13	General	Design, Mitigation and Enhancement Measures - Construction	<p>Given the identified Source Protection Zones within the scheme extents, appropriate consideration/assessment to the use of piling should be given.</p> <p>Owing to the sensitivity of the underlying aquifer(s), it is expected that any exploratory holes required for the purposes of construction are appropriately decommissioned after completion to be protective of groundwater (acknowledging the potential requirement for subsequent monitoring works).</p> <p>The ES should include a figure detailing the location of any temporary drainage systems to capture, manage and attenuate flow (to prevent an increase to flood risk).</p>
4.9.14	General	Design, Mitigation and Enhancement Measures - Operation	The ES should include a figure depicting the location of any proposed attenuation ponds, enhanced drainage systems, watercourse channels, watercourse crossings and other mitigation measures (e.g treatment/SuDS systems).
4.9.15	14.6.2	Water Framework Directive (WFD) Assessment	<p>It is acknowledged that Paragraph 14.2.23 discusses WFD classifications and 14.6.2 lists that as a part of the preparation of the ES Chapter, a 'review of the requirements of the WFD' will be undertaken.</p> <p>Therefore, it is unclear whether a standalone WFD assessment with its findings detailed in the ES is to be undertaken.</p> <p>The Applicant is advised to consider the advice contained in the Inspectorate's Advice Note 18 in this regard.</p>
4.9.16	14.6.14	Hydromorphological Assessment	No details of the likely hydromorphological assessment are given in the Scoping Report. The Applicant should also ensure that the assessment of hydromorphological effects in the ES considers the

ID	Ref	Other points	Inspectorate's comments
			effects from both temporary and permanent works. The Applicant should make effort to agree the methodology for the assessment with the EA and other relevant consultation bodies.

## 4.10 Climate

(Scoping Report Chapter 15)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.10.1	15.3.4 & Table 15-7	Construction – product stage; including raw material supply, transport and manufacture	Section 15.3.4 of the Scoping Report says that due to the temporary short-term nature of the construction phase, it is anticipated that changes in climate would not significantly affect the workforce, location of construction compounds or type of machinery. The Inspectorate agrees that significant effects to climate from the construction of the Proposed Development are unlikely and this matter can be scoped out of the ES.
4.10.2	Table 15-7	Operation and maintenance, Replacement	Table 15-7 proposes to scope out numerous matters from the assessment. The Inspectorate considers that insufficient information has been provided to justify the scoping out of these matters and therefore, the ES should address / assess any likely significant effects in relation to these matters.
4.10.3	Table 15-7	Deconstruction	This matter has been scoped out as decommissioning would happen several decades into the future and therefore in a future period where decommissioning process and associated emissions is uncertain. The Inspectorate agrees that this matter can be scoped out. See the comments made in Section 3 of this document regarding decommissioning.
4.10.4	Table 15-7	Vulnerability of the Proposed Scheme to climate change	The Applicant proposes to scope this matter out of the ES with the exception of flood risk, which will be covered separately in the Road Drainage and Water Environment chapter of the ES. The Inspectorate does not consider that sufficient information has been provided to support this matter being scoped out.  The ES should assess impacts resulting from the vulnerability of the

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			development to climate change, where likely significant effects are likely to occur. Reference should be made to the comments in Paragraph 3.3.13 of this document.

ID	Ref	Other points	Inspectorate's comments
4.10.5	Table 15-4	Potential sources of emissions	Table 15-4 details a list of potential sources of emissions which is 'not exhaustive'. The ES should ensure that all potential sources of greenhouse gas emissions relating to the Proposed Development during construction and operation should be considered/assessed.
4.10.6	15.7.1	Magnitude of emissions	<p>Section 15.7.1 states 'a simple assessment of greenhouse gas emissions has been completed at PCF Stage 2 on the basis of limited information regarding the Proposed Development design. It has not been possible to quantify the magnitude of emissions'.</p> <p>The Inspectorate considers that for the purposes of the ES, the Applicant should make effort to ensure that the assessment of greenhouse gas emissions is supported with sufficiently detailed information to enable a robust assessment of the likely significant effects. The assessment should also address the relationship between greenhouse gas emissions that result from the operation of the existing roadway and those that will occur as a result of the Proposed Development.</p>

## 4.11 Cumulative Effects

(Scoping Report section 16)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.11.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.11.2	16.2.3	Effects of the proposed scheme and interaction with other schemes	The Scoping Report explains at Paragraph 16.2.3 that the cumulative assessment will be based upon guidance contained within DMRB and that the guidance would be adapted to make it relevant to specific topics. The ES must clearly explain where adaptation of the guidance has occurred and if/where professional judgement has been applied (which should be supported by sound reasoning).
4.11.3	16.2	Table 16-1	It is the opinion of the Inspectorate that the interrelationships between topics should be explicitly detailed in the ES.  This point has also been raised by the consultation bodies and their responses can be found in Appendix 2.
4.11.4	16.3.9 & 16.3.23	Identification of a long list and a short list of 'other development'	The Scoping Report indicates that the compilation of both a long list and short list of developments would be undertaken. It leads on to state that a proportion of the long list would not be suitable for inclusion in the cumulative effects assessment. The ES should give full details of the derived long list and the rationale behind the filtering process undertaken to produce the final short list.  Through the consultations undertaken, it is apparent that SDNPA consider there to be a 'strategic growth site' which is presented in the 'Eastleigh Local Plan' which also includes the construction of a link road to Junction 10 of the M3, which is to the south of the scheme.



ID	Ref	Other points	Inspectorate's comments
			The Inspectorate considers that the assessment of cumulative impacts should take into account this strategic growth site, if there are likely to be significant effects.
4.11.5	16.3.35 & Table 16-3	Significance Criteria	Table 16-3 of the Scoping Report explains the means of determining significance based on DMRB and is supplemented by professional judgement. The ES must clearly explain where professional judgement has been applied and the reasoning behind it.
4.11.6	16.4.2 – 16.4.4	Trunk Road Developments	<p>The Scoping Report acknowledges that the M3 Smart Motorways scheme (Junctions 9-14) will likely be delivered at the same time as the Proposed Development. Owing to the proximity of these developments, a full and detailed assessment of the interaction between both schemes should be undertaken and presented in the ES.</p> <p>Paragraph 16.4.4 presents four Trunk Road Developments which are considered likely to be scoped out of further assessment. Although it is stated that the Zones of Influence are 'unlikely to overlap' for these schemes; they should be discussed in the ES with robust reasoning to demonstrate the reasoning for their exclusion from the cumulative effect assessment.</p>
4.11.7	16.4.6	Local Developments	The Scoping Report states that once the design process is completed it will be possible to determine developments likely to have 'construction and operation interactions' which would be updated as construction programme and scheme completion date is formulated. The ES should consider the impacts of any schemes identified as programme progresses.

## 5. INFORMATION SOURCES

5.0.1 The Inspectorate's National Infrastructure Planning website includes links to a range of advice regarding the making of applications and environmental procedures, these include:

- Pre-application prospectus<sup>2</sup>
- Planning Inspectorate advice notes<sup>3</sup>:
  - Advice Note Three: EIA Notification and Consultation;
  - Advice Note Four: Section 52: Obtaining information about interests in land (Planning Act 2008);
  - Advice Note Five: Section 53: Rights of Entry (Planning Act 2008);
  - Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements;
  - Advice Note Nine: Using the 'Rochdale Envelope';
  - Advice Note Ten: Habitat Regulations Assessment relevant to nationally significant infrastructure projects (includes discussion of Evidence Plan process);
  - Advice Note Twelve: Transboundary Impacts;
  - Advice Note Seventeen: Cumulative Effects Assessment; and
  - Advice Note Eighteen: The Water Framework Directive.

5.0.2 Applicants are also advised to review the list of information required to be submitted within an application for Development as set out in The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009.

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<sup>2</sup> The Planning Inspectorate's pre-application services for applicants. Available from: <https://infrastructure.planninginspectorate.gov.uk/application-process/pre-application-service-for-applicants/>

<sup>3</sup> The Planning Inspectorate's series of advice notes in relation to the Planning Act 2008 process. Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

## APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

**TABLE A1: PRESCRIBED CONSULTATION BODIES<sup>4</sup>**

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Clinical Commissioning Group	NHS West Hampshire Clinical Commissioning Group
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England - South East
The relevant fire and rescue authority	Hampshire Fire and Rescue Service
The relevant police and crime commissioner	Hampshire Police and Crime Commissioner
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Itchen Valley Parish Council
	Kings Worthy Parish Council
	Headbourne Worthy Parish Council
The Environment Agency	The Environment Agency
The Relevant Highways Authority	Hampshire County Council Highways Authority
The relevant strategic highways company	Highways England - South East
Public Health England, an executive agency of the Department of Health	Public Health England
The Crown Estate Commissioners	The Crown Estate

<sup>4</sup> Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')

<b>SCHEDULE 1 DESCRIPTION</b>	<b>ORGANISATION</b>
The Forestry Commission	Forestry Commission - South East

**TABLE A2: RELEVANT STATUTORY UNDERTAKERS<sup>5</sup>**

<b>STATUTORY UNDERTAKER</b>	<b>ORGANISATION</b>
The relevant Clinical Commissioning Group	NHS West Hampshire Clinical Commissioning Group
The National Health Service Commissioning Board	NHS England
The relevant NHS Foundation Trust	South Central Ambulance Service NHS Foundation Trust
Railways	Network Rail Infrastructure Ltd
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes England
The relevant Environment Agency	The Environment Agency
The relevant water and sewage undertaker	Southern Water
The relevant public gas transporter	Cadent Gas Limited
	Energetics Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd

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<sup>5</sup> 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)

STATUTORY UNDERTAKER	ORGANISATION
	Fulcrum Pipelines Limited
	Harlaxton Gas Networks Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Murphy Gas Networks limited
	Quadrant Pipelines Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
The relevant electricity distributor with CPO Powers	Eclipse Power Network Limited
	Energetics Electricity Limited
	Energy Assets Networks Limited
	Energy Assets Power Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Leep Electricity Networks Limited
	Murphy Power Distribution Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited
Southern Electric Power Distribution Plc	

STATUTORY UNDERTAKER	ORGANISATION
The relevant electricity transmitter with CPO Powers	National Grid Electricity Transmission Plc

**TABLE A3: SECTION 43 CONSULTEES (FOR THE PURPOSES OF SECTION 42(1)(B))<sup>6</sup>**

LOCAL AUTHORITY <sup>7</sup>
Winchester District Council
Hampshire County Council
Basingstoke and Deane District Council
Eastleigh District Council
East Hampshire District Council
Test Valley District Council
Fareham District Council
Havant Borough Council
South Downs National Park Authority
Portsmouth City Council
New Forest National Park Authority
West Berkshire Council
Wiltshire County Council
Wokingham Borough Council
Bracknell Forest Borough Council
Southampton City Council

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<sup>6</sup> Sections 43 and 42(B) of the PA2008

<sup>7</sup> As defined in Section 43(3) of the PA2008

<b>LOCAL AUTHORITY<sup>7</sup></b>
Surrey County Council
West Sussex County Council
Dorset County Council

## **APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES**

Consultation bodies who replied by the statutory deadline:

Basingstoke and Deane Borough Council
East Hampshire District Council
Environment Agency
ESP Utilities Group Ltd
Forestry Commission
Hampshire County Council
Harlaxton Energy Networks Ltd
Harlaxton Gas Networks Ltd
Havant Borough Council
Health and Safety Executive
Historic England
Itchen Valley Parish Council
Kings Worthy Parish Council
National Grid Electricity Transmission and National Grid Gas PLC
Public Health England
South Downs National Park Authority
Southern Water

Scoping Opinion for  
M3 Junction 9 Improvement Project

Test Valley Borough Council
Winchester City Council



Mr R White  
The Planning Inspectorate

Our Ref: 19/00284/EN10  
Your Ref:

18 February 2019

Dear Sir/Madam,

**Location: Junction 9 M3 Basingstoke Hampshire**  
**Proposal: M3 Junction 9 Improvement - EIA Scoping Notification and Consultation**

Thank you for consulting the council on the EIA Scoping Opinion by Highways England relating to works they proposes to undertake at junction 9 of the M3 at Winnall (Winchester, junction with A34) (19/00284/EN28). An application is expected to be submitted in 2020. As it is a national infrastructure project, PINS are the determining authority.

The proposed scheme comprises, 'the development and delivery of a scheme of works for increasing capacity, enhancing journey time reliability and supporting development in line with Local Plans. The Proposed Scheme includes the replacement of a circulatory roundabout with a dumbbell roundabout, conversion of the M3 south of Junction 9 to dual three lane motorway, realignment of slip roads, the addition of new structures, and improvements to safety features, signage and technology'. (Para 1.2.3, ES Scoping)

The site is not within Basingstoke and Deane borough, so any impacts would be likely to be slight and indirect. The planning policy team therefore has no comments on the scope of the ES.

If you have any queries or require further information, please do not hesitate to contact Trevor Campbell-Smith on [REDACTED] or email [REDACTED]

Yours sincerely



Planning and Development Manager

Mr D Coles  
EIA and Land Rights Advisor  
The Planning Inspectorate  
Major Casework Directorate  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

Case Officer: Mrs S Wheeler  
Direct Dial: [REDACTED]  
Our Ref: 00015  
Your ref: TR010055  
Date: 04 February 2019  
email: [REDACTED]

Dear Mr D Coles

**Proposal:** Consultation for M3 Junction 9 Improvement Project - Ref TR010055

East Hampshire District Council have no comments to make regarding the application by the Highways England for an Order granting Development Consent for the M3 Junction 9 Improvement project.

Yours sincerely

Mrs S Wheeler  
Planning Support Assistant

**SENT BY EMAIL ONLY:**  
[M3Junction9@pins.gsi.gov.uk](mailto:M3Junction9@pins.gsi.gov.uk)

Planning Inspectorate  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

**Our ref:** HA/2019/121085/01-L01  
**Your ref:** TR010055

**Date:** 22 February 2019

Dear Sir or Madam,

**SCOPING OPINION - REQUEST AS TO INFORMATION TO BE PROVIDED IN AN ENVIRONMENTAL STATEMENT (ES) RELATING TO THE M3 JUNCTION 9 IMPROVEMENT PROJECT.**

Thank you for consulting the Environment Agency on the above Scoping Opinion which we received on 28 January 2019. Our comments are set out below.

**Introduction**

We have reviewed the Environmental Impact Assessment Scoping Report (HE551511-JAC-EGN-0\_00\_00-RP-LE-0001| P03 January 2019).

Overall, we are generally pleased with the scope of the report and the range of topics that have been proposed to be included within the Environmental Statement (ES).

Our primary concerns regarding the scheme relate to the protection of groundwater, and protection/enhancement of the ecological balance and species within the River Itchen and surrounding areas. The River Itchen is a designated main river, and the river and the associated floodplain is a Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI).

In regard to flood risk, the majority of works are to take place in Flood Zone 1 areas. Only minor works are taking place within the section of road that is located in Flood Zone 3 (i.e. the section of road crossing the River Itchen). Therefore, flood risk is of lesser concern to us at this stage. This may change if later design stages determine that more extensive work will be required within Flood Zone 3.

**Overarching Comments**

**Groundwater Monitoring**

Within the boundary of the project, to the North, there is a groundwater Source

Protection Zone 1, and the satellite depot is partly located within Source Protection Zone 2. The site is located upon Principal Aquifer. There are abstractions for public water supply in the wider area. Therefore, groundwater is sensitive in this location.

*Groundwater quality monitoring:* Given the sensitivity of groundwater in this area, extensive data exists on groundwater quality which could form a baseline. This should be supplemented with independent monitoring from boreholes within the development. We will require monitoring to be conducted prior to, during and after construction.

We would also encourage Highways England to have a proactive relationship with the local water company (Southern Water) in regard to this project.

*Groundwater level monitoring:* As the monitoring period may not cover a 'wet winter', there also needs to be consideration/assessment of the yearly fluctuation, and whether the levels recorded are seasonally low/high/average for the time of year, and an assessment of the 'worst case' high groundwater levels. We have supplied Highways England with data concerning groundwater levels within the area of the scheme, and in some areas groundwater levels are high which will need to be considered in regard to any works undertaken in those areas.

Reference should be made to the planned groundwater quality and level monitoring within the ES.

### Dewatering

We understand the project involves the need for cutting, and subsequent dewatering given the groundwater levels in the area. This could trigger the requirement for an abstraction licence from us.

Small scale dewatering may be exempt from needing an abstraction licence. The current exemptions are listed on the following webpage - <http://www.legislation.gov.uk/ukxi/2017/1044/regulation/5/made>. If an exemption does not apply, then Highways England will need to contact us to obtain an abstraction licence. We strongly recommend early consultation and discussion with us in this regard once further details about the extent of such activities are understood.

A risk assessment must be provided to us, and agreed by us, prior to any dewatering activities taking place (whether an abstraction licence is required or not). Examples of what information we require in such risk assessments are details of where the water is due to be discharged, volume of water, and assessment of the water quality.

We would expect dewatering to be specifically referenced within the ES.

### Site Investigation

We would anticipate ultimately seeing a detailed phase 1 and 2 site investigation of the area where works will be carried out in terms of assessing contamination and the potential for contaminants to be mobilised. This should be referenced as a commitment within the ES. Additionally, if any areas are to be used as green buffers or returned to Riparian areas, any works must be preceded by a site investigation.

If any contaminated land is discovered during works on the road, or any area that would be potentially impacted through associated construction works, then remediation strategies and verification programs must be submitted for review.

The above should be referenced within the ES.

### Soakaways/Sustainable Drainage

Drainage will be an important aspect of the project both in order to improve current drainage if necessary, and to ensure there is suitable protection of groundwater, local abstractions, and the River Itchen and its tributaries following construction and operational use. We are pleased that this has been scoped in accordingly (Table 14-4). We would add that the long-term maintenance of any outfalls, attenuation/drainage ponds, etc. is considered and included within the ES also.

We request that we are consulted upon detailed designs of any soakaways or sustainable drainage systems, to consider them with regard to water resources and water quality issues.

### Piling

Any activities requiring piling will need to be preceded by a detailed risk assessment to provide evidence for conceptual understanding of risks to groundwater. This risk assessment will include justification of any technique considered, and we will need to review any such assessments. We would also expect to see a Material Safety Data Sheet for any grout deployed during any piling operations.

Within the Source Protection Zone 1 on the Northern section of the road, we understand that there is likely to be additional signage constructed along the M3. Piling in a Source Protection Zone 1 area can create risks to potable supplies from, for example, pollution / turbidity, risk of mobilising contamination, and creating preferential pathways for contaminants.

Further details about intended piling should be detailed, considered and explored within the ES, and should include details of any measures to protect groundwater resources.

### Investigative Boreholes

Any investigative boreholes will need to be decommissioned following use, so as to prevent those boreholes becoming preferential pathways to groundwater for any contaminants. However, we do accept that some boreholes will remain active for groundwater monitoring purposes. We expect these boreholes to be operated and maintained in line with best practice.

Further details about investigative boreholes (locations and decommissioning) should be included in the ES.

### Mitigation Measures

We accept that detailed design does not yet exist for any mitigation measures, nor are particular mitigation measures and/or biodiversity net gain measures specified at this stage. We support and are pleased that the report acknowledges that further details about mitigation measures will be presented in the ES (section 2.4.18), and that there will be a biodiversity net gain report produced (section 9.4.1). We would recommend that there are specific sections dedicated to these within the ES.

We understand that the possibility of a green bridge for the project has been ruled out at this stage by Highways England due to an assessment of limited use and disproportionate cost (although it is possible this may be carried forward as part of another road project within the area). Based on the data Highways England considered in this regard, we can understand this position albeit the ES should address consideration of mitigation options such as a green bridge, a conclusion upon whether to take those options forward and the factors underpinning that conclusion.

One recognised function of a green bridge is to create a safe crossing point for wildlife (amongst other benefits – please see the Natural England press release dated 31 July 2015 – <https://www.gov.uk/government/news/green-bridges-safer-travel-for-wildlife>). Ensuring that animals can safely cross the roads during their operational use should be an important aspect of this project, especially given the location next to the River Itchen and the legacy of the roads in cutting off of that habitat from the adjacent South Downs National Park. We are pleased to see that badger tunnels are already intended to be constructed as part of the project, as set out in section 9.4.1 of the report. Further details of suitable allowances for wildlife crossings and habitat connectivity should be included within the ES.

In addition to the above, we have discussed with Highways England reports we have received about recent otter deaths reported on motorways where open central reservation barriers have been replaced with closed concrete ones (on the M27 and M4/5). We recognise that closed concrete barriers are considered as a basic safety feature, but the impact of these on animals crossing such roads has seemingly not yet been widely acknowledged as an issue across the country where such barriers are being retrofitted. Given the close proximity of a recent report of an otter death (on the M27), we strongly recommend that there is scoped in further assessments of otter and other mammal movements in the project area, and the risk of them crossing the roads, with a view to minimising the risks of injuries and fatalities.

### Flood Risk

As set out in the introduction, we understand that relatively minor works (such as changing road markings) will be undertaken in the section of road within Flood Zone 3 (i.e. the section of the road crossing the River Itchen). Should this change during the detailed design phases, then further considerations will need to be taken account to ensure that flood risk is not increased elsewhere, and we would expect to be specifically consulted in this regard.

We are pleased that a Flood Risk Assessment will be undertaken (section 5.4.1 of the report), and we would recommend that the ‘worst case scenario’ is considered for the

Flood Risk Assessment (section 2.6.1 of the report). It should be borne in mind that climate change allowances are currently being updated in accordance with UKCP18, and the Flood Risk Assessment is likely to need to take account of those. The latest information and guidance about UKCP18 can be accessed here – <https://www.metoffice.gov.uk/research/collaboration/ukcp>.

In addition to the above, our flood model for the River Itchen is currently being updated, with final sign off anticipated for March/April 2019. This should be taken account of in terms of the baseline information for the Flood Risk Assessment, and we would encourage Highways England to consult with us further in this regard once the flood model has been updated.

### *Flood Risk Activity Permit*

In the report, there is mention of possible works on or near the River Itchen (sections 9.4.2 and 14.2.20). Any proposed works or structures in, under, over or within 8 metres of a main river bank is likely to require a Flood Risk Activity Permit from us under the Environmental Permitting (England and Wales) Regulations 2016.

Further details about Flood Risk Activity Permits can be found on the GOV.UK website using the following link - <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>.

As construction details are developed, we would recommend early consultation with us regarding any applications for any Flood Risk Activity Permits.

### *Storage of Hazardous Substances*

We would expect to see details about how the storage of any hazardous substances to be utilised during works will be managed within the ES.

Ultimately, we would expect to see a Construction Environmental Management Plan (CEMP) detailing the above.

It should be noted that depending on the substances, hazardous substances consent may well be required separate to the DCO process. Further information can be found on GOV.UK website -

<https://www.gov.uk/guidance/hazardous-substances#Deciding-hazardous-substances-consent>

### *Pollution Prevention*

All precautions must be taken to avoid discharges and spills to the ground both during and after construction.

For advice on pollution prevention measures, Highways England should refer to our guidance '*PPG1 – General guide to the prevention of pollution*' and '*PPG 5: Works in, near or over watercourses*' which are especially relevant to this proposal.

A full list of PPGs can be found via the link below. Although these PPGs have been revoked, they are still considered to be best practice:

<http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/>

Ultimately, we would expect to see a Construction Environmental Management Plan (CEMP) specifying any pollution prevention measures that will be incorporated into any works.

Further details regarding pollution prevention for the long-term maintenance of the road post construction should also be included within the ES.

### Surface Water

It should be noted that responsibility for surface water matters in terms of quantity and flow lies with the Lead Local Flood Authority (Hampshire County Council). We recommend that they are consulted in regard to the drainage proposals related to surface water.

Our considerations in regard to surface water relate to the potential mobilisation of contaminants, which may impact the Main Rivers and/or groundwater.

## **Comments on Specific Sections of the Report**

### **Chapter 2 – The Project**

#### Section 2.1.4

This section makes reference to the Barton Farm development in Winchester (now known as Kings Barton). This is not located adjacent to Junction 9, but is located on land just off the B3420 to the north of Winchester city centre. We understand that construction of this development is now underway.

### **Chapter 6 – Air Quality**

#### Section 6.2.16

In this section it states that *“the latest monitoring data indicates no exceedances of the NO<sub>2</sub> AQO except for at the St Catherine’s Hill SSSI ecological site.”* However, Table 6-4 shows that for monitoring point M3J9\_ECO4\_0517 River Itchen SSSI there is an exceedance. Monitored NO<sub>2</sub> (µg/m<sup>3</sup>) is 32.0 (µg/m<sup>3</sup>) against a critical level of 30 (µg/m<sup>3</sup>) (in accordance with data at Table 6-2).

#### Section 6.3.5

It is not clear how air quality and dust impacts as a result of construction activities will be fully assessed if sufficient construction information is not available. This should be clarified within the ES.



### Section 6.5.1

This section states that the '*Proposed Scheme is not expected to give rise to significant effects on local air quality*'. However, in section 6.3.4 it is stated that the '*Proposed Scheme is anticipated to result in both beneficial and adverse changes to local air quality concentrations*' and in Table 6-5 that "*there is potential for significant effects to occur at designated ecological site immediately adjacent to the A34*".

Therefore, the statement above in section 6.5.1 appears to contradict section 6.3.4 and Table 6-5. This should be clarified within the ES.

## **Chapter 9 – Biodiversity**

### Table 9-1 (Freshwater Fish)

We have recently made available to Highways England a copy of a report regarding a Brook Lamprey Condition Assessment for the River Itchen SAC. This should be utilised in regard to the ES.

### Section 9.6.11

We note that a Habitats Regulations Assessment is being produced, and we request that we are consulted with respect to present and future iterations of this assessment alongside Natural England.

### Table 9-5 (Otter)

As set out in the paragraph above entitled 'Mitigation Measures', we have discussed with Highways England reports we have received about recent otter deaths reported on motorways where open central reservation barriers have been replaced with closed concrete ones (M27 and M4/5). Given the close proximity of a recent report of an otter death (on the M27), we strongly recommend that there is scoped in further assessments of otter and other mammal movements in the project area, and the risk of them crossing the roads, with a view to minimising the risks of injuries and fatalities.

### Table 9-6 (Nationally Designated Sites)

We are not sure why under the 'Element scoped out' column it states 'N/A' and in the Justification column 'None' for Nationally Designated Sites. We would expect Nationally Designated Sites to be scoped in, as the River Itchen and its adjacent floodplain in the locality of the scheme are SSSI.

## **Chapter 10 – Geology and Soils**

### Section 10.2.7

In this section, it is mentioned that there are multiple solution features to the North West of the study area. The extent of the study area should be specified, and then it

is possible we may be able to assist with identifying those features.

There is evidence of at least some filled dolines to the East of the M3. In addition, there are clay with flint deposits at numerous localities to the East of study area. These are often indicative of drowned dolines or sinkholes, and should be investigated further.

Details of the further investigations of such features should be included within the ES, alongside details regarding any stabilising methods that may be required.

Table 10.6 (Summary of receptor sensitivity)

In regard to Table 10.6, the receptor 'Groundwater in Secondary A and Principal Aquifers, SPZ' is currently rated as "High". We disagree with this and recommend that the risk is be rated as "Very high". The report has not grasped the rapidity of groundwater movement in the Chalk that underlies the area. A Source Protection Zone 1 defines the travel time of a contaminant from ground to abstraction as less than 50 days. In Chalk it could be **less than 10 hours**. This needs to be reflected in the conceptualisation of the project going forwards.

With reference to the receptor 'Surface waters (River Itchen & Nun's Walk Stream)', the River Itchen itself and Nun's Walk Stream are both classified as Main Rivers.

## **Chapter 14 – Road Drainage and the Water Environment**

### Section 14.2.14

We note that Highways England have requested information from us regarding abstractions within the project area. This data will be provided in due course. Any data provided should be reflected within the ES, subject to the data protection restrictions regarding public water supplies as indicated when the data is provided.

### Sections 14.4.24 & 14.4.25

We are pleased to see that site groundwater level data is going to be used to inform the design. As the monitoring period may not cover a 'wet winter', there also needs to be consideration/assessment of the yearly fluctuation of groundwater levels, and whether the levels recorded are seasonally low/high/average for the time of year, and an assessment of the 'worst case scenario' high groundwater levels.

In section 14.2.25, there is correct citation of contamination released in Source Protection Zone 1 reaching the point of abstraction within 50 days. However, as set out in our comments above for Table 10-6, in Chalk it could be **less than 10 hours**. This should be acknowledged within the ES.

## **Chapter 16 - Cumulative Effects**

### Table 16-1

We consider that there are a number of 'Potential interrelationships between topics' that have been missed from this table. For example, we would consider that Road

Drainage and the Water Environment have a potential interrelationship with the receptors of Statutory Designated Sites, Non-statutory designated sites, Habitats and Species of Principal Importance and Protected Species during both Construction and Operation of the Scheme. This should be re-assessed for the purposes of the cumulative chapter of the ES.

***Our opinion is based on the information available to us at the time of the request. If, at the time of the submission of the formal DCO, there have been changes to environmental risk(s) or evidence, and/or planning policy, our position may change.***

Please do not hesitate to contact me using the contact details shown below should any queries arise from the above response.

Yours faithfully,

**Miss Anna Rabone**  
**Sustainable Places Advisor**

Direct dial: 02077 140525

Email: [planningSSD@environment-agency.gov.uk](mailto:planningSSD@environment-agency.gov.uk)

M3 Junction 9  
The Planning Inspectorate

25 February 2019

Reference: TR010055 – M3 Junction 9 Improvement

Dear Sir/Madam,

Thank you for your recent plant enquiry at: M3 Junction 9.

I can confirm that ESP Utilities Group Ltd has no gas or electricity apparatus in the vicinity of this site address and will not be affected by your proposed works.

ESP Utilities Group Ltd are continually laying new gas and electricity networks and this notification is valid for 90 days from the date of this letter. If your proposed works start after this period of time, please re-submit your enquiry.

**Important Notice**

Please be advised that any enquiries for ESP Connections Ltd, formerly known as British Gas Connections Ltd, should be sent directly to us at the address shown above or alternatively you can email us at: [PlantResponses@espug.com](mailto:PlantResponses@espug.com)

Yours faithfully,

Plant Protection Team  
**ESP Utilities Group Ltd**



UTILITIES GROUP  
Bluebird House  
Mole Business Park  
Leatherhead

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GU10 4LS

**Area Director**  
Alison Field

VIA EMAIL ONLY

Your Ref: TR010055  
Our Ref: 23 NSIP M3 jct 9

Date: 20<sup>th</sup> February 2019

Dear Dan

**Planning Act 2008 (as amended) and The Infrastructure Planning  
(Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) –  
Regulations 10 and 11**

**Application by Highways England (the Applicant) for an Order granting  
Development Consent for the M3 Junction 9 Improvement Project (the  
Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and  
duty to make available information to the Applicant if requested**

Thank you for consulting the Forestry Commission on the scope of the Environmental Statement (ES) in your letter dated 28<sup>th</sup> January 2019.

The Forestry Commission is the Government experts on forestry & woodland and a statutory consultee (as defined by Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009)<sup>1</sup> for major infrastructure (Nationally Significant Infrastructure Projects (NSIPs)) that are likely to affect the protection or expansion of forests and woodlands (Planning Act 2008).

As highlighted in the National Planning Policy Framework revised July 2018<sup>2</sup>: Irreplaceable habitats include ancient woodland, ancient trees and veteran trees:

Paragraph 175c – *“development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists”*

<sup>1</sup> <http://www.legislation.gov.uk/uksi/2009/2264/contents/made>

<sup>2</sup> <https://www.gov.uk/government/collections/revised-national-planning-policy-framework>

The Forestry Commission has also prepared joint standing advice with Natural England on ancient woodland, ancient trees and veteran trees<sup>3</sup> which we refer you to as it notes that ancient woodland, ancient trees and veteran trees are an irreplaceable habitat, and that, in planning decisions, Plantations on Ancient Woodland Sites (PAWS) should be treated equally in terms of the protection afforded to ancient woodland. It highlights the Ancient Woodland Inventory as a way to find out if woodland is ancient. Woodland under 2 hectares may not appear on the Ancient Woodland Inventory but may still have ancient woodland characteristics, so we would suggest that a detailed investigation is undertaken to ascertain whether any additional ancient woodlands exist that may be impacted by the proposed scheme.

The ES reports that there are no Ancient woodlands within 2km of the site (9.2.11). With reference to the comment above regarding woodland less than 2ha, *Table 9-1 Existing baseline summary* would need to be updated, if Ancient woodland is found. The table should mention Ancient Woodland, Ancient Trees or Veteran Trees being “Irreplaceable Habitats” as per the National Planning Policy Framework. If there isn’t any ancient woodland, ancient trees or veteran trees impacted we would expect this to be referenced in the ES.

The standing advice provides details on the hierarchy of: avoid impacts, mitigate impacts and compensate as a last resort. This hierarchy could apply to any deterioration to priority woodland, ancient trees and veteran trees during the works. Ancient trees and Veteran trees can be individual trees or groups of trees including within hedgerows.

Within the Constraints Maps – there are no woodlands identified, we would like to see all woodland assessed, including the woodland within the SSSI area, for value and impact, and to be considered within the scheme design and any mitigation / compensation provisions with a minimum ‘no net loss’ and ideally be an exemplar of environmental net gain in line with the Government’s 25 year Environment Plan by undertaking substantial woodland creation and woodland management

The scoping report confirms that during the desk inspection no veteran trees have been identified. Ancient trees and veteran trees can be individual trees, or groups of trees including within hedgerows<sup>4</sup>. We are supportive of the inclusion of notable trees within 8.4.5, ancient and veteran trees can be individual, clumps or groups. Site investigations for the ES should identify ancient and veteran trees.

Any potential impact on landscape regarding Ancient Woodland, Ancient trees and Veteran trees and other woodland should be included in the Environment Statement.

If there is loss of woodlands it should be included in the compensation package. Opportunities to strengthen and buffer existing woodland and provide connectivity

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<sup>3</sup> <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

<sup>4</sup> <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

should be considered. New Woodland creation would be extremely positive in buffering existing woodland, providing a screening and potentially expanding public access. The appropriate species should be considered to enhance the scheme. It is important that the right trees are planted in the right locations.

The ES should consider the importance of practicing good biosecurity, this includes when sourcing tree stock. Purchasing UK-grown plants can help avoid accidentally introducing pest or diseases on imported stock.

With regard to 8.4.9, 8.4.10 and 8.4.16 we suggest that a UKFS-compliant Woodland Creation Design Plan is considered for any potential woodland creation habitat proposed in the development; including its long term management to address future management including 'land locked' areas to ensure suitable planting schemes and the appropriate infrastructure is in place.

A UKFS compliant woodland management plan should be undertaken for any woodland management of existing woodland proposals put forward as part of the mitigation package.

8.4.14 The Forestry Commission would welcome the opportunity to be engaged in the planting proposals.

If you wish to consult us further in relation to the Environmental Statement with the Forestry Commission please contact the South East and London Office at the above address.

Yours sincerely



Richard Pearce  
Local Partnerships Advisor



## A summary of Government policy on ancient woodland

[Natural Environment and Rural Communities Act 2006](#) (published October 2006).

**Section 40** – “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”.

[National Planning Policy Framework](#) (published July 2018).

**Paragraph 175** – “*development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists*”.

[National Planning Practice Guidance](#) – Natural Environment Guidance. (published March 2014)

This Guidance supports the implementation and interpretation of the National Planning Policy Framework. This section outlines the Forestry Commission’s role as a non statutory consultee on “*development proposals that contain or are likely to affect Ancient Semi-Natural woodlands or Plantations on Ancient Woodlands Sites (PAWS) (as defined and recorded in [Natural England’s Ancient Woodland Inventory](#)), including proposals where any part of the development site is within 500 metres of an ancient semi-natural woodland or ancient replanted woodland, and where the development would involve erecting new buildings, or extending the footprint of existing buildings*”

It also notes that ancient woodland is an irreplaceable habitat, and that, in planning decisions, **Plantations on Ancient Woodland Sites (PAWS) should be treated equally in terms of the protection afforded to ancient woodland in the National Planning Policy Framework**. It highlights the Ancient Woodland Inventory as a way to find out if a woodland is ancient.

[The UK Forestry Standard](#) (4th edition published August 2017).

Page 23: “Areas of woodland are material considerations in the planning process and may be protected in local authority Area Plans. These plans pay particular attention to woods listed on the Ancient Woodland Inventory and areas identified as Sites of Local Nature Conservation Importance (SLNCIs)”.

[Keepers of Time](#) – A Statement of Policy for England’s Ancient and Native Woodland (published June 2005).

**Page 10** “The existing area of ancient woodland should be maintained and there should be a net increase in the area of native woodland”.

[Natural Environment White Paper “The Natural Choice”](#) (published June 2011)

**Paragraph 2.53** - This has a “renewed commitment to conserving and restoring ancient woodlands”.

**Paragraph 2.56** – “The Government is committed to providing appropriate protection to ancient woodlands and to more restoration of plantations on ancient woodland sites”.

[Standing Advice for Ancient Woodland and Veteran Trees](#) (first published October 2014, revised November 2017)

This advice, issued jointly by Natural England and the Forestry Commission, is a material consideration for planning decisions across England. It explains the definition of ancient woodland, its importance, ways to identify it and the policies that are relevant to it.

The Standing Advice refers to an [Assessment Guide](#). This guide sets out a series of questions to help planners assess the impact of the proposed development on the ancient woodland. Summaries of some [Case Decisions](#) are also available that demonstrate how certain previous planning decisions have taken planning policy into account when considering the impact of proposed developments on ancient woodland.

[Biodiversity 2020: a strategy for England's wildlife and ecosystem services](#) (published August 2011).

**Paragraph 2.16** - Further commitments to protect ancient woodland and to continue restoration of Plantations on Ancient Woodland Sites (PAWS).

## Importance and Designation of Ancient and Native Woodland

### **Ancient Semi Natural Woodland (ASNW)**

Woodland composed of mainly native trees and shrubs derived from natural seedfall or coppice rather than from planting, and known to be continuously present on the site since at least AD 1600. Ancient Woodland sites are shown on Natural England's Inventory of Ancient Woodland.

### **Plantations on Ancient Woodland Site (PAWS)**

Woodlands derived from past planting, but on sites known to be continuously wooded in one form or another since at least AD 1600. They can be replanted with conifer and broadleaved trees and can retain ancient woodland features, such as undisturbed soil, ground flora and fungi. Very old PAWS composed of native species can have characteristics of ASNW. Ancient Woodland sites (including PAWS) are on Natural England's Inventory of Ancient Woodland.

### **Other Semi-Natural Woodland (OSNW)**

Woodland which has arisen since AD 1600, is derived from natural seedfall or planting and consists of at least 80% locally native trees and shrubs (i.e., species historically found in England that would arise naturally on the site). Sometimes known as 'recent semi-natural woodland'.

Other woodlands may have developed considerable ecological value, especially if they have been established on cultivated land or been present for many decades.

## Information Tools – The Ancient Woodland Inventory

This is described as provisional because new information may become available that shows that woods not on the inventory are likely to be ancient or, occasionally, vice versa. In addition ancient woods less than two hectares or open woodland such as ancient wood-pasture sites were generally not included on the inventories. For more technical detail see [Natural England's Ancient Woodland Inventory](#). Inspection may determine that other areas qualify.

As an example of further information becoming available, Wealden District Council, in partnership with the Forestry Commission, Countryside Agency, the Woodland Trust and the High Weald AONB revised the inventory in their district, including areas under 2ha. Some other local authorities have taken this approach.

## Further Guidance

[Felling Licences](#) - Under the Forestry Act (1967) a Felling Licence is required for felling more than 5 cubic metres per calendar quarter. Failure to obtain a licence may lead to prosecution and the issue of a restocking notice.

[Environmental Impact Assessment](#) - Under the Environmental Impact Assessment (Forestry) (England and Wales) Regulations 1999, as amended, deforestation which is likely to have a significant impact on the environment may also require formal consent from the Forestry Commission.

# Proposed M3 Junction 9 Improvements Response to Consultation - EIA Scoping Report

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## 1. Project Details

<b>Project name:</b>	<b>M3 Junction 9 Improvement Scheme</b>
Task name:	Consultation on EIA Scoping Report
Applicant	Highways England
PINS Reference	TR010055
Date:	22/02/2019
HCC Dept:	Environment
EIA team project manager:	Holly Wood [REDACTED]

## 2. Objectives

This memo provides a response by Hampshire County Council's Environmental Teams to the formal consultation by the Planning Inspectorate (PINS) on the *'M3 Junction 9 Improvements Project, Environmental Impact Assessment Report, Highways England (Jacobs, January 2019-HE551511-JAC-EGN-0\_00\_00-RP-LE-001/PO3)*. The formal date for commenting on the Scoping Report to PINS is 25<sup>th</sup> February 2019.

This response covers the general scoping report and the technical review of the following environmental topics:

- Air Quality
- Cultural Heritage
- Landscape & Visual
- Biodiversity;
- Soils and geology
- Material Assets and Waste
- Noise and Vibration
- Population and Health
- Road Drainage and the Water Environment
- Climate
- Cumulative Effects

### 3. HCC Review Comments

<p>2. The Project</p>	<p>This section of the ES should also include further details on the following:</p> <ul style="list-style-type: none"> <li>- proposed construction phasing and methodology;</li> <li>- any new significant structures, e.g. embankments, retaining walls, culverts etc</li> <li>- proposed mitigation measures such as noise barriers, enhancements of NMU provision, ecological enhancements or compensatory measures, lighting, and drainage;</li> <li>- construction access and compounds; and</li> <li>- construction traffic management</li> </ul> <p>The nature and extent of works required to other junctions and approach roads required to deliver this scheme which are within the jurisdiction of HCC and other authorities e.g. A272 Spitfire Link and Easton Lane should also be defined. The relative impacts of each option on these connecting roads need to be evaluated in this assessment.</p> <p>The next phase of the assessment should address the potential impacts of construction works on traffic flows and operation of these other strategic routes and the longer-term impact on traffic flows of any permanent changes to layout, capacity etc.</p>
<p>3. Alternatives</p>	<p>Table 3-1 provides a list of options considered and states whether they were rejected or carried forward. It is noted that it starts at option 11. Further details need to be provided on options 1-10 and why these were discounted.</p> <p>Table 3-2 provides a brief discussion of the reason various options were not carried forward. Further discussion should be provided in the ES to justify why option 14 was taken forward and the potential effects of this option.</p> <p>The EIA process should be an iterative process throughout the development of the preferred option. With respect to the preferred option the ES should provide a section which discusses the evolution of the preferred option (which tells the story of how the design has developed and been amended as result of consultations, investigations and assessment of impacts). This should include a timeline depicting how and when the design has evolved.</p>
<p>4. Consultation</p>	<p>Section 4.1 states that public consultation on the preferred route option took place in early 2018. The ES should include full details of what consultations have been undertaken and the results (statutory and non-statutory) with all stakeholders. This section of the ES should be clearly signposted to explain how and where the consultation responses particularly from statutory bodies have been addressed within the design and the EIA.</p>
<p>5. Assessment Methodology</p>	<p>The EIA should include a full description of the assessment methodologies and the criteria used to define significance of effects. It is important that the process followed for each topic is fully documented to assist the reader in understanding how judgements have been made rather than just quoting relevant guidance documents.</p> <p>A description of the value (or sensitivity) of receptor, the magnitude of impact and the matrix for determining the significance of effects should be provided for each topic area, thereby ensuring all topics are assessed consistently.</p>

	<p>It is important that the chapter for the ES is consistently structured and potential impacts identified are considered within the design, mitigation and enhancements. Particularly with respect to community impacts and the effects of construction – length of time, dust, noise etc.</p>
<p>6. Air Quality</p>	<p><u>Construction impacts</u></p> <p>An assessment of construction dust emissions should be undertaken in accordance with the methodology in the <i>Guidance on the assessment of dust from demolition and construction. London: Institute of Air Quality Management 2014</i>. This should consider the impact on both human and ecological receptors, including any internationally and nationally designated sites within 350 metres of the Proposed Scheme.</p> <p>Parts of these designated sites will be directly adjacent to working areas, therefore the potential effects of different construction activities need to be fully understood and appropriate mitigation measures developed where appropriate.</p> <p>The assessment should consider the potential impacts on air quality on nearby receptors of traffic management measures during construction, particularly those on diversion routes during full closures of the M3 to allow for night time working. Specific scenarios modelled should include potential impacts of diverting traffic through the centre of Winchester (AQMA).</p> <p>Depending on the volume of traffic generated during the construction phase, consideration of impacts on human health receptors associated with construction vehicle emissions may also be required. The changes in traffic as a result of construction vehicles and any traffic management measure should be screened against criteria given in DMRB 11.3.1 and a quantitative assessment of changes in concentrations undertaken if required.</p> <p><u>Operational impacts</u></p> <p>Further consultation is requested on the proposed study area (ARN) for the air quality assessment determined by the screening assessment, once the traffic data has been analysed.</p> <p><i>NMUs</i></p> <p>The assessment should consider impacts on air quality for existing PROWs, other NMU routes and recreational receptors and also the potential air quality for users of any potential new NMU routes proposed as part of the scheme. Consideration should be given to alternative routing for any new NMU pathways away from highways where NO<sub>2</sub> and particulate concentrations are predicted to exceed AQOs.</p> <p><i>Ecology</i></p> <p>Background nitrogen deposition currently exceeds the critical load within the River Itchen SSSI and SAC. There also exceedances of the NO<sub>2</sub> AQO at St Catherine’s Hill SSSI, indicating that these sites are already particularly vulnerable to any changes in traffic, and subsequently air quality arising from the scheme which could potentially affect habitats and/or species within these designated sites.</p> <p>Concentrations of NO<sub>x</sub> using the dispersion modelling approach described in the report should be determined at the points closest to the roads in each of the nationally and internationally designated sites using the methodology contained within Volume 11, Section 3 of the Design Manual for Roads and Bridges (DMRB)</p>

	<p>In addition, nitrogen deposition rates for the opening year scenarios should also be calculated following DMRB Annex F for different receptor points.</p>
<p>7.Cultural Heritage</p>	<p>The scoping report scopes in the cultural heritage under three headings, archaeology, historic buildings and historic landscape character. This is considered appropriate.</p> <p>A desk-based assessment has already been produced (7.6.4) and a detailed assessment is proposed (7.6.5) and the report confirms that the impacts of the development on the cultural heritage will be subject to a detailed study (17.2).</p> <p>The archaeological context is described, and the assessment and mitigation principles are largely to be endorsed.</p> <p>Concerns over the use of the word ‘viable’ in 7.4.3 in relation to the extent to which trial trenching would be implemented. Viable is not the correct reference, it should refer to what is appropriate and achievable rather than the economic implication inherent in the use of the word viable (not that economic considerations should be excluded but the use of the word viable may imply it has a principal role).</p> <p>The mitigation will be agreed with Winchester City Council and Historic England (7.4.3). At present that excludes HCC’s archaeologist, however HCC should be given the opportunity to comment.</p>
<p>8. Landscape</p>	<p><u>HCC Landscape Team</u></p> <p>No further comments. HCC’s Landscape Team has been consulted previously and comments on the proposed LVIA and viewpoints have been addressed in the Scoping Report.</p> <p><u>HCC Countryside Service</u></p> <p>We are happy with the landscape and visual methodology outlined in the report. It will take in a significant area around the junction; a 6 X 4km grid and will also consider longer distance views e.g. from St Catherine’s Hill.</p> <p>The scope takes into account promoted routes such as St. Swithun’s Way as well as the wider rights of way (RoW) network and the assessment criteria proposed in Table 8-3 will identify users of the RoW as high sensitivity, which is all encouraging.</p>
<p>9. Biodiversity</p>	<p>Scoping of potential impacts will need to include potential interruption of the hydrological connection to adjacent wet meadows not just fully aquatic habitats (for both construction and operational impacts.) Therefore, potential impacts to SINC habitats may need to be reviewed based on this assessment</p> <p><u>Mitigation</u></p> <p>Up to date water vole surveys will need to be undertaken to be certain of delivering the 10m avoidance distance from the construction footprint.</p> <p>Further to sensitive lighting design for adjacent habitats, the new elements of the road will need to be constructed to ensure that fragmentation of bat foraging corridors does not occur, utilising dark corridors, and bat hop overs.</p> <p>Mitigation/enhancement for dormice should include provision of dormouse bridges (see new research for design NOT the versions within the DMRB) to reconnect potential habitats. This could include spanning of the whole motorway on the</p>



	<p>existing bridge structures. Suitable landscaping features to allow these structures to function should be incorporated into the landscaping and habitat creation proposals.</p> <p>Habitat creation should include creation of chalk grassland verges. Bare chalk and retained soils should be used without topsoil or soil improvers in all areas of verge creation.</p> <p>HRA assessment will need to take into consideration recent legal judgements, including Sweetman and Holohan (which requires assessment of all previous options).</p> <p><u>Further assessment</u></p> <p>Unsure as to the robustness of relying on desk assessment for understanding impacts to foraging/commuting bats.</p> <p>Limitations: The EIA will need to robustly defend the lack of data from missing equipment with respect to bats and otter surveys, and the general access issues.</p>
<p>10. Geology &amp; Soil</p>	<p>Further review for the EIA should include consultations with local authority Contaminated Land Officer, Environment Agency &amp; HCC Minerals and Waste.</p> <p>The baseline should also include other potential sources of contamination i.e. Radon, unexploded ordnance etc.</p> <p>Figure 10.1 is not clear and should be provided as a separate figure at a larger scale.</p> <p>Table 10.3 provides inconsistencies in sources within the 250m buffer distance, this needs to be addressed to ensure correct identification of potential sources.</p> <p>There are a number of landfills which are within close proximity of the scheme and should be included within the document, <i>land between old Newbury railway and A33</i> is within the scheme boundary but not identified.</p> <p>Table 10.6 identifies receptor sensitivity; the EIA should list criteria used to assign sensitivity to receptor to ensure consistencies.</p> <p>Table 10.7 needs to be consistent with identified receptors in Table 10.6 and potential contaminants in table 10.5. Landfill gas for example is identified as a potential risk but not included in the conceptual model.</p> <p>I would expect to see a full detailed consistent conceptual model in the EIA which includes the further reviews identified in the scoping report.</p>
<p>11. Material and Waste</p>	<p>The assessment defines two geographically different study areas, used to examine the use of primary/secondary/recycled/manufactured materials and the generation and management of waste.</p> <p>The scoping report identifies potential impacts for study area 2 and considers direct/indirect effects, assessment methodology and significance criteria clearly. However, this approach should be extended to cover study area 1 within the EIA (this has been missed in the scoping report) to examine whether it is a sensitive receptor or identify any key impacts. I.e. during construction release of contaminants etc as a result of inappropriate storage or movement of material.</p> <p>The ES should also make reference to other relevant chapters i.e. Geology and soils.</p>



	<p>Mitigation measures should also reference the Construction Environmental Management Plan (CEMP) to document use, storage and transportation of materials and waste.</p> <p>It would be useful to include an ‘example’ of the quantity of materials required for a project of this size to enable an understanding of the statement in 11.2.4 that there is ‘plenty of material resources available’ for the project.</p> <p>Further reference to consultations which have taken place or will take place with regards to materials and waste i.e. environment agency should be included within the ES.</p>
<p>12. Noise &amp; Vibration</p>	<p>Reference is made to consultations with the EHO at Hampshire Council on monitoring etc. These discussions should be with the EHO at <u>Winchester City Council</u> who are the statutory authority responsible for this function.</p> <p>Further clarification should be provided on how the existing noise climate has been determined and commentary provided on existing noise levels and the main sources of noise. Consideration should also be given in the assessment to noise nuisance, compliance with WHO guideline limits and night time noise in addition to SOAELs</p> <p><i>Noise Important Areas:</i> The assessment should consider the ‘specific improvements’ within the action plan for each NIA within the calculation area, how the scheme will impact on these areas. Also, the contribution of this scheme to achieving these objectives also needs to be clarified.</p> <p><i>Ecology:</i> The assessment predicts that a number of residential receptors and designated ecological areas within the calculation area will be adversely impacted by changes in noise both in the short and long term but that these can be effectively reduced with mitigation. Potential impacts on these receptors should also be considered in detail within the noise assessment and potential requirements for mitigation considered, and residual effects assessed.</p> <p><i>SDNP:</i> Effects within the SDNP are predicted to be more significant with a number of receptors points predicted to have minor, moderate or even major magnitude changes. Further details should be included on where within the SDNP the effects are greatest, and consideration given to other options for mitigation including design changes that could be considered to reduce these impacts.</p> <p><i>Mitigation:</i> The criteria used to determine eligibility for mitigation needs to be clearly defined in the assessment and reasons for the mitigation options selected. Where mitigation for particular receptors has been discounted, the reasons for this need to be clarified.</p>
<p>13. Population &amp; Health</p>	<p>This chapter covers a really broad range of topics and it isn’t clear whether all the issues required by DMRB Vol 11 part 6 – Land Use, Part 8 – peds, cyclists and community, and part 9 Vehicle Travellers are to be incorporated into one chapter along with the health and population assessments or covered elsewhere? Could the effects on vehicle travellers and NMUs be in a separate chapter as this is a significant topic area in its own right?</p> <p>Further data on the local health profile and public health policies for Hampshire can be obtained from HCC’s Public Health Team – email <a href="mailto:public.health@hants.gov.uk">public.health@hants.gov.uk</a> and via HCCs website at <a href="https://www.hants.gov.uk/socialcareandhealth/publichealth">https://www.hants.gov.uk/socialcareandhealth/publichealth</a>.</p>

*Public transport:* The EIA should also consider current public transport resources for the local population and assess the effects of the scheme on accessibility to public transport and operation of services both during construction and once the scheme is operational.

When describing the significance of effects, the length of time of construction should also be a consideration.

*Effects on all Travellers:* In addition to the information provided in the Transport Assessment, the EIA should also define baseline traffic conditions for opening and future years and include an assessment of the impacts of changes in traffic flows resulting from the scheme for both vehicle users and NMUs during both the construction and operational phases.

This should include all relevant issues in “Guidelines for the Environmental Assessment of Road Traffic” (IEMA, 1993) as well as those in Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Parts 8 and 9 including.

- Driver delay (IEMA);
- Pedestrian delay and amenity (IEMA);
- Fear and intimidation (IEMA);
- Accidents and Safety (IEMA);
- Changes in amenity (DMRB);
- Views from the road (DMRB); and
- Driver stress (DMRB).

*Construction Traffic Management:* The EIA should also identify measures to be implemented during construction to manage works traffic and minimise impacts on other road users and local communities e.g. vehicle routing, avoiding peak periods.

*NMUs:* It is noted there will be enhancement of pedestrian and cycle route connectivity incorporated into the design. HCC would strongly support any such initiatives, particularly opportunities for increasing the number of crossing points over the M3 and A34, improving existing PROWs and developing new links between them.

The assessment should also consider potential impacts on residential properties, development land, community land and assets/facilities and agricultural land and holdings in accordance with the guidance in Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3 Part 6 (Land use), Highways Agency June 1993 (Ref 12.8).

Rights of Way (comments from HCC Countryside Service)

Table 13-4 in ‘other recreation/tourist Assets’ has omitted the rights of way network and promoted/ long distant routes. I think these are a legitimate asset and should be included in this review, as not only providing a link for the population of Winchester to the Wider National Park, but also as a draw for visitors in their own right and as an important link to access the other assets included, such as Winnall Moors NR.

Where rights of way are considered in section 13 they have acknowledged the impact the construction will cause and have intimated potential improvements that could be made to the existing RoWs within the footprint of the road scheme. It is perhaps to be expected that they are taking a somewhat narrower focus than we have when looking at impacts and this I suspect will be the crux of our negotiations.

	<p>I note that the assessment scheme has no precedent for judging the effects on the RoW, but the suggested scheme appears reasonable.</p>
<p>14. Road Drainage &amp; Water</p>	<p>Overall, the scope of Water and Drainage is acceptable and includes key impacts for further investigation. A list of discharge consents should be included within the baseline.</p> <p>14.2.12 states ‘The risk posed by these existing drainage assets will be considered within the overall assessment. The assets that have been assessed in detail are concluded to pose an overall low to no risk status.’ Please clarify this in the ES, it is not clear what is has already been assessed and what is going to be assessed.</p> <p>A separate constraints map for water and drainage should be included, it is difficult to ascertain water constraints and boundaries in the current figure 1.1</p> <p>It is noted that in this location a significant volume of litter (from the road) enters the River Itchen (SAC) particularly from the A34. Consideration should be given in the scheme design to screening or fencing the highways verges where the scheme passes directly over or adjacent to waterways within these areas to prevent litter and particularly plastics from entering the water environment.</p> <p>It is imperative that the potential effects around pollution incidents and major accidents with respect to effects on water quality are adequately addressed given the sites proximity to the River Itchen SAC/SSSI.</p> <p><u>HCCs Flood &amp; Water Management Team</u></p> <p>Pre-application discussions should be undertaken with HCCs FWM team regarding the proposed drainage strategy for the scheme and to identify any requirements for Ordinary Watercourse consents for any works or new structures near to ordinary watercourses. Contact: <a href="mailto:owc@hants.gov.uk">owc@hants.gov.uk</a></p> <p>HCC FWM would support the use of multi-stage proposals that maximise passive treatment through the use of SuDS.</p>
<p>15. Climate</p>	<p>No comment, the elements scoped in and out appear reasonable.</p>
<p>16. Cumulative Effects</p>	<p>It is important that the ES includes a clear definition of cumulative effects to clearly differentiate between combined and cumulative effects. Guidance in DMRB Volume 11, Section 2, Part 5, includes a definition:</p> <p>There are two principal types of cumulative impact in environmental impact assessment of road schemes. These are:</p> <ol style="list-style-type: none"> <li>i. Combined or ‘synergistic effects’ caused by the combination of a number of impacts from a single project which when combined may give specific impacts upon a single receptor/resource;</li> <li>ii. cumulative impacts from other allocated/committed development projects in combination with the project being assessed which collectively cause a more significant effect than individually. This can include multiple impacts of the same or similar type from a number of projects upon the same receptor/resource. For example, the combination of traffic, air quality or noise impacts form the combined construction activities on a sensitive receptor e.g. ecological habitat, associated with several developments in that locality.</li> </ol>

	<p>The methodologies proposed for the combined and cumulative effects assessments appear reasonable and in line with best practice (zone of influence, long list, short list etc). We note that discussion has been provided regarding the limitations of the cumulative effects assessment, for example with respect to whether adequate information / evidence would be available for many of the short listed developments to allow for a meaningful cumulative assessment to be undertaken.</p> <p>It is noted that the cumulative effects of the proposed scheme with the M3 smart motorway will be an integral part of the cumulative assessment.</p> <p>Given that the proposed development is located close to sensitive receptors including the River Itchen SAC/SSSI and Winnall Moor Nature Reserve consideration should be given to both the combined and cumulative effects on these receptors with particular regard to water quality, flooding, dust and noise which cumulatively or in combination may pose a more of a risk and result in a degradation of the receptors than in isolation.</p>
Other	<p><u>Socio-economic effects</u></p> <p>The EIA should also include a socio-economic assessment for the M3 J9 scheme which considers the likely significant effects during both the construction and operational phases.</p> <p>This should include temporary and permanent employment creation, contribution to local and sub-regional economic objectives and temporary disruption to local residents and businesses during the construction phase of the Proposed Scheme. Key areas are transport and connectivity, local and wider regional labour markets and employment, land, and meeting socio-economic policy objectives.</p> <p>It should consider the local economic baseline (headline macroeconomic indicators, labour force, businesses, transport and accessibility, housing, travel to work) and local and sub-regional economic objectives, and economic trends and constraints and identify the potential temporary and longer-term effects on the local and wider economy arising from the Proposed Scheme.</p>

**From:** [REDACTED]  
**To:** [M3Junction9@pins.gsi.gov.uk](mailto:M3Junction9@pins.gsi.gov.uk)  
**Subject:** M3 Junction 9 Improvement Project  
**Date:** 14 February 2019 09:54:11  
**Attachments:** [image001.png](#)  
[image003.png](#)  
[image008.png](#)  
[image010.png](#)  
[image011.png](#)  
[image012.png](#)

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Good morning,

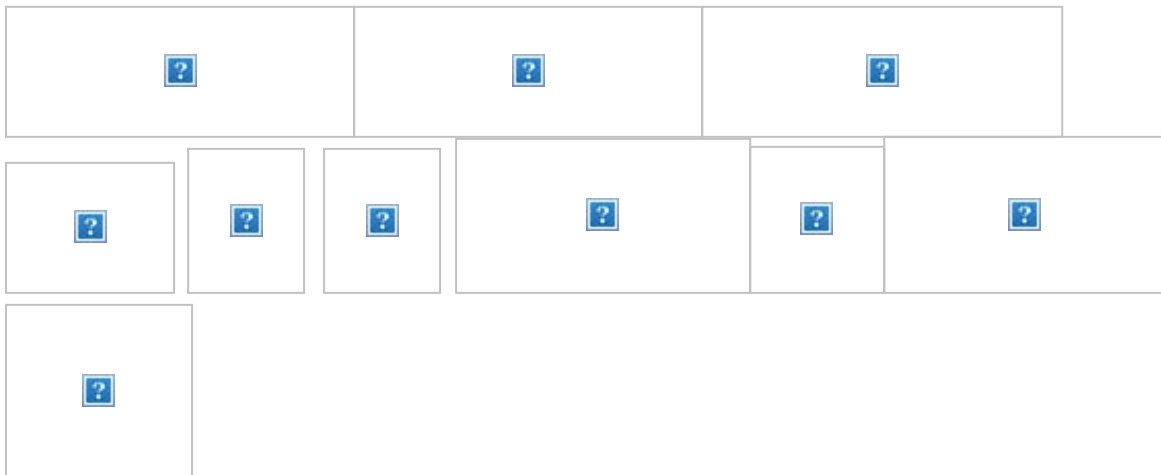
Thank you for sending the relevant information and material regarding the M3 Junction 9 Improvement Project.

Harlaxton Energy Networks Ltd. at this time has no assets in the area, and will not be implementing any in the near future, therefore Harlaxton has no comment to make on this scheme.

Kind Regards

Karen Thorpe

Administrator  
[REDACTED]



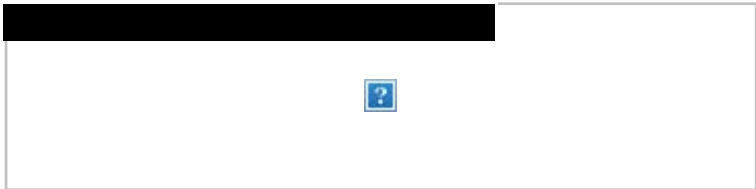
Visit our website [\[REDACTED\]](#) and explore at your leisure

harlaxton-energy - logo



Toll Bar Road, Marston, Grantham, Lincolnshire, NG32 2HT  
Registered Company Number : 7330883

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**From:** [REDACTED]  
**To:** [M3Junction9@pins.gsi.gov.uk](mailto:M3Junction9@pins.gsi.gov.uk)  
**Subject:** M3 Junction 9 Improvement Project  
**Date:** 14 February 2019 09:54:52  
**Attachments:** [image002.png](#)

---

Good morning,

Thank you for sending the relevant information and material regarding the M3 Junction 9 Improvement Project.

Harlaxton Gas Networks Ltd. at this time has no assets in the area, and will not be implementing any in the near future, therefore Harlaxton has no comment to make on this scheme.

Kind Regards

Karen Thorpe  
Distribution Administration Assistant

Gas Networks logo



Toll Bar Road, Marston, Grantham, Lincs, NG32 2HT

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**Havant**  
BOROUGH COUNCIL

Public Service Plaza  
Civic Centre Road  
Havant  
Hampshire PO9 2AX

T [REDACTED]  
F [REDACTED]  
[www.havant.gov.uk](http://www.havant.gov.uk)

Richard White  
The Planning Inspectorate  
Temple Quay House  
Temple Quay  
Bristol  
BS1 6PN

Our Ref: GEN/19/00084  
[REDACTED]

Ask For: Mr L Oliver  
Email: [planning.development@havant.gov.uk](mailto:planning.development@havant.gov.uk)

05 February 2019

**Site Location:** M3 Junction 9 Improvement Project  
**Re:** Environmental Statement Scoping Opinion.

Dear Sir,

Thank you for consulting Havant Borough Council on this proposal. I can confirm that this Local Planning Authority has No Comments to make on this proposal.

Yours faithfully

Mr L Oliver  
Principal Planner  
Our Ref: GEN/19/00084



**From:** [REDACTED] > On Behalf Of

[NSIP.Applications@hse.gov.uk](mailto:NSIP.Applications@hse.gov.uk)

**Sent:** 21 February 2019 14:49

**To:** [M3Junction9@pins.gsi.gov.uk](mailto:M3Junction9@pins.gsi.gov.uk)

**Subject:** NSIP - Proposed M3 Junction 9 Improvement – EIA Scoping Consultation, HSE Response

Dear Richard White,

Thank you for your letter dated 28/1/19 regarding the information to be provided in an environmental statement relating to the Project below. HSE does not comment on EIA Scoping Reports but the attached information is likely to be useful to the Applicant.

Kind regards,

Dave Adams

**Dave.MHPD.Adams**

**Major Hazards Policy – Chemicals & Land Use Planning | Chemicals, Explosives & Microbiological Hazards Division | Health and Safety Executive.**

**Please note that on 24/9/18 I moved to** [REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[www.hse.gov.uk](http://www.hse.gov.uk) | <http://hse.gov.uk/landuseplanning>

**From:** M3 Junction 9 [<mailto:M3Junction9@pins.gsi.gov.uk>]

**Sent:** 28 January 2019 13:52

**Subject:** HPE CM: TR010055 – M3 Junction 9 Improvement – EIA Scoping Notification and Consultation

Dear Sir/Madam

Please see the attached correspondence regarding the proposed M3 Junction 9 Improvement Project.

Please note the deadline for the consultation is 25 February 2019, which is a statutory deadline that cannot be extended.

Kind Regards

Richard White

EIA and Land Rights Advisor  
Major Applications & Plans

The Planning Inspectorate, Temple Quay House, Temple Quay, Bristol, BS1 6PN

Direct line: [REDACTED]

Helpline: 0303 444 5000

Email: [REDACTED]

Web: [infrastructure.planninginspectorate.gov.uk](http://infrastructure.planninginspectorate.gov.uk) (National Infrastructure Planning)

Web: [www.gov.uk/government/organisations/planning-inspectorate](http://www.gov.uk/government/organisations/planning-inspectorate) (The Planning Inspectorate)

Twitter: @PINSgov

This communication does not constitute legal advice.

Please view our [Information Charter](#) before sending information to the Planning Inspectorate.

CEMHD Policy - Land Use Planning  
NSIP Consultations  
Building 1.2, Redgrave Court  
Merton Road, Bootle  
Merseyside, L20 7HS

Your ref: TR010055  
Our ref: 4.2.1.6564  
HSE email: [NSIP.applications@hse.gov.uk](mailto:NSIP.applications@hse.gov.uk)

FAO Richard White  
The Planning Inspectorate  
Temple Quay House  
Temple Quay,  
Bristol  
BS1 6PN

Dear Mr White

21 Feb 2019

**PROPOSED M3 J9 IMPROVEMENT (the project)  
PROPOSAL BY HIGHWAYS ENGLAND (the applicant)  
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as amended) –  
Regulations 10 and 11**

Thank you for your letter of 28<sup>th</sup> January 2019 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

**HSE's land use planning advice**

Will the proposed development fall within any of HSE's consultation distances?

According to HSE's records there is one major accident hazard site within the proposed DCO application boundary of the proposed M3 junction 9 improvement for this nationally significant infrastructure project; the site is:

UK Petroleum Products Ltd HSE reference H0522.

It is noted that the A34 currently passes through the inner zone of this site; any intensification of people in this area may lead to HSE to advise against the proposal

Hazardous Substance Consent

The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) will probably require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015 as amended.

Hazardous Substances Consent would be required to store or use any of the Named Hazardous Substances or Categories of Substances at or above the controlled quantities set out in schedule 1 of these Regulations; substances may be present in batteries.

Further information on HSC should be sought from the relevant Hazardous Substances Authority.

Consideration of risk assessments

Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 An Annex on the Planning Inspectorate's website - [Annex G – The Health and Safety Executive](#) . This document includes consideration of risk assessments on page 3.

---

Explosives sites

As there are no licensed explosive sites in the vicinity, HSE has no comment to make in this regard.

**Electrical Safety**

No comment from a planning perspective

Please send any further electronic communication on this project directly to the HSE's designated e-mail account for NSIP applications. Alternatively any hard copy correspondence should be sent to:

Mr Dave Adams (MHPD)  
NSIP Consultations  
1.2 Redgrave Court  
Merton Road, Bootle,  
Merseyside L20 7HS

Yours sincerely,



Dave Adams  
(CEMHD4 Policy)



Mr Dan Coles  
The Planning Inspectorate  
Major Casework Directorate  
Temple Quay House, 2 The Square  
Bristol  
BS1 6PN

[REDACTED]  
Our ref: PL00540042

22 February 2019

Dear Mr Coles

**M3 JUNCTION 9 IMPROVEMENTS: EIA SCOPING  
YOUR REF: TR010055**

**Introduction**

Thank you for contacting us on 28 January 2019 regarding an EIA scoping opinion in relation to the above development proposal. We treat such requests as pre-application advice. On the basis of the latest information about the proposals, detailed below, I offer the following advice.

**The proposal**

The proposal is for scoping to inform a decision regarding improvements and reconfiguration of the M3 Junction 9 near Winchester, to include the replacement of a circulatory roundabout with a dumbbell roundabout, conversion of the M3 south of Junction 9 to dual three lane motorway, realignment of slip roads, the addition of new structures, and improvements to safety features, signage and technology.

**Advice**

Development on this site has the potential to impact upon designated and undesignated heritage assets and their settings both within the boundary of the proposed development area and in the area around the site. It is understood however, that the effects on designated assets will relate solely to setting impacts, and that no designated assets will be physically impacted by the proposals (see scoping report section 7.4.2).

In line with the advice in the National Planning Policy Framework (NPPF), we would expect the Environmental Statement to contain a thorough assessment of the likely effects which the proposed development of this area might have upon those elements which contribute to the significance of heritage assets, including their setting.

Our assessment of the scoping report shows that the designated heritage assets within the near vicinity of the proposed development have been identified correctly (sections 7.2.2-3). We think that the scoping report (section 7.1.3) demonstrates that the extent of the proposed study area (300m inner study area, and 1km wider



EASTGATE COURT 195-205 HIGH STREET GUILDFORD SURREY GU1 3EH

Telephone [REDACTED]  
[REDACTED]





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area for designated heritage assets) is of the appropriate size to ensure that all heritage assets likely to be affected by this development have been included and can be properly assessed.

We have concerns however, that scheduled monuments are not included in section 7.3 (potential impacts), and have been scoped out (see table 7.4) without sufficient explanation, despite 10 monuments being identified in the study area (section 7.2.2). We think that as a ZTV/LVIA study is not yet available, scheduled monuments should be scoped in and included in landscape studies, to enable consideration given to setting impacts, even if these are subsequently found to be low or negligible following this study.

It is important that the assessment is designed to ensure that all impacts are fully understood. Techniques such as photomontages and computer generated views analysis imagery are a useful part of this. It would be important that the setting of any heritage assets is fully understood and also the contribution the setting makes to the significance of these assets. In this respect an analysis of the views from within the site, out of, and across the site in relation to designated heritage assets will be important.

We note that ZTV studies are proposed and think these will be helpful in understanding setting impacts in relation to heritage assets. It will be important to have close collaboration of cultural heritage and landscape/visual impact assessment. Further guidance on setting can be found at our website

([\[REDACTED\]](#))  
[REDACTED]

We would also expect the Environmental Statement to consider the potential impacts on non-designated features of historic, architectural, archaeological or artistic interest, since these can also be of national importance and make an important contribution to the character and local distinctiveness of an area and its sense of place.

We note that archaeological remains have been included in the report and will be scoped in to the EIA (table 7.4), we are not clear however, whether the range of other types of undesignated heritage assets noted above have been considered. We are also concerned and disagree regarding the statements made in section 7.4.2 that:

*Current legislation draws a distinction between archaeological remains of national importance and other remains considered to be of lesser significance. Those perceived to be of international and national importance could require preservation in situ, whilst those of lesser significance could undergo archaeological recording, where they are of Regional/County or Local/Borough significance.*

This is because paragraph 199 of the NPPF states that the ability to record evidence



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of our past should not be a factor in deciding whether such loss should be permitted. Paragraph 197 also notes that in weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

We would strongly recommend that conservation and archaeological staff at Hampshire County Council are involved in the development of this assessment. They are well placed to advise on: local historic environment issues and priorities; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets.

The assessment should also take account of the potential impact which associated development activities (such as construction, servicing, maintenance, and associated traffic) might have upon perceptions, understanding, and appreciation of the heritage assets in the area. The assessment should also consider the likelihood of alterations to drainage and ground water patterns that might lead to in situ decomposition or destruction of below ground archaeological remains and deposits, and can also lead to subsidence of buildings and monuments.

**Recommendation**

Given the range of heritage assets within the study area, we would expect to provide further advice in due course on the potential impacts to designated heritage assets from this proposed development.

We urge you to address the above issues, and recommend that production of an Environmental Statement should continue in accordance with national and local policy guidance, and following your expert conservation advice. If you have any queries about any of the above, or would like to discuss anything further, please contact me for further advice.

Yours sincerely,



Rebecca Lambert  
Inspector of Ancient Monuments



Sirs

This Parish Council, whose boundary includes part of the proposed scheme, supports the proposal to improve the layout of Junction 9 of the M3 Motorway subject to the following:-

This Parish Council is concerned about an increase in road traffic noise. Traffic using the A34 currently approaches the J9 roundabout at a relatively slow speed but will after the scheme pass through at 70 mph. The prevailing wind is from the South West which will direct the extra noise from the increased traffic speed towards the Itchen Valley to the East. The Itchen Valley is in the South Downs National Park whose Authority has the statutory Purposes and Duty to conserve the enjoyment by the public of the special qualities of the National Park which includes tranquillity. We would propose:-

1. That a noise bund be constructed along the Eastern boundary of the new Junction 9, specifically through the valley by Winnall Cottage Farm. This will need to be wide and planted with trees but the land take from the SDNP will be offset by the improved tranquillity. The land owner has indicated that the land is available.
2. The new northbound A34 is perched over the top of Winnall access to the M3. If this was reversed the road noise from the lower major road would be better masked by the topography.

We hope the Highway Authority will acknowledge their statutory duty towards the South Downs National Park and reduce road traffic noise including these measures.

Your faithfully

Cllr Christopher Langford



## Itchen Valley Parish Council

E: [REDACTED]

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# Kings Worthy Parish Council

Parish Clerk: Richard Hanney

Tel: [REDACTED]

Email: [REDACTED]

Address: Lionel Tubbs Hall & Kings Worthy Community Centre, Fraser Road, Kings Worthy, Winchester, Hants, SO23 7PJ



25<sup>th</sup> February 2019

Dear Mr Dan Coles,

**Ref: TR010055 – Junction 9 of the M3**

Councillors has concerns with regards to the following items in your report:

## Noise and Vibration

Councillors would like to raise the issue of noise on the A34 heading north from the junction. With the redesign of the junction, noise pollution is likely to increase dramatically affecting those who live along the route. Councillors request that the entire section of the A34 running from Junction 9 through Kings Worthy, be included in the noise-pollution area and that any mitigation proposals also include said stretch of the A34.

## Population & Health

Councillors would like a condition included to ensure any night time works do not include loud machinery and/or operations to avoid excessive disturbance to local residents.

## Road Drainage & Health

Councillors would like assurances that every possible measure will be implemented to mitigate any temporary and/or permanent effect with regards to pollution, flooding and groundwater.

Councillors would also like assurances that all current footpaths and cycle routes will be retained and improved.

Yours sincerely,

Christopher Read  
Assistant Clerk to Kings Worthy Parish Council

Sent electronically to:

[M3Junction9@pins.gsi.gov.uk](mailto:M3Junction9@pins.gsi.gov.uk)

Anne Holdsworth  
DCO Liaison Officer  
Land & Business Support

[REDACTED]  
[REDACTED]  
[REDACTED]

31<sup>st</sup> January 2019

Dear Sir / Madam

**Ref: Application by Highways England for an Order Granting Development Consent for the M3 Junction 9 Improvement Project Scoping Notification and Consultation**

This is a response on behalf of National Grid Electricity Transmission PLC (NGET) and National Grid Gas PLC (NGG).

I refer to your letter dated 28<sup>th</sup> January 2019 regarding the Proposed Development.

**National Grid infrastructure within / in close proximity to the order boundary:**

**Electricity Transmission**

National Grid Electricity Transmission has no apparatus within the proposed order limits.

**Gas Transmission**

National Grid Gas has no apparatus within or in close proximity to the proposed order limits.

If you require any further information please do not hesitate to contact me.

Yours faithfully

[REDACTED]

**Anne Holdsworth**



Public Health  
England

Environmental Hazards and  
Emergencies Department  
Centre for Radiation, Chemical and  
Environmental Hazards (CRCE)  
Seaton House  
City Link  
London Road  
Nottingham  
NG2 4LA

[nsipconsultations@phe.gov.uk](mailto:nsipconsultations@phe.gov.uk)

[www.gov.uk/phe](http://www.gov.uk/phe)

Your Ref: TR010055

Our Ref: 49460

Major Casework Directorate  
Temple Quay House  
2 The Square  
Bristol, BS1 6PN

20 February 2019

Dear Sir/Madam,

### **M3 Junction 9 Improvements Scoping Consultation Stage**

Thank you for including Public Health England (PHE) in the scoping consultation phase of the above application. Advice offered by PHE is impartial and independent.

PHE exists to protect and improve the nation's health and wellbeing and reduce health inequalities; these two organisational aims are reflected in the way we review and respond to Nationally Significant Infrastructure Project (NSIP) applications.

The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

Having considered the submitted scoping report we wish to make the following specific comments and recommendations:

### **Environmental Public Health**

We understand that the promoter will wish to avoid unnecessary duplication and that many issues including air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the Environmental Statement (ES). We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that

public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made the promoters should fully explain and justify their rationale in the submitted documentation.

### Recommendation

Our position is that pollutants associated with road traffic, particularly particulate matter and oxides of nitrogen are non-threshold; i.e., an exposed population is likely to be subject to potential harm at any level and that reducing public exposures of non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards will have potential public health benefits. We support approaches which minimise or mitigate public exposure to non-threshold air pollutants, address inequalities (in exposure), maximise co-benefits (such as physical exercise). We encourage their consideration during development design, environmental and health impact assessment, and development consent.

## **Noise**

### Stakeholder engagement

PHE recommends that the forthcoming proposed statutory consultation recognises the potential for increased noise levels associated with the construction and operational phases of the Scheme and possible noise mitigation strategies as discussed in the scoping report (12.4).

PHE encourages the scheme promoter to use effective ways of communicating changes in the acoustic environment as a result of the scheme to local communities. For example, immersive sound demonstrations can help make noise and visual impacts intuitive to understand and accessible to a wider demographic, and have been used in major road and rail infrastructure projects such as HS2 and the planned upgrades to the A303. High quality infographics are also useful for this purpose.

PHE expects the Consultation Report (4.2.7) to explain how stakeholder responses in relation to noise have influenced the development of the proposal, including any mitigation measures. In addition, the applicant should propose a suitable strategy to disseminate the findings of the PEIR (and EIA) regarding the effects of noise on health to stakeholders, including communities which may experience a change in their local noise environment because of the scheme.

### Health Outcomes and Significance of Impacts

PHE expects proper consideration to be given to the potential effects on human health due to changes in environmental noise arising from construction and operational phases of the scheme and recommend that this approach extends throughout the project. PHE recommends the quantification of health outcomes such as annoyance, sleep disturbance

and cardiovascular effects – these can be expressed in terms of number of people affected, Disability Adjusted Life Years (DALYs) and/or monetary terms, and PHE encourages the applicant to use the methodologies and exposure response relationships set out in publications by the WHO [1, 2] and the IGCBN [3].

PHE recommends that assessments of significance are based on impacts on health and quality of life, and not around noise exposure per se (in line with the Noise Policy Statement for England, NPSE). Furthermore, PHE expects significance to reflect both the severity of the health outcome and the size of the population affected. Other considerations that can be taken into account are:

- i. The existing noise exposure of affected communities – in particular the designated Noise Important Areas which have been identified in proximity to the scheme (12.2.4).
- ii. Cumulative exposure to other environmental risk factors, including other sources of noise and air pollution, which is addressed briefly in section 16.2 and Table 16-1.
- iii. Local health needs, sensitivities and objectives.

#### Mitigation measures

PHE expects decisions about noise mitigation measures to be underpinned by good quality evidence, in particular whether mitigation measures are proven to reduce adverse impacts on health and quality of life. For interventions where evidence is weak or lacking, PHE expects a proposed strategy for monitoring and evaluating their effectiveness during construction and operation of the Scheme.

With regards to road traffic noise, low-noise road surfaces, acoustic barriers, traffic management and noise insulation schemes can all be considered. PHE expects any proposed noise insulation schemes to take a holistic approach which achieves a healthy indoor environment, taking into consideration noise, ventilation, overheating risk, indoor air quality and occupants' need to open windows. It should be noted that there is at present insufficient good quality evidence as to whether insulation schemes are effective at reducing annoyance and self-reported sleep disturbance [4], and initiatives to evaluate the effectiveness of noise insulation to improve health outcomes are strongly encouraged.

PHE welcomes the acknowledgement of possible adverse effects due to noise and vibration due to construction phases of the scheme and welcomes the Construction Environmental Management Plan (CEMP) which will be developed and implemented by the Contractor. PHE recommends that the CEMP includes a detailed programme of construction which highlights the times and durations of particularly noisy works, and a strategy for actively communicating this information to local communities.

#### Green spaces and private amenity spaces

PHE expects proposals to take into consideration the evidence which suggests that quiet areas can have both a direct beneficial health effect and can also help restore or compensate for the adverse health effects of noise in the residential environment [6-8]. Research from the Netherlands suggests that people living in noisy areas appear to have a greater need for areas offering quiet than people not exposed to noise at home [6]. Noise insulation schemes do not protect amenity spaces (such as private gardens or community

green spaces) from increased noise exposure, which is particularly relevant given the identified Noise Important Areas, as well as the Scheme's proximity to the South Downs National Park.

### Baseline Noise Conditions

PHE does not consider that noise monitoring data from 2015 accurately reflects the current local sound environment and welcomes the scheme promoter's commitment to carry out a noise survey (c.f. 12.4.46).

PHE recommends that the noise survey is carried out in such a way as to provide a reliable depiction of local diurnal noise variations for both weekdays and weekends, in a variety of locations, including the difference between day (07:00-19:00), evening (19:00-23:00) and night-time (23:00-07:00) periods. This is particularly important if there are areas within the scheme assessment boundary with atypical traffic day/evening/night distributions.

### **Human Health and Wellbeing**

This section of PHE's scoping response, identifies the wider determinants of health and wellbeing we expect the Environmental Statement (ES) to address, to demonstrate whether they are likely to give rise to significant effects. PHE has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements.

The four themes are:

- Access
- Traffic and Transport
- Socioeconomic
- Land Use

Having considered the submitted scoping report PHE wish to make the following specific comments and recommendations:

### **Methodology**

A list of vulnerable populations has been provided and does make links to the list of protected characteristics within an Equality Impact Assessment (EqIA). The impacts on health and wellbeing and health inequalities of the scheme may have particular effect on vulnerable or disadvantaged populations, including those that fall within the list of protected characteristics. The Environmental Statement and any Equalities Impact Assessment should not be completely separated.

### Recommendation

The assessments and findings of the Environmental Statement and any Equalities Impact Assessment should be cross reference between the two documents, particularly to ensure the comprehensive assessment of potential impacts for health and inequalities and where resulting mitigation measures are mutually supportive.

### **Physical activity and active travel / access to open space**

The scoping report identifies how non-motorised user (NMU) will be impacted through the loss or change in formal Public Rights of Way (PRoW) and the existing road network. Active travel forms an important part in helping to promote healthy weight environments and as such it is important that any changes have a positive long term impact where possible.

Changes to NMU routes have the potential to impact on usage, create displacement to other routes and potentially lead to increased road traffic collisions.

A scheme of this scale and nature can also provide opportunities to enhance the existing infrastructure that supports active travel and we welcome the proposal to amend the route and design of the scheme to contribute to improved provision for active travel and physical activity. Local community engagement can provide useful insight into design needs of the local population.

It is important to ensure that any impact on tranquillity is considered.

### Recommendations

The overall risk to NMU and impact on active travel should be considered on a case-by-case basis, taking into account, the number and type of users and the effect that the temporary traffic management system will have on their journey and safety.

Any traffic counts and assessment should also, as far as reasonably practicable, identify informal routes used by NMU or potential routes used due to displacement.

The final ES should identify the temporary traffic management system design principles or standards that will be maintained with specific reference to NMU. This may be incorporated within the Code of Construction Practice.

The scheme should continue to identify any additional opportunities to contribute to improved infrastructure provision for active travel and physical activity. The developers should explore the acceptability and design of walking, cycling and horse riding routes with local stakeholders and, if feasible, consider providing a range of alternative accessible designs for consideration.

### Land use

The Scoping Report identifies temporary and permanent land to take in order to achieve the construction and operational phase. The Report scopes this out of the subsequent EIA and ES as the degree of land-take would not affect the community beyond the individual landowners concerned and would not affect land use patterns since the land take would be close to the existing transport corridor. The report, however, identifies removal of approximately 5 ha of trees and approximately 1000 m of hedgerow, with an approximate land take of 12 ha outside of the current highways estate (Pg 66, Para 8.5.1.)

The scoping report does not provide any supporting evidence and does not consider the potential impact on the individual land owners. Land take can impact on economic sustainability and mental wellbeing.

### Recommendation

The impact and subsequent effects of land take on land owners should be considered within the ES as no justification has been provided to support scoping out due to no significant impacts.

Yours sincerely

For and on behalf of Public Health England  
[nsipconsultations@phe.gov.uk](mailto:nsipconsultations@phe.gov.uk)

*Please mark any correspondence for the attention of National Infrastructure Planning Administration.*

**References:**

[1] WHO Environmental Noise Guidelines for the European Region, 2018

[2] WHO Burden of Disease from Environmental Noise, 2012.

[3] Defra/Interdepartmental Group on Costs and Benefits Noise Subject Group, 2014.

[4] Lex Brown and Van Kamp. WHO Environmental Noise Guidelines for the European Region: A Systematic Review of Transport Noise Interventions and Their Impacts on Health. *Int. J. Environ. Res. Public Health* 2017, 14(8), 873;

[5] Health Council of the Netherlands Publication no. 2006/12, 2006

[6] LIFE09 ENV/NL/000423, QSIDE - The positive effects of quiet façades and quiet urban areas on traffic noise annoyance and sleep disturbance

[7] COST TD0804, Soundscape of European Cities and Landscapes, 2013



## **Appendix: PHE recommendations regarding the scoping document**

### **General approach**

The EIA should give consideration to best practice guidance such as the Government's Good Practice Guide for EIA<sup>1</sup>. It is important that the EIA identifies and assesses the potential public health impacts of the activities at, and emissions from, the installation. Assessment should consider the development, operational, and decommissioning phases.

It is not PHE's role to undertake these assessments on behalf of promoters as this would conflict with PHE's role as an impartial and independent body.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, EIA should start at the stage of site and process selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES<sup>2</sup>.

The following text covers a range of issues that PHE would expect to be addressed by the promoter. However this list is not exhaustive and the onus is on the promoter to ensure that the relevant public health issues are identified and addressed. PHE's advice and recommendations carry no statutory weight and constitute non-binding guidance.

### **Receptors**

The ES should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from, or activities at, the development. Off-site human receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land. Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

### **Impacts arising from construction and decommissioning**

Any assessment of impacts arising from emissions due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for.

We would expect the promoter to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place to mitigate any potential impact on health from emissions (point source, fugitive and traffic-related). An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The promoter should ensure that there are robust mechanisms in place to respond to any complaints of traffic-related pollution, during construction, operation, and decommissioning of the facility.

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<sup>1</sup> Environmental Impact Assessment: A guide to good practice and procedures - A consultation paper; 2006; Department for Communities and Local Government. Available from: <http://webarchive.nationalarchives.gov.uk/20100410180038/http://communities.gov.uk/planningandbuilding/planning/sustainability/environmental/environmentalimpactassessment/>

<sup>2</sup> DCLG guidance, 1999 <http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf>

## **Emissions to air and water**

Significant impacts are unlikely to arise from installations which employ Best Available Techniques (BAT) and which meet regulatory requirements concerning emission limits and design parameters. However, PHE has a number of comments regarding emissions in order that the EIA provides a comprehensive assessment of potential impacts.

When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these:

- should include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary
- should encompass all pollutants which may be emitted by the installation in combination with all pollutants arising from associated development and transport, ideally these should be considered in a single holistic assessment
- should consider the construction, operational, and decommissioning phases
- should consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts
- should fully account for fugitive emissions
- should include appropriate estimates of background levels
- should identify cumulative and incremental impacts (i.e. assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e. rail, sea, and air)
- should include consideration of local authority, Environment Agency, Defra national network, and any other local site-specific sources of monitoring data
- should compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as UK Air Quality Standards and Objectives and Environmental Assessment Levels)
  - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (a Tolerable Daily Intake or equivalent). Further guidance is provided in Annex 1
  - This should consider all applicable routes of exposure e.g. include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion
- should identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development

Whilst screening of impacts using qualitative methodologies is common practice (e.g. for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken.

PHE's view is that the EIA should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure.

#### *Additional points specific to emissions to air*

When considering a baseline (of existing air quality) and in the assessment and future monitoring of impacts these:

- should include consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs)
- should include modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst case conditions)
- should include modelling taking into account local topography

#### *Additional points specific to emissions to water*

When considering a baseline (of existing water quality) and in the assessment and future monitoring of impacts these:

- should include assessment of potential impacts on human health and not focus solely on ecological impacts
- should identify and consider all routes by which emissions may lead to population exposure (e.g. surface watercourses; recreational waters; sewers; geological routes etc.)
- should assess the potential off-site effects of emissions to groundwater (e.g. on aquifers used for drinking water) and surface water (used for drinking water abstraction) in terms of the potential for population exposure
- should include consideration of potential impacts on recreational users (e.g. from fishing, canoeing etc) alongside assessment of potential exposure via drinking water

### **Land quality**

We would expect the promoter to provide details of any hazardous contamination present on site (including ground gas) as part of the site condition report.

Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the migration of material off-site should be assessed<sup>3</sup> and the potential impact on nearby receptors and control and mitigation measures should be outlined.

Relevant areas outlined in the Government's Good Practice Guide for EIA include:

- effects associated with ground contamination that may already exist
- effects associated with the potential for polluting substances that are used (during construction / operation) to cause new ground contamination issues on a site, for example introducing / changing the source of contamination
- impacts associated with re-use of soils and waste soils, for example, re-use of site-sourced materials on-site or offsite, disposal of site-sourced materials offsite, importation of materials to the site, etc.

### **Waste**

The EIA should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).

For wastes arising from the installation the EIA should consider:

- the implications and wider environmental and public health impacts of different waste disposal options

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<sup>3</sup> Following the approach outlined in the section above dealing with emissions to air and water i.e. comparing predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as Soil Guideline Values)

- disposal route(s) and transport method(s) and how potential impacts on public health will be mitigated

### **Other aspects**

Within the EIA PHE would expect to see information about how the promoter would respond to accidents with potential off-site emissions e.g. flooding or fires, spills, leaks or releases off-site. Assessment of accidents should: identify all potential hazards in relation to construction, operation and decommissioning; include an assessment of the risks posed; and identify risk management measures and contingency actions that will be employed in the event of an accident in order to mitigate off-site effects.

The EIA should include consideration of the COMAH Regulations (Control of Major Accident Hazards) and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009: both in terms of their applicability to the installation itself, and the installation's potential to impact on, or be impacted by, any nearby installations themselves subject to the these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report<sup>4</sup>, jointly published by Liverpool John Moores University and the HPA, examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be negligible." PHE supports the inclusion of this information within EIAs as good practice.

### **Electromagnetic fields (EMF)**

This statement is intended to support planning proposals involving electrical installations such as substations and connecting underground cables or overhead lines. PHE advice on the health effects of power frequency electric and magnetic fields is available in the following link:

<https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields>

There is a potential health impact associated with the electric and magnetic fields around substations, and power lines and cables. The field strength tends to reduce with distance from such equipment.

The following information provides a framework for considering the health impact associated with the electric and magnetic fields produced by the proposed development, including the direct and indirect effects of the electric and magnetic fields as indicated above.

### **Policy Measures for the Electricity Industry**

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<sup>4</sup> Available from: [REDACTED]

The Department of Energy and Climate Change has published a voluntary code of practice which sets out key principles for complying with the ICNIRP guidelines:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf)

Companion codes of practice dealing with optimum phasing of high voltage power lines and aspects of the guidelines that relate to indirect effects are also available:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/224766/powerlines\\_vcop\\_microshocks.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_vcop_microshocks.pdf)

## **Exposure Guidelines**

PHE recommends the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP). Formal advice to this effect was published by one of PHE's predecessor organisations (NRPB) in 2004 based on an accompanying comprehensive review of the scientific evidence:-

<http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/>

Updates to the ICNIRP guidelines for static fields have been issued in 2009 and for low frequency fields in 2010. However, Government policy is that the ICNIRP guidelines are implemented in line with the terms of the 1999 EU Council Recommendation on limiting exposure of the general public (1999/519/EC):

[http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/PublicHealth/HealthProtection/DH\\_4089500](http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/PublicHealth/HealthProtection/DH_4089500)

### **Static magnetic fields**

For static magnetic fields, the ICNIRP guidelines published in 2009 recommend that acute exposure of the general public should not exceed 400 mT (millitesla), for any part of the body, although the previously recommended value of 40 mT is the value used in the Council Recommendation. However, because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of people with implanted electronic medical devices and implants containing ferromagnetic materials, and injuries due to flying ferromagnetic objects, and these considerations can lead to much lower restrictions, such as 0.5 mT.

### **Power frequency electric and magnetic fields**

At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to the field. The ICNIRP guidelines published in 1998 give reference levels for public exposure to 50 Hz electric and magnetic fields, and these are respectively 5 kV m<sup>-1</sup> (kilovolts per metre) and 100 µT (microtesla).

The reference level for magnetic fields changes to 200  $\mu\text{T}$  in the revised (ICNIRP 2010) guidelines because of new basic restrictions based on induced electric fields inside the body, rather than induced current density. If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with the basic restrictions and reducing the risk of indirect effects.

### **Long term effects**

There is concern about the possible effects of long-term exposure to electromagnetic fields, including possible carcinogenic effects at levels much lower than those given in the ICNIRP guidelines. In the NRPB advice issued in 2004, it was concluded that the studies that suggest health effects, including those concerning childhood leukaemia, could not be used to derive quantitative guidance on restricting exposure. However, the results of these studies represented uncertainty in the underlying evidence base, and taken together with people's concerns, provided a basis for providing an additional recommendation for Government to consider the need for further precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

### **The Stakeholder Advisory Group on ELF EMFs (SAGE)**

SAGE was set up to explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government:

SAGE issued its First Interim Assessment in 2007, making several recommendations concerning high voltage power lines. Government supported the implantation of low cost options such as optimal phasing to reduce exposure; however it did not support the option of creating corridors around power lines on health grounds, which was considered to be a disproportionate measure given the evidence base on the potential long term health risks arising from exposure. The Government response to SAGE's First Interim Assessment is available here:

[http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_107124](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107124)

The Government also supported calls for providing more information on power frequency electric and magnetic fields, which is available on the PHE web pages (see first link above).

### **Ionising radiation**

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection<sup>5</sup> (ICRP) are followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety

<sup>5</sup> These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at [\[redacted\]](#)

Standards<sup>6</sup> (BSS) and these form the basis for UK legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2016.

PHE expects promoters to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group). Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the fetus should also be calculated<sup>7</sup>. The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate. The methods for assessing individual and collective radiation doses should follow the guidance given in 'Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012'<sup>8</sup>. It is important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

Any radiological impact assessment should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is addressed. Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities<sup>9</sup>. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of

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<sup>6</sup> Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

<sup>7</sup> HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at <https://www.gov.uk/government/publications/embryo-fetus-and-breastfed-infant-application-of-dose-coefficients>

<sup>8</sup> The Environment Agency (EA), Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency, Health Protection Agency and the Food Standards Agency (FSA).

Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012.

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/296390/geho1202bklh-e-e.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf)

<sup>9</sup> HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009



radiological impact during the post operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years. The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased. For scenarios where the probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose. For inadvertent intrusion, the dose if the intrusion occurs should be presented. It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered. The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the 'expected' migration scenario can be used to compare the relatively early impacts from some disposal options if required.



## Annex 1

### Human health risk assessment (chemical pollutants)

The points below are cross-cutting and should be considered when undertaking a human health risk assessment:

- The promoter should consider including Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES
- Where available, the most recent United Kingdom standards for the appropriate media (e.g. air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants. Where UK standards or guideline values are not available, those recommended by the European Union or World Health Organisation can be used
- When assessing the human health risk of a chemical emitted from a facility or operation, the background exposure to the chemical from other sources should be taken into account
- When quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the 'Margin of Exposure' (MOE) approach<sup>10</sup> is used

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<sup>10</sup> Benford D et al. 2010. Application of the margin of exposure approach to substances in food that are genotoxic and carcinogenic. Food Chem Toxicol 48 Suppl 1: S2-24

21 February 2019

Mr Dan Coles  
EIA and Land Rights Advisor  
The Planning Inspectorate  
Major Casework Directorate  
Temple Quay House  
2 The Square  
Bristol, BS1 6PN

Via email: [M3Junction9@pins.gsi.gov.uk](mailto:M3Junction9@pins.gsi.gov.uk)

Dear Mr Coles,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11**

**Application by Highways England (the Applicant) for an Order granting Development Consent for the M3 Junction 9 Improvement Project (the Proposed Development)**

Thank you for your letter, dated 28 January 2018, requesting the comments of the South Downs National Park Authority (SDNPA) on the applicant's report that accompanied their request for a Scoping Opinion from the Secretary of State.

**Major Development**

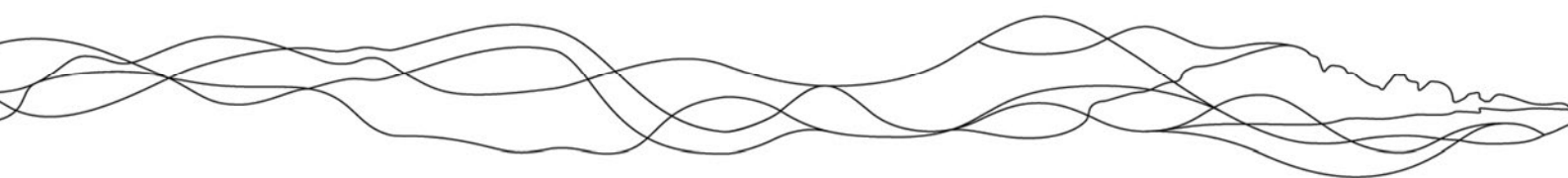
This proposal represents 'major development' within a National Park as defined within the National Planning Policy Framework (2018), footnote 9. In addition, the National Policy Statement for National Networks (2014) paragraph 5.152 sets out there is a strong presumption against road widening schemes within National Parks. Therefore, consideration of this application and information requested should reflect the highest status of protection the landscape of a National Park enjoys.

**General Comments**

The SDNPA would like to make the following general comments based on the submitted Environmental Impact Assessment Scoping Report (reference: HE551511-JAC-EGN-0\_00\_00-RP-LE-0001 | P03, January 2019) and other information seen to date.

The availability of land within the 'red line area' for mitigation purposes is of particular concern to the SDNPA and as yet no details have been forthcoming from Highway England on these matters. Despite the recent changes to enlarge the red line area, there is no evidence as yet to demonstrate that there would be sufficient room within the red line area to adequately mitigate for the impacts of the scheme.

In addition, whilst there are several assertions within the submitted scoping report about retaining existing vegetation, advance planting of trees, design of earthworks and off-site planting, there does not appear to be any detail on these points. Therefore, the success or feasibility of these features in mitigating for the identified impacts is not yet measurable.



All of the South Downs National Park's (SDNP) 'Special Qualities' are relevant to the environmental impact assessment in accordance with National Policy Statement for National Networks (paragraph 5.148) and the Defra Circular, The English National Park and the Broads 2010. An assessment of the impacts on the SDNP's Special Qualities should be included within the relevant chapters of the Environmental Statement (ES) and brought together to consider the complete range of impacts on the National Park.

In considering impacts on the SDNP, the purpose of SDNP designation should be clearly set out and considered in any assessment. This is in accordance with the Guidelines for Landscape and Visual Impact Assessment 3<sup>rd</sup> edition. It would also be helpful if the environmental impact assessment referred to and considered the designation documents. For example, the Countryside Agency's boundary report for the proposed SDNP refers to the importance of existing vegetation along the M3 to mitigate for the impacts of noise and movement of vehicles on the river valley. This is also relevant in understanding the degree to which the proposed removal of large amounts of highway trees and woodland would have potential negative impacts on the National Park.

SDNPA also recommends that the overall approach to mitigation follows the mitigation hierarchy of:

- Avoidance
- Minimise
- Rectify
- Reduce
- Offset (Compensation / off site works)

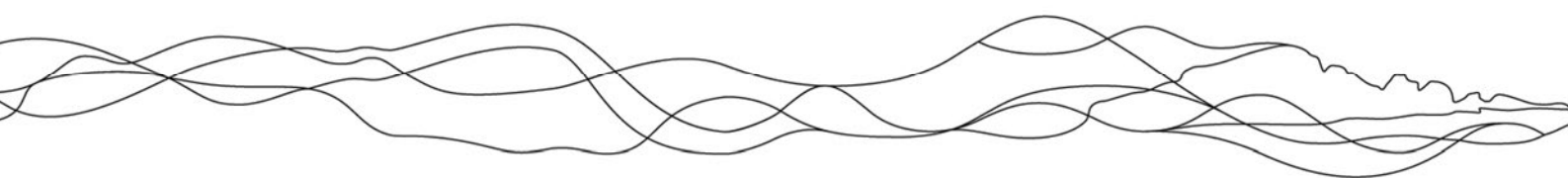
In section 8.4 and 8.5, the report does not identify the mitigation hierarchy for landscape and visual impacts and does not clearly identify proposed landscape mitigation measures in relation to the following impacts:

- Changes to the topography of the SDNP and its setting;
- The acknowledged detrimental impacts on views and experiential qualities of the SDNP and its setting;
- The acknowledged detrimental impacts on outdoor informal recreation including increased physical and perceived severance to the Itchen Valley within the SDNP;
- Direct loss of land within the National Park to the road scheme and associated structures;
- Cumulative impacts associated with the existing M3 and its legacy of incremental harm to landscape character and views along the east side of Winchester within the SDNP, and
- Significant loss of existing highway trees and woodland alongside the M3 which are identified as factors in the designation of this part of the SDNP.

The SDNPA also makes the following comments in relation to particular chapters of the report.

### **Air Quality**

The existing tree and woodland cover within and surrounding the proposed site plays a significant role in absorbing significant quantities of air pollution. The SDNPA considers that any air quality assessment needs to acknowledge and consider the impacts from the proposed 'vegetation removal' (frequently referred to within the submitted report) for both the construction and operational phases of the proposed scheme.



## Cultural Heritage

Overall, the section on Cultural Heritage places little emphasis on the Statutory Purpose of National Parks to 'conserve and enhance the natural beauty, cultural heritage and wildlife'. This needs to be addressed in the ES.

In addition, the ES needs to consider:

- The impacts on archaeology of the temporary works and other mitigation measures (section 7.3.1);
- The need to assess at a later stage the potential impact on unknown archaeological assets (section 7.7.1);
- Intrusive archaeological investigations must be carried out to feed into the EIA process and the development of mitigation proposals, and
- The development of a ZTV is important for the impact on the historic landscape, including conservation areas (Table 8.1).

## Landscape and Visual Impact (LVIA)

The SDNPA agrees that the 2km area of study beyond the project 'red line' appears to be appropriate for this proposal given its strategic importance and sphere of influence and welcomes reference in paragraph 8.1.1 to reviewing this for the purposes of the LVIA. However, Section 8.2 describes the baseline landscape conditions and focusses on the description of the highway owned land within the red line. The SDNPA would query this approach to the landscape baseline study and would suggest that the 2km study area is more appropriate.

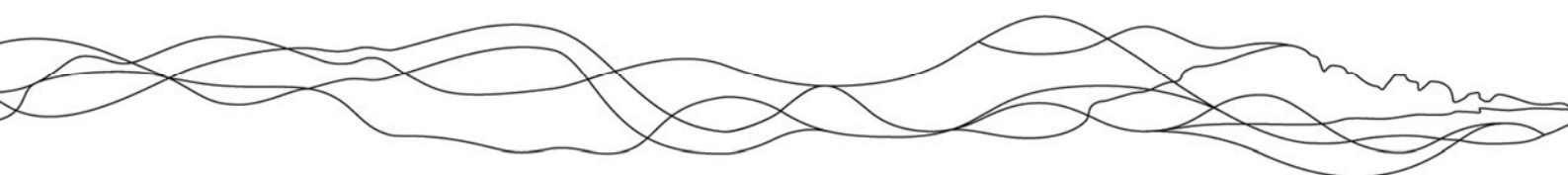
The SDNPA welcomes the references to the various existing landscape character assessments and studies. However, the SDNPA would also highlight the following study:

- Winchester City and its setting study (1998) which considers the setting of the city and provides detail on character variations within the downland, distinguishing between the scarps and open down and perceived areas of distinct landscape.

All of the existing assessments mentioned within the report take account of landform and the interrelationship between the built form of Winchester and its landscape setting, and they provide an understanding of how the landscape is perceived and how it functions. On this basis it is suggested that the landscape character areas set out in these documents are used as a composite resource to compile the landscape baseline. As a clearer understanding of this baseline will help inform judgements both in terms of the impact of the current road and the proposed junction improvements and most importantly the development of an appropriate mitigation strategy which is grounded in landscape character and the special qualities of the area.

SDNPA would also recommend that the South Downs Historic Landscape Character Assessment (SDHLC) together with other neighbouring authority Historic Landscape Character (HLC) assessments are used to inform the landscape baseline to help provide a further understanding of the underlying historic landscape framework in which the scheme proposal is located.

Paragraphs 5.7 to 5.10 of the Guidelines for Landscape and Visual Impact Assessment 3<sup>rd</sup> edition set out how an HLC contributes to the preparation of the landscape baseline for an LVIA and is not necessarily a separate assessment of cultural heritage within an ES. In this case, an HLC will be relevant to both assessments (the LVIA and Cultural Heritage) given the historic setting of Winchester.



The SDNPA also has concerns as the proposed ZTV for the scheme has not been included within the report. The robustness of its methodology and detail cannot therefore be commented on. It is noted that the ZTV included in the PCF Stage 2 assessment for the scheme was based on a single high point on Eastern Down and this approach did not provide any detail in terms of the road proposals themselves and which aspects of the scheme are likely to be most visible.

The SDNPA would recommend that the ZTV methodology used, separately and cumulatively, plots each individual highway element in order that the impacts of each of the interconnecting flyovers, underpasses and cuttings / embankments can be properly interpreted. It is considered that this level of detail is essential for a scheme of this complexity.

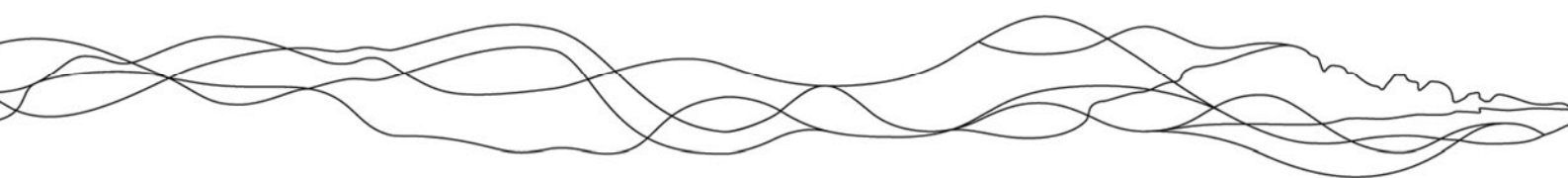
The SDNPA is satisfied that this section of the report acknowledges users of public rights of way (PRoW) as visual receptors and PRoW's are correctly scoped in. However, the proposed viewpoints for the study are not shown on a clear map and some locations appear to be poorly located which could be perceived as avoiding the view as a result. For example, open access land to the west of Whiteshute Lane, where there are extensive views towards Winchester Cathedral with Eastern and Winnall Down as the backdrop to these views. The viewpoint shown on the map included in the report appears to be to the east of this location where there are no views.

It is also noted that there are no references to views where Winchester Cathedral is a focal point (e.g. open access land adjacent to Whiteshute Lane) and how these views would be affected. It is therefore recommended that a more rigorous approach to viewpoint location is taken in the LVIA, in consultation with the relevant authorities.

The SDNPA would suggest that the key impacts listed under paragraph 8.3.2 should be amended to the following (the SDNPA proposed changes in *italics* and ~~struck through~~):

- The introduction of new highway infrastructure and traffic
- Loss of *trees, hedgerows and other vegetation* and ~~green infrastructure~~
- Changes to local landscape character
- *Changes to the landscape of the SDNP / loss of land within the SDNP*
- *Changes to topography*
- Changes impacting on the composition of views
- Changes in tranquillity *and other experiential qualities of the landscape*
- Changes to the night-time environment due to lighting

In paragraph 8.4.4, the removal of existing trees, hedges and other vegetation is considered. Although retention of 'as much as it practical' is stated, this is likely to be very limited due to the proposed construction, level changes and amount of engineering required to achieve bridges and underpasses. Whilst the SDNPA welcomes the confirmation that the proposed arboricultural survey will be in line with British Standard BS:5837 that survey is unlikely to reflect the high amenity value that the existing tree stock has to the river valley, Winchester and the wider SDNP. Therefore, the SDNPA recommends that the LVIA should address this issue.



In addition, it is noted that there are proposals to undertake advanced planting however it is unclear. Is the planting within the site or off site and what habitats could be lost to accommodate the advanced planting? Any proposed advanced planting within the river valley or on the valley sides in itself would need to be consistent with local landscape character and consistent with management objectives for the SAC / SSSI and the managed floodplain. For example, if woodland planting is proposed this may not be compliant. Again the LVIA should address this issue thoroughly and any planting proposed, particularly within the managed floodplain, should be considered carefully in consultation with the Environment Agency and Natural England, and other relevant authorities.

At the present time the precise location of the proposed site compounds are unknown and this needs to be included within any assessment. Several locations have been proposed, therefore the assessment work needs to include the potential for cumulative impacts on the SDNP owing to the complex topography of the valley and surrounding downland. In addition, the SDNPA would like to highlight that risks set out in paragraph 8.4.6 of the report are not only to the skyline of the river valley but also where views of the compound would overspill the valley side and become visible from the open downland to the east and west.

Paragraph 8.4.11 appears to be contradictory, as cuttings and embankments do not reflect the rolling downland of the SDNP. There are examples of how cuttings and embankments, at Butser Hill and St Catherine's Hill, that are decades old have not vegetated over and have exposed chalk which is highly visible in the landscape as an unnatural man made feature.

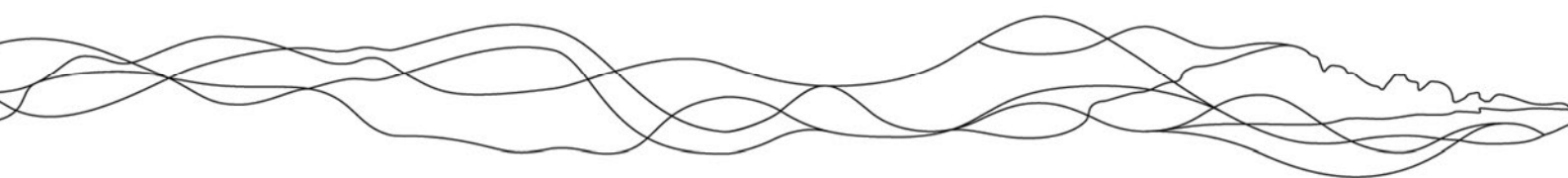
The measures highlighted in the paragraphs 8.4.14 and 8.4.15 should be informed by a comprehensive understanding of local character and local features. Drainage attenuation features may well have habitat opportunities however these are often not designed to enhance local character and can have an engineering character (frequently enclosed by security fencing). Therefore, these are likely to be considered as detrimental features rather than mitigating any impacts. The use of local materials is supported by the SDNPA however this may not in itself provide adequate mitigation for structures which are incongruous and out of scale with the surrounding landscape.

## **Biodiversity**

The ecological survey work carried out to date is in line with best practice guidance (CIEEM), in addition further survey work recommended in some areas is also in line with best practice.

However, the SDNPA has some concerns:

- Priority habitats (section 41 of the Nerc Act) - if you follow the descriptions in Table 9-2 then both Priority habitats and Riparian habitats should be valued as 'Nationally' important not 'County' as referred to in the report.
- Likewise some species assessments are undervalued (almost all listed as 'Local'), species such as Otter will be of at least 'County' importance and some bat species may even be of 'Regional' importance. These should be reviewed after further survey work.
- We would disagree that further assessment for the River Itchen SSSI is not required (as the report suggests). The SSSI is intrinsically linked to the SAC and contains large areas of Priority habitat. There is potential for impacts on the SSSI both in construction and operation phases of the proposed scheme.



## **Noise**

The existing tree and woodland cover within and surrounding the site plays a significant role in acting as a buffer to the significant noise generated by the vehicles using the existing roads. Therefore, the SDNPA considers that any noise assessment needs to acknowledge and consider the impacts from the proposed 'vegetation removal' (referred to in various sections of the report) for both the construction and operational phases of the proposed scheme.

## **Population and Health – Recreation and Public Rights of Way (PROW)**

Paragraph 13.3.16 describes how land at the edge of the SDNP would be lost to development. The land at the edge of the National Park has the same level of protection as all other parts of the SDNP. The SDNP is often vulnerable to development and recreational pressure where it abuts urban locations. The SDNP is a national landscape designation, not a district greenspace provision. The report suggests that it has been confused with an open space assessment (PPG17 assessment for example) which is inappropriate.

The report recognises the high value and sensitivity of PROW in the study area particularly their role in relation to providing recreational access to the countryside. Potential adverse and beneficial impacts of the scheme are identified and the immediately impacted routes are scoped in. The SDNPA is satisfied with the proposed methodology and criteria for this element of the assessment.

The report acknowledges the poor amenity value of the wider PROW but envisages no additional impacts as a result of the scheme because of the poor existing baseline (paragraph 13.3.15). However, paragraph 13.4.4 onwards suggests that the scope for additional enhancements to the wider network including crossing points over the M3 will be picked up in the design of the scheme and this is welcomed.

The Winnall area is relatively deprived compared to the rest of Winchester District and this should be taken into account (paragraph 13.2.1), through consideration of the Lower Super Output Areas data.

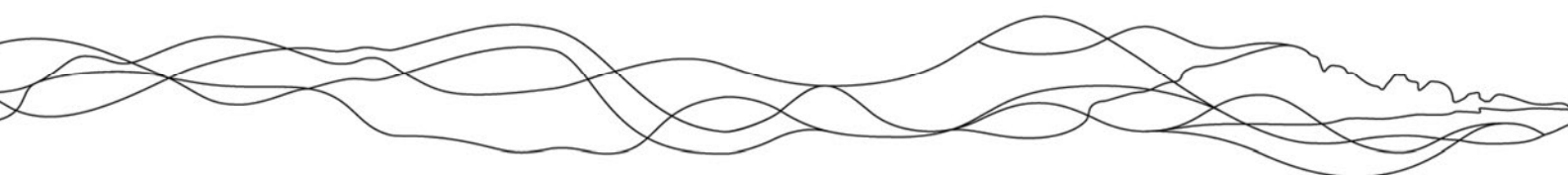
## **Water Environment**

The report highlights the key issues relation to flooding and water quality both in surface water and groundwater. However, of principal concern is the siting of the works on Source Protection Zone 1 for groundwater and the potential for operational discharges to soakaways. Ideally future drainage schemes should not be direct to a soakaway without additional interventions.

There are also major risks of contamination of the River Itchen during construction and operation, as the only river in the SDNP which has good WFD status all necessary measures should be put in place to avoid any pollution incidents. The SDNPA therefore welcomes reference to this issue within section 9 of the report.

## **Cumulative Impacts**

The SDNPA welcomes the recognition that this project could have cumulative impacts with the M3 smart motorway scheme (such as through the presence of dual site compounds, construction activity and operational changes to the highway network). However, this project also needs to recognise the 'strategic growth site' proposed within the Eastleigh Local Plan (Fairoak) which also involves construction of a new link road to junction 10 of the M3.



## South Downs Local Plan - Update

For information, the examination hearings on the submission version of the South Downs Local Plan have concluded. The SDNPA is now consulting on the proposed 'main modifications'. The consultation period closes on 28 March 2019. All representations received will be forward to the Inspector for consideration when he produces his final report.

The SDNPA has prepared an informal track-changed version of the Local Plan to include all Main Modifications and Minor Edits, which can be found at

<https://www.southdowns.gov.uk/planning/national-park-local-plan/>

We trust that the information above will be of assistance to the Secretary of State in forming their scoping opinion. If you have any queries regarding the above please contact Kelly Porter, Major Projects Lead, on [REDACTED] or [REDACTED]

Yours Sincerely

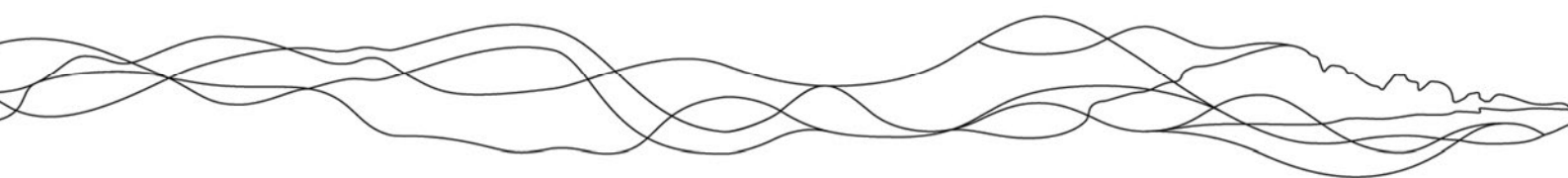
[REDACTED]

TIM SLANEY  
Director of Planning  
South Downs National Park Authority

South Downs Centre, North Street,  
Midhurst, West Sussex, GU29 9DH

T: [REDACTED]  
E: [REDACTED]  
[www.southdowns.gov.uk](http://www.southdowns.gov.uk)

Chief Executive: Trevor Beattie







County Planning Officer  
Hampshire County Council  
The Castle  
Winchester  
Hampshire  
SO23 8UE

Developer Services  
Southern Water  
Sparrowgrove House  
Sparrowgrove  
Otterbourne  
Hampshire  
SO21 2SW

Email: [REDACTED] Tel: [REDACTED]

Your Ref  
TR010055  
Our Ref  
PLAN-026703  
Date  
25/02/2019

Dear Sirs,

**Proposal: Scoping Opinion- Development and delivery of a scheme of works for increasing capacity, enhancing journey time reliability and supporting development in line with Local Plans. The Proposed Scheme includes the replacement of a circulatory roundabout with a dumbbell roundabout, conversion of the M3 south of Junction 9 to dual three lane motorway, realignment of slip roads, the addition of new structures, and improvements to safety features, signage and technology.**  
**Site: M3 Junction 9 Improvement, SO21 1DQ**  
**TR010055**

Thank you for your letter of 28/01/2019

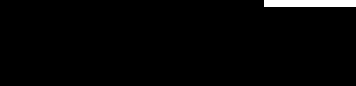
Further to your scoping document consultation for the above works, I have the following observations to make in respect of the proposed development: -

- Southern Water's current sewerage/water records show that there is multiple sewerage and water apparatus crossing the proposed works boundary. The affected infrastructure consists of water distribution mains of various sizes, critical water trunk mains of 21", 300mm and 600mm in diameter, sewers of various sizes and 160mm foul rising main. The impact of the works within highway and access roads on public apparatus shall be assessed and approved, in consultation with Southern Water, under NRSWA enquiry in order to protect public apparatus. Any required diversions have to be agreed and approved under Section 185 of the Water Industry Act before proceeding on site.

- The proposed works lie within a Source Protection Zone around one of Southern Water's public underground water supply sources (Easton Water Supply Works where the water is being extracted through wells and boreholes) as defined under the Environment Agency's Groundwater Protection Policy and in close proximity of these works. Southern Water requests that any works in the vicinity of water works are to be assessed and approved, in consultation with Southern Water, in order to avoid any risk of pollution to water supply sources.
- The assessment and design of means of highway drainage shall take into account the sensitivity of the area and risk to underground sources. It shall account for and include sufficient treatment to avoid the risk of any contamination of the underlying strata.

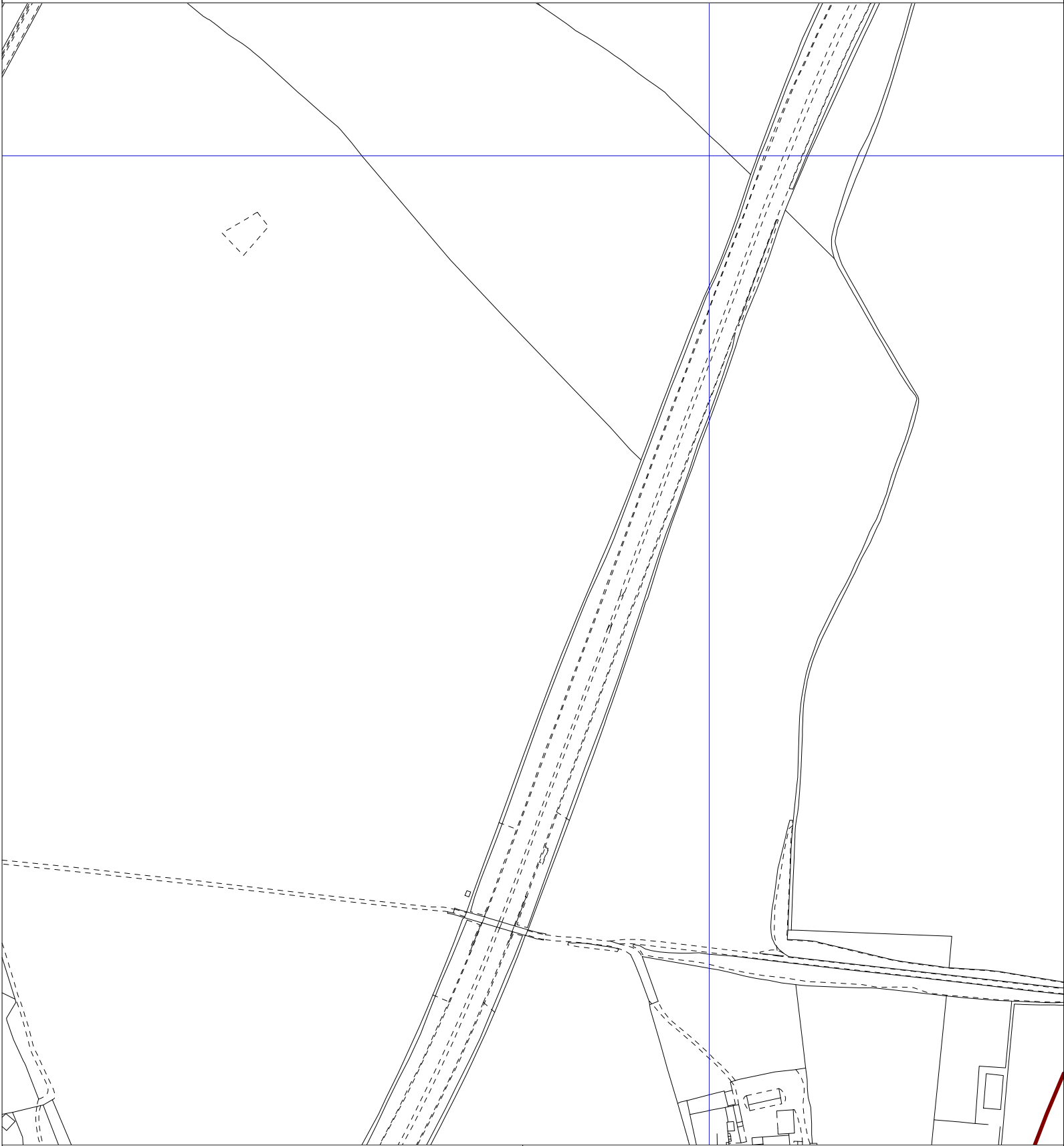
If you require any further information please do not hesitate to contact our office on the above telephone number.

Yours Sincerely

A black rectangular redaction box covering the signature of the sender.

Marta Karpezo  
Developer Services

# SOUTHERN WATER



The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site.

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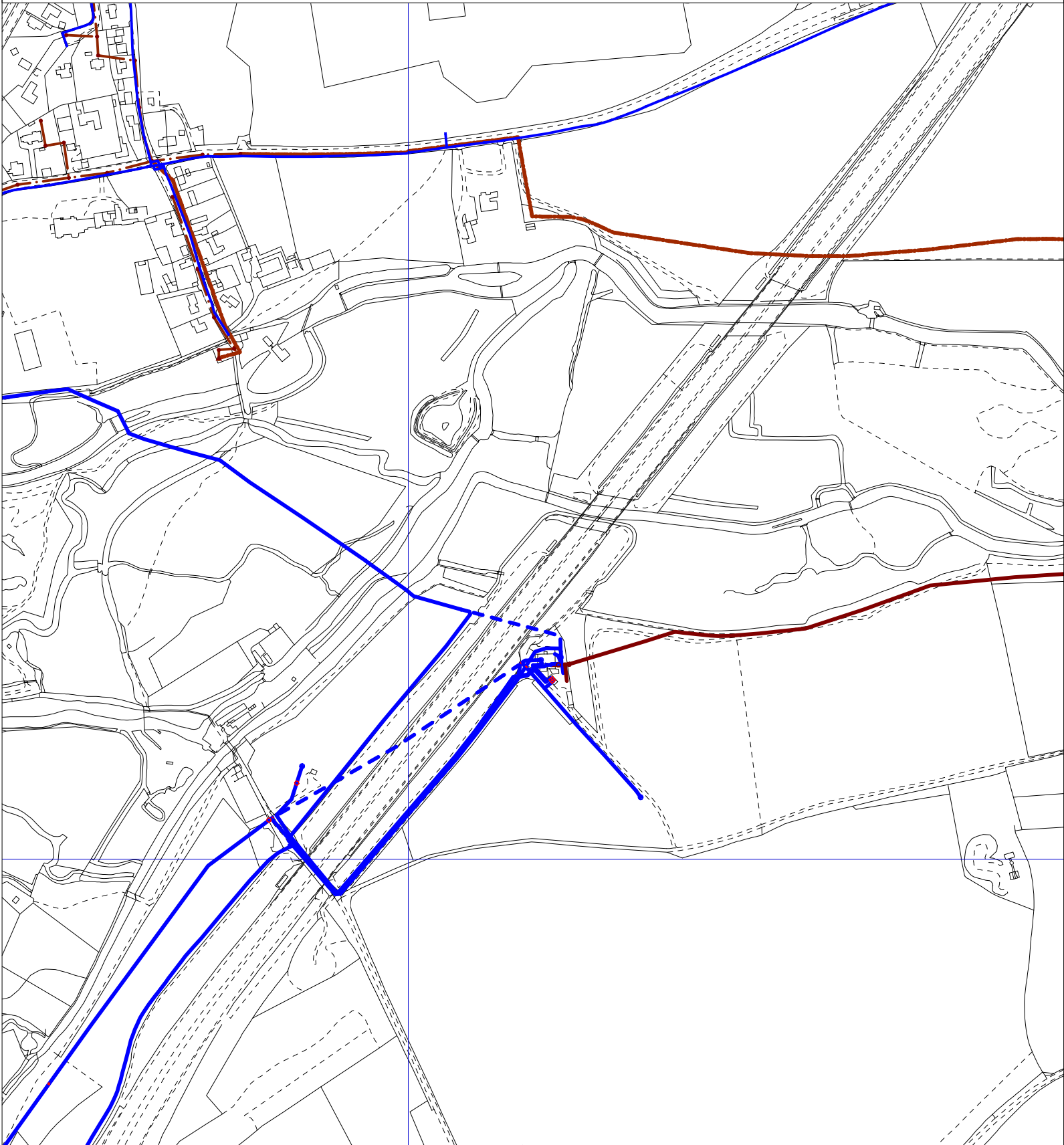
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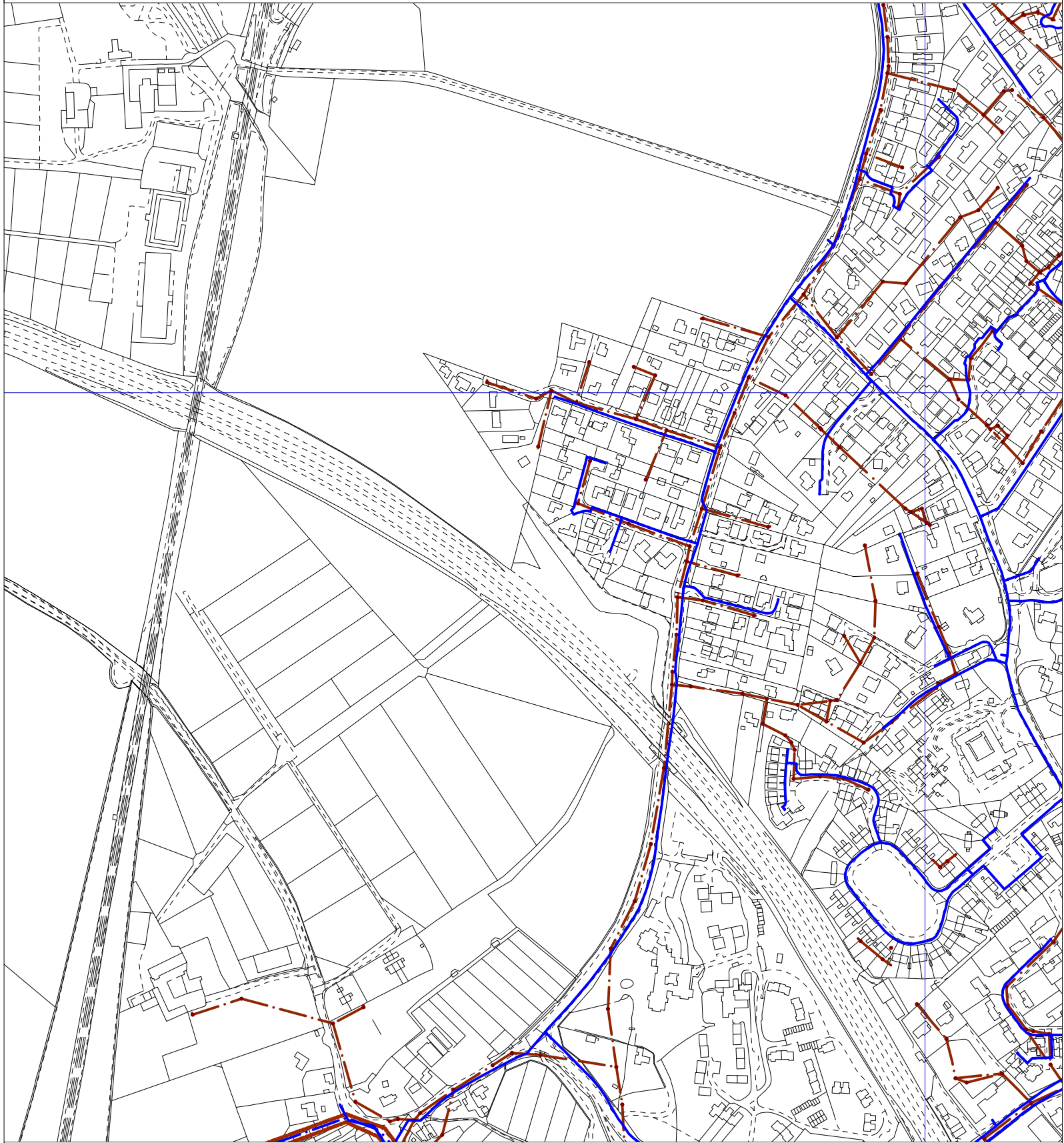
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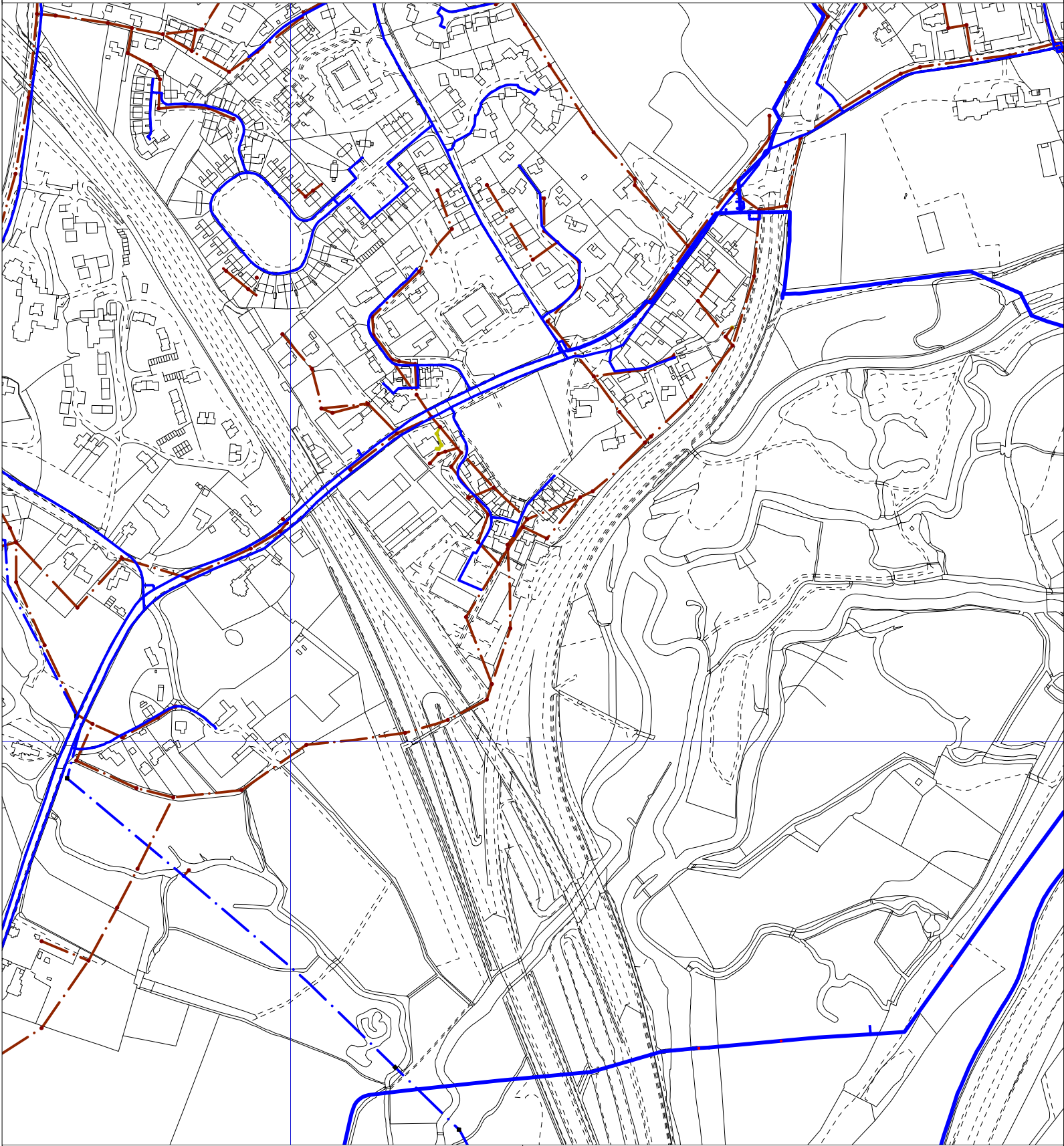
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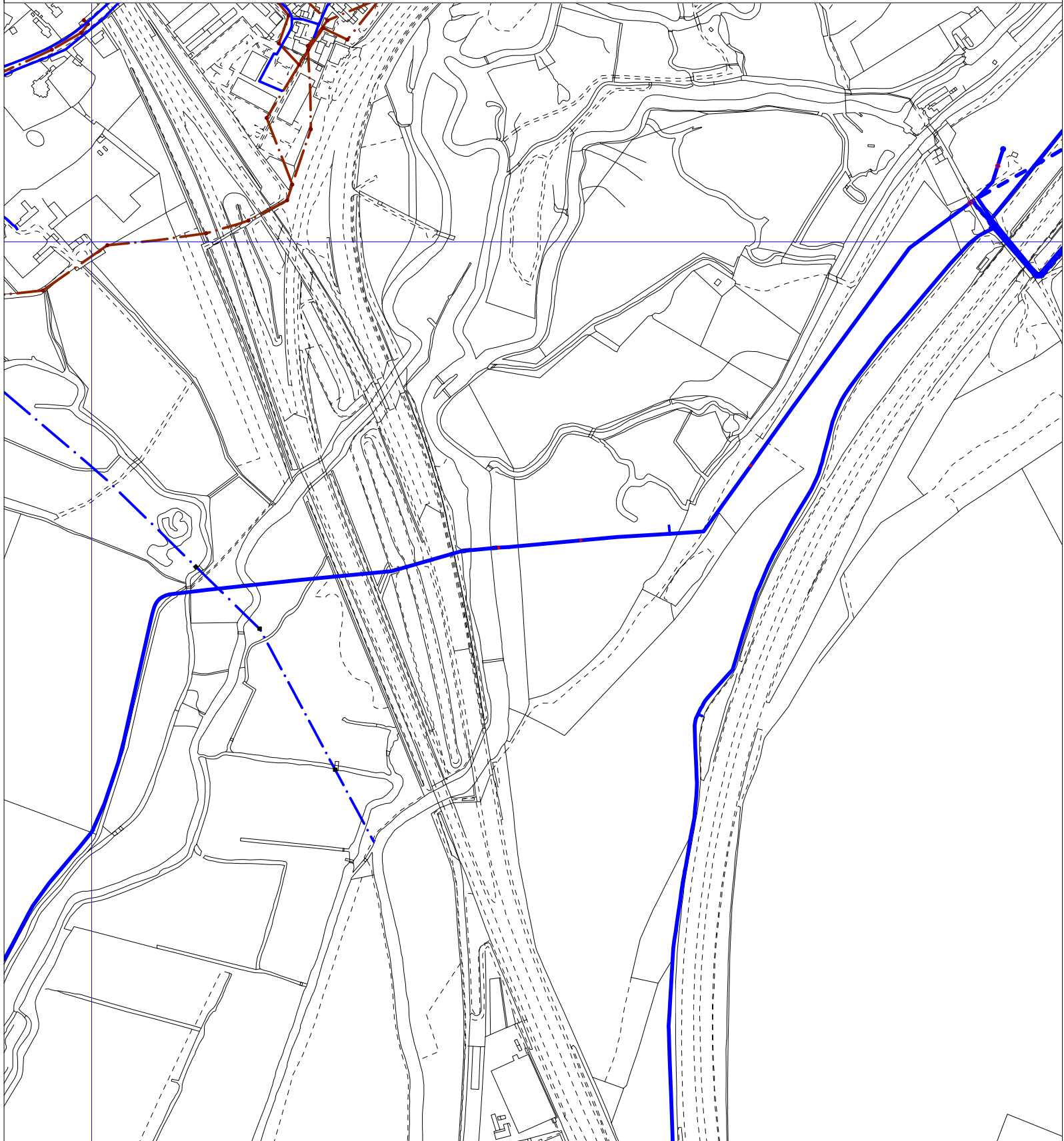
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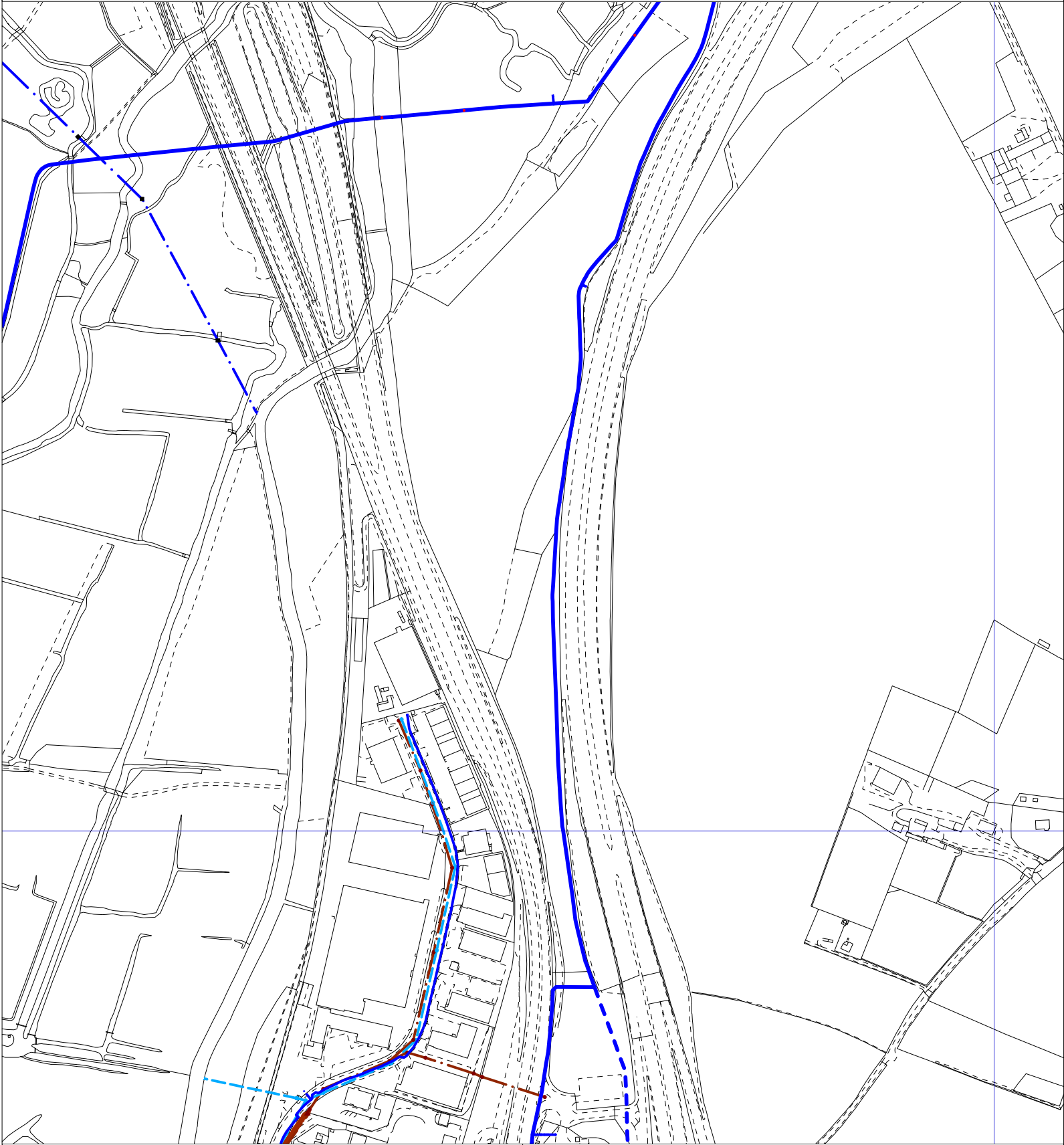
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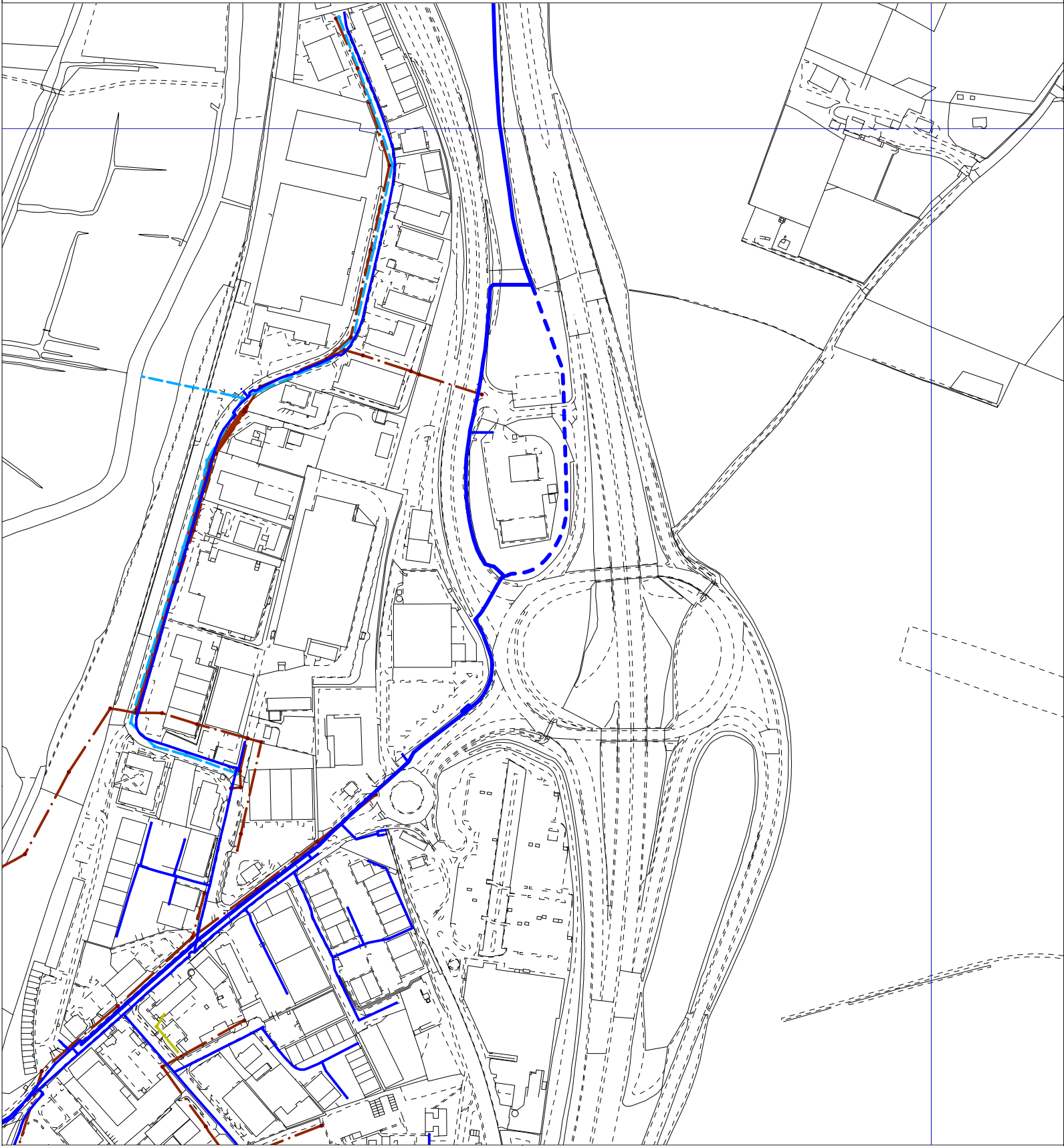
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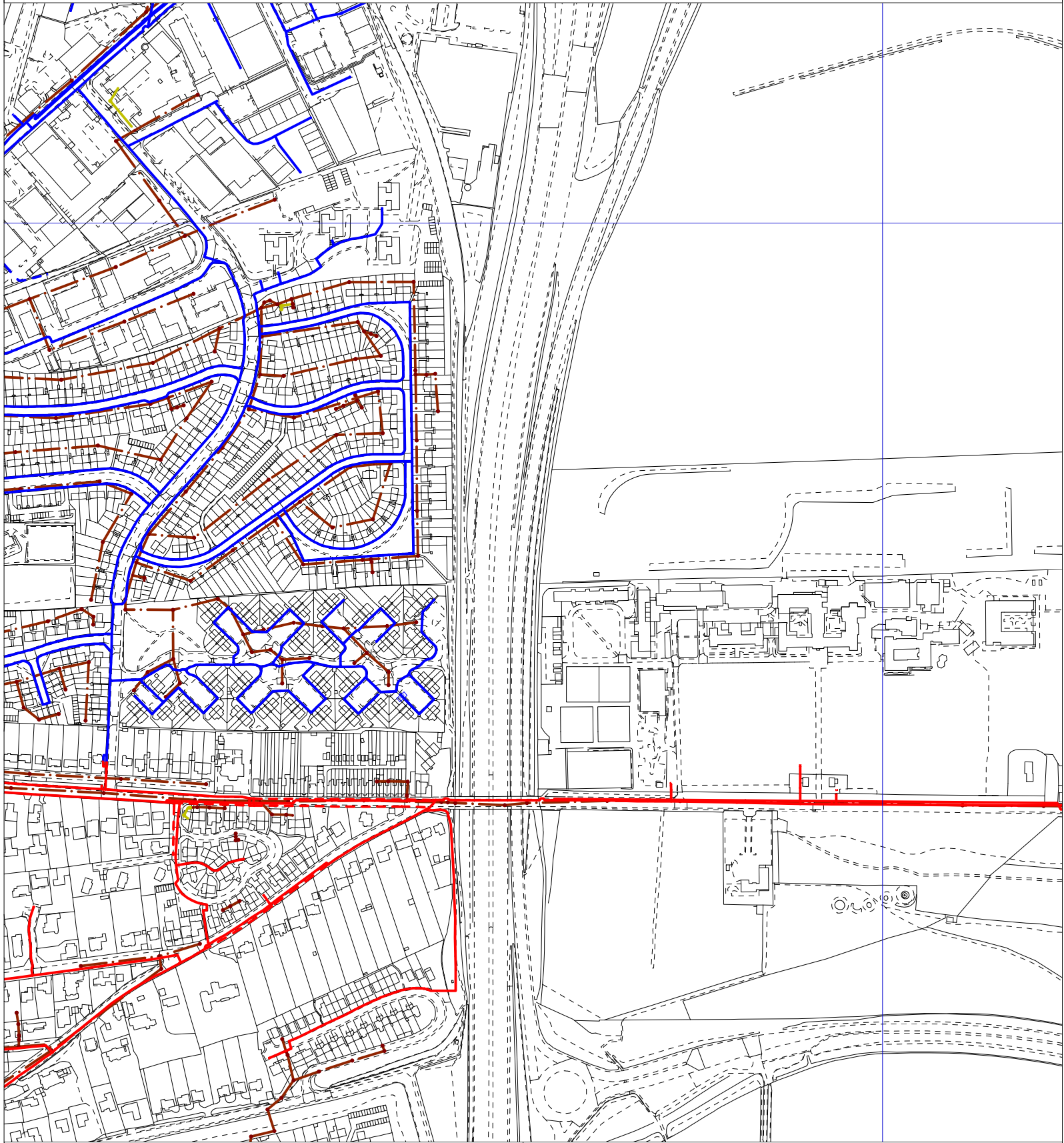
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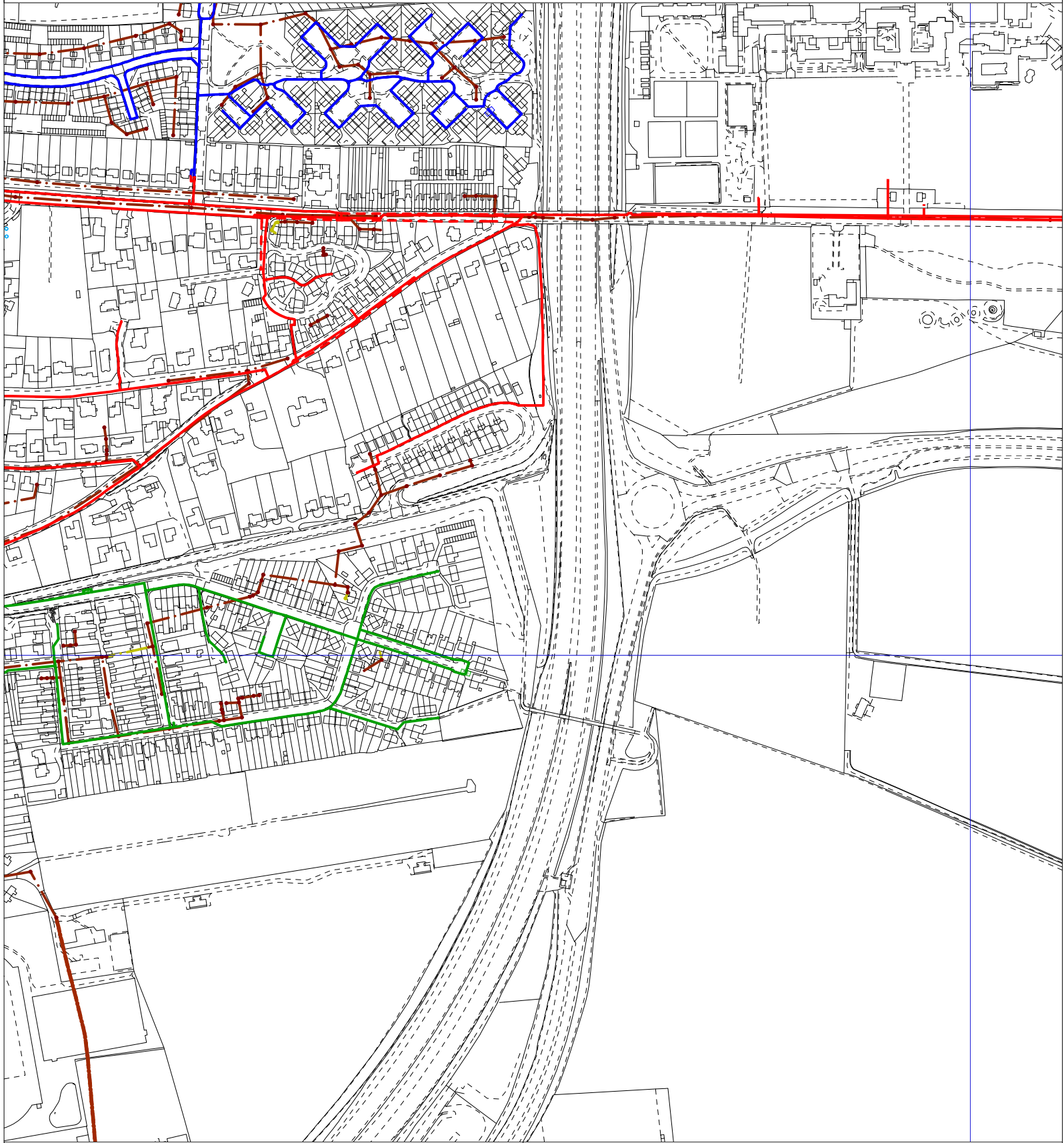
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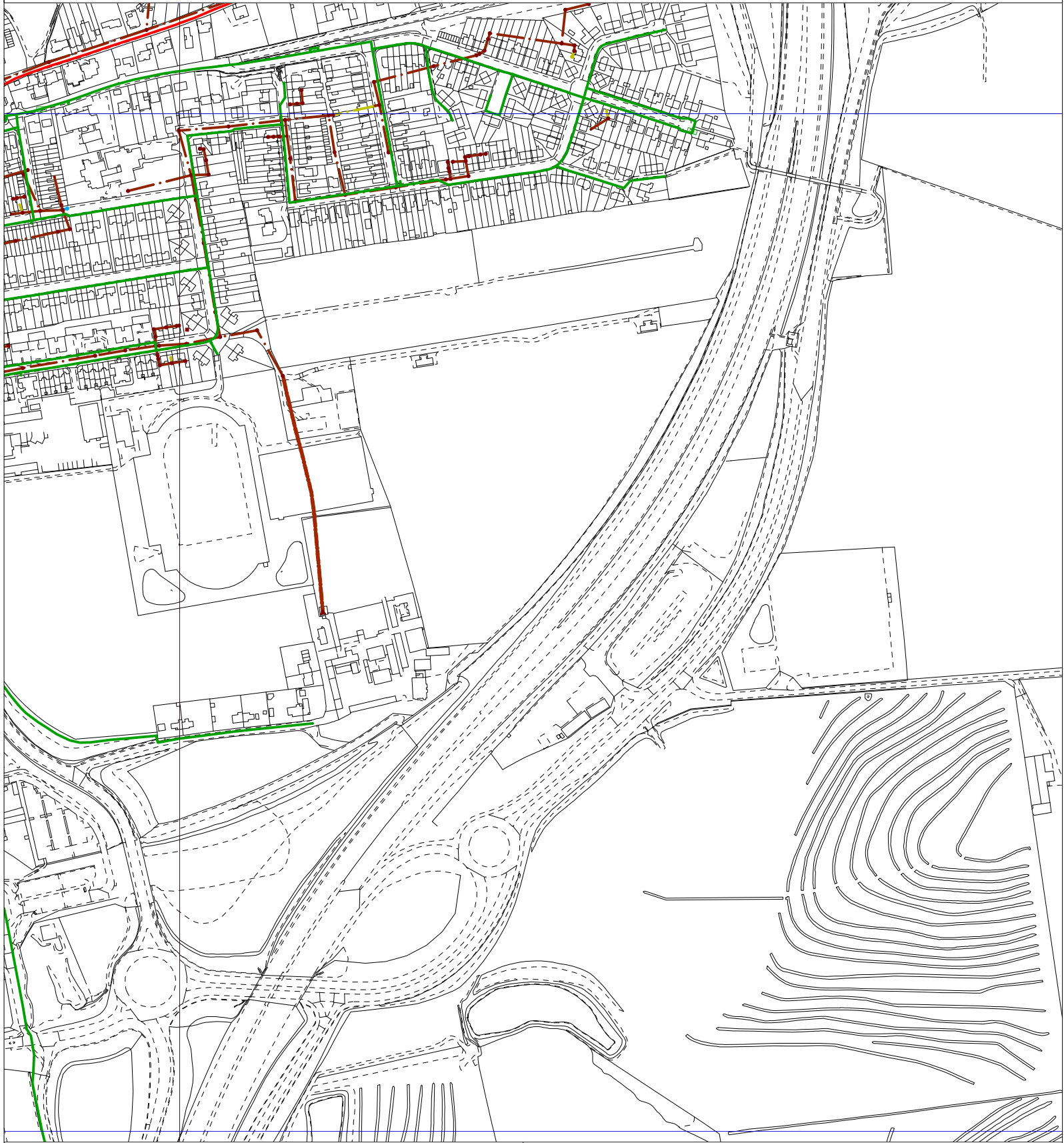
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**From:** Goodman, Paul [REDACTED]  
**Sent:** 08 February 2019 11:59  
**To:** M3 Junction 9  
**Subject:** Scoping consultation TR010055

Dear Sir/Madam,

Thank you for your consultation regarding the Scoping Opinion regarding the development at the M3 Junction 9. I can confirm that Test Valley Borough Council has no comment.

Please do not hesitate to contact me if I can be of further assistance.

Kind regards

Paul

Paul Goodman  
Senior Planning Officer  
Test Valley Borough Council  
[REDACTED]  
[REDACTED]

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**Development  
Management**

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tel [REDACTED]

fax [REDACTED]

telephone calls may be recorded

website [www.winchester.gov.uk](http://www.winchester.gov.uk)

Richard White  
EIA And Land Rights Advisor  
The Planning Inspectorate  
Temple Quay House  
Temple Quay  
Bristol  
BS1 6PN

Our Ref: 19/00224/SCOPE  
Your Ref: TR010055  
Enq to: Lorna Hutchings  
Direct Dial: [REDACTED]  
Email: [REDACTED]

22 February 2019

Please quote 19/00224/SCOPE on all correspondence

Dear Sir/Madam,

**Consultation from SOS on Environmental Impact Assessment Scoping Request  
from Highways England for the M3 Junction 9 Improvement Project.**

**At: M3 Junction 9 Easton Lane Winchester Hampshire**

**Scoping Report submitted to the Secretary of State on 28 January 2019**

The Planning Inspectorate has identified Winchester City Council Local Planning Authority as a consultation body which must be consulted before adopting its Scoping Opinion. You have asked us to:

- inform the Planning Inspectorate of the information you consider should be provided in the ES; or
- confirm that you do not have any comments.

Further to this request, I hereby enclose my response below.

If you have any further queries please contact the case officer, whose details are at the top of this letter.

Yours faithfully

*Julie Pinnock*

**Julie Pinnock BA (Hons) MTP MRTPI**  
Head of Development Management

Enc.



**SCOPING OPINION – Consultation from SOS on Environmental Impact Assessment Scoping Request from Highways England for the M3 Junction 9 Improvement Project.**

**TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS 2017)**

Winchester City Council wish to submit comments in respect of the Scoping Opinion consultation request from the Planning Inspectorate regarding the Scoping Report submitted to the Secretary of State on 28 January 2019 by Richard White on behalf of Simon Hewett Highways England.

*Please Note: The Council has complied with the request to provide a scoping opinion consultation response on a without prejudice basis and in so doing does not necessarily accept or imply that the development described above accords with the policies of the Development Plan. WCC will further consider the local benefit options from mitigation that may be identified and justified as a necessary requirement when the detailed Environmental Statement is submitted and the likely impacts are known in full.*

A number of departments within Winchester City Council have been consulted by the Local Planning Authority. The comments that we submit are set out in these consultation responses in respect of the various topic matters as listed:

Drainage

Environmental Protection – Air Quality

Environmental Protection – Contamination

Urban Design – to consider Sustainability issues

Landscape VIA

Historic Environment Team – Cultural Heritage and Archaeology

Ecology

Waste Team

Strategic Planning – Population and Health, Cumulative effects





**Consultation Responses containing comments of Winchester City Council Local Planning Authority.**

Landscape

**From:** [REDACTED]

**Sent:** 21 February 2019 17:00

**To:** [REDACTED]

**Subject:** 19/00224/SCOPEM3 Junction 9 Improvements Environmental Impact Assessment Scoping Report

Esther

Thank you for your consultation.

I have reviewed the Highways England M3 Junction 9 Improvements Environmental Impact Assessment Scoping Report (Report Ref: HE551511-JAC-EGN-0\_00\_00-RP-LE-0001 P03, January 2109) and have the following comments;

Chapter 8 'Landscape and Visual' reports that there is the potential for the Proposed Scheme to have an impact on the surrounding landscape and visual receptors and recommends that these impacts are assessed as part of the EIA using the methodology set out in this chapter.

I am satisfied with the proposals contained in the Scoping Report regarding the assessment of landscape and visual impacts and have no adverse comments at this stage.



**Stuart Dunbar-Dempsey CMLI**

Landscape Team

Winchester City Council

[REDACTED]

# Environmental Health

From:  Phil Tidridge  
To:   
Cc:  
Subject: RE: M3 J9 EIA Scoping Request consultation from PINS - last chance to input!

Sent: Thu 21/02/2019 12:31

Dear Lorna

I have reviewed the scoping report with specific reference to the potential air quality and noise scoping elements (Alison Harker has already commented regarding contaminated land). Overall I have no objections in principle to the scoping works proposed but below are a few detailed comments.

## **Air Quality (Chapter 6)**

I am satisfied with the data and assessment criteria presented and the criteria scoped in for further detailed assessment. Table 6.5 summarises the elements to be scoped in to the EIA for air quality and I would provide the following feedback regarding these scoping proposals:

- 1.The assessment of impact due to traffic management measures during construction – I would expect this to include air quality impacts caused by road closures and traffic diversions with specific reference to potential adverse impact this has on Winchester City Centre and the current AQMA.
- 2.The assessment of impacts on emissions including particulate matter for the local air quality area – This is welcomed but it is not clear if the “particulate matter” referenced is PM10, PM2.5 or both. With a future focus on PM2.5 modelling for this criteria would be welcomed.

## **Noise and Vibration (Chapter 12)**

I am satisfied with the assessment criteria presented and the criteria scoped in for further detailed assessment.

Baseline noise data (Paragraph 12.6.46) - I can confirm I have already had discussions with Andrew Clarke at Jacobs regarding suitable locations and durations for “establishing baseline noise data to establish the relationship between daytime/night-time noise levels and select the most appropriate method to predict noise levels at night, from available traffic data.”

Regards

**Phil Tidridge**  
Environmental Health & Licensing  
Winchester City Council

Colebrook Street  
Winchester  
SO23 9LJ

Tel: [REDACTED]



# Historic Environment

## Planning Consultation Comments

RE: 19/00224/SCOPE M3 Junction 9, Easton Lane, Winchester

### Comments and advice:

The scoping report has identified the above ground designated heritage assets and their settings likely to be affected by the proposals. It confirms that an assessment of the potential impact on these assets shall form part of the application submission and acknowledge that where the potential impact on the above ground heritage assets would be greatest, or where the proposals would potentially impact assets of the highest significance, an enhanced assessment of the impact on their significance would be undertaken. Where there are planned or accidental views through to the above ground heritage assets, the impact of the development on the setting of these heritage assets shall be assessed by using the 'zones of theoretical visibility' criteria.

However, there is the potential that the proposals could impact a number of unknown non-designated heritage assets (buildings or structures displaying a degree of heritage interest) within the vicinity of the site boundary which have not yet been assessed by the LPA. It is therefore advised that the scoping process identify such assets that could be capable of being non-designated heritage assets (i.e. those that would meet the local listing criteria outlined in Appendix C of the WDLP part 2), and assess the potential impact of the proposals upon their significance accordingly.

### Key issues:

The preservation of the special architectural / historic interest of the listed building and its setting (S.66 P(LBCA) Act 1990; Policies DM29 & DM30 of the Winchester District Local Plan Part 2 Adopted 2017; Policies CP19 & CP20 Winchester District Joint Core Strategy; NPPF Section 16).

The preservation or enhancement of the character or appearance of the conservation area (S.72 P(LBCA) Act 1990; Policies DM27 & DM28 of the Winchester District Local Plan Part 2 Adopted 2017; Policy CP19 & CP20 Winchester District Joint Core Strategy; NPPF Section 16).

The preservation of a non-designated heritage asset (Policies DM29 & DM32 of the Winchester District Local Plan Part 2 Adopted 2017; Policy CP19 & CP20 Winchester District Joint Core Strategy; NPPF Section 16).

**[Historic Environment Officer 18/02/2019]**

## **Urban Design**

### **Planning Consultation Comments**

**RE: 19/00224/SCOPE M3 Junction 9 Easton Lane Winchester Hampshire**

#### **Consultation Response**

I have reviewed the Highways England M3 Junction 9 Improvements Environmental Impact Assessment Scoping Report (Report Ref: HE551511-JAC-EGN-0\_00\_00-RP-LE-0001 P03, January 2019) and as Urban Design I have no comments.

Considerations on design should be cover by Highways Authority and Visual Impacts by Landscape.

Regarding Sustainability, this is a matter outside of my area of expertise but I'm assuming that, as an all encompassing subject, it should be considered across all areas in the EIA.

# **Consultee Comments for Planning Application 19/00224/SCOPE**

## **Application Summary**

Application Number: 19/00224/SCOPE

Address: M3 Junction 9 Easton Lane Winchester Hampshire

Proposal: Consultation from SOS on Environmental Impact Assessment Scoping Request from Highways England for the M3 Junction 9 Improvement Project.

Case Officer: Lorna Hutchings

## **Consultee Details**

Name: WCC Drainage Engineer

Address: HCC Works Offices, Bar End Road, Winchester, Hampshire SO23 9NP

Email: drainage@winchester.gov.uk

On Behalf Of: Drainage Engineer

## **Comments**

19/00224/SCOPE

The document states that the EA have been consulted and met with on a couple of occasions, this means that flood risk and effects on main rivers should have been covered.

HCC as LLFA may have an interest in the potential effects of the works on ordinary watercourses.

# Historic Environment - Archaeology Planning Consultation Comments

RE: 19/00224/SCOPE

Address: M3 Junction 9 Easton Lane, Winchester, Hampshire

## Key issues:

1. The preservation, conservation, investigation and recording of archaeological interest (Policy DM26 Winchester District Local Plan Part 2; Policy CP20 Winchester District Joint Core Strategy; NPPF Section 12).

## Comments:

I have reviewed the Highways England M3 Junction 9 Improvements Environmental Impact Assessment Scoping Report (Report Ref. HE551511-JAC-EGN-0\_00\_00-RP-LE-0001 P03, January 2019).

Chapter 7 of this report considers Cultural Heritage and confirms that archaeological remains will form part of an Environmental Statement which will be prepared for the proposed scheme. The scoping report identifies that a detailed assessment will be undertaken due to the potential significant effects upon archaeological remains (para. 7.6.5) and I confirm that I agree with this.

Para. 7.3.1 sets out potential impacts to archaeological remains arising from the construction stage. It is important that potential impacts arising from temporary works (such as storage areas, compounds) as well as other mitigation works (e.g. environmental mitigation) are also considered (para. 2.4.3).

Several studies have been completed to date (Archaeological Desk-Based Assessment, Jacobs 2018 and a geophysical survey, WSP 2018), which have enabled the potential impacts of the scheme on known remains to be assessed. These reports have been considered and are considered acceptable. However, as indicated in Para. 7.7.1, the impacts of the proposed scheme on currently unknown archaeological remains cannot be assessed at this stage.

Intrusive archaeological evaluation is planned (para. 7.4.3) but to date this has not yet been carried out. These investigations will need to be carried out in order that the results can be assessed and feed into the EIA process, informing appropriate mitigation proposals which should be set out in the Environmental Statement.

It is also noted that the potential impacts to the setting of Heritage assets is pending the completion of a ZTV.

**Tracy Matthews**  
Historic Environment (Archaeology) Officer  
13/02/2019



# **Consultee Comments for Planning Application 19/00224/SCOPE**

## **Application Summary**

Application Number: 19/00224/SCOPE

Address: M3 Junction 9 Easton Lane Winchester Hampshire

Proposal: Consultation from SOS on Environmental Impact Assessment Scoping Request from Highways England for the M3 Junction 9 Improvement Project.

Case Officer: Esther Gordon

## **Consultee Details**

Name: Mrs Alison Harker

Address: Winchester City Council, City Offices, Colebrook Street Winchester, Hampshire SO23 9LJ

Email: [REDACTED]

On Behalf Of: Contaminated Land Alison Harker Environmental Health

## **Comments**

Thank you for your consultation.

I have reviewed the Highways England M3 Junction 9 Improvements Environmental Impact Assessment Scoping Report (Report Ref: HE551511-JAC-EGN-0\_00\_00-RP-LE-0001 P03, January 2019) and have the following comments to make:

Chapter 10 - Geology and Soils reports a potential for contaminant linkages to exist and recommends these are duly investigated and assessed as part of the EIA using the documented methodology. I can confirm I am satisfied with the proposals contained in the scoping report regarding the assessment of potentially contaminated land and have no adverse comments at this stage.

# Internal Consultation Request

To : **Strategic Planning Policy**

From: **Esther Gordon 01962 848 177**

Planning Application: **19/00224/SCOPE**

Location: **M3 Junction 9 Easton Lane Winchester Hampshire**

Proposal: **Application for an Order granting Development Consent for the M3 Junction 9 Improvement Project**

Respond by: 20 February 2019

**Listed or Conservation Information (if Applicable)**

## **Additional remarks:**

Population and health, cumulative effects.

This is a Nationally Significant project being dealt with by the Planning Inspectorate. The deadline for comments is the 20th Feb. Please can you agree with what has been scoped in and out of the EIA Statement.

## **Response from strategic planning 12 February 2019**

The following concentrates on the population and health section of the document and various references to local plan policy.

Section 6 onwards of the scoping report includes reference to a number of development plans and specific policies. The following raises general matters only it will be necessary for technical specialists to review relevant content and comment as necessary.

Firstly, reference to Winchester District Local Plan Review (Adopted 2006) – Saved Policies needs to be clarified – this only applies to the SDNP part of the Winchester District, until SDNP has its own policies adopted. Winchester District Local Plan Review (Adopted 2006) does not apply to Winchester Local Planning Authority area as this has three adopted local plans:

1. Local Plan Part 1 – Joint Core Strategy adopted March 2013
2. Local Plan Part 2 – Development Management and Site Allocations adopted April 2017
3. Gypsy, Traveller and Travelling Showpeople DPD (to be adopted 28 February 2019)

In addition Hampshire Mineral and Waste Local Plan 2013 will be relevant

In terms of Local Plan Part 1 predominantly relevant policies should include :-

- DS1 – development strategy and principles
- WT1 - development strategy for Winchester Town

- MTRA4 – Development in the Countryside
- CP13 – High Quality Design
- CP15 - Green infrastructure
- CP16 - biodiversity
- CP17 – flooding, flood risk and the water environment
- CP20 – heritage and landscape character
- CP21 – infrastructure and community benefit

Local Plan Part 2 relevant policies should include:-

- WIN1 – Winchester Town
- WIN3 – Winchester views and roofscape
- WIN11 – Winnall – Winchester
- DM17 – site development principles
- DM19 – development and pollution
- DM20 – Development and noise
- DM23 – rural character
- DM24 – special trees, important hedgerows and ancient woodland
- DM26 – archaeology
- DM31 – locally listed heritage assets

Section 6 – air quality – should also refer to our Air Quality SPD currently being prepared.

### Section 13 – population and health

Table 13-3 settlements – some data needs clarifying

Name	Type of settlement	Distance from proposed scheme	2011 census	2017 SAPF	2024 SAPF
Winchester Unparished area (incl wards of St Pauls, St Bartholomew, St Michael, St Luke, St Barnabas)	Urban	Built up area of Winchester lies adjacent to the scheme (st Bartholomew ward actually covers the scheme)		41,080	43,441
Headbourne worthy (parish)	Village in large parish on edge of winchester	Abuts eastern scheme boundary		560	3,380*
Itchen valley (Parish) incl	Small rural villages	villages to east of		1,328	1,288

villages of Easton, Avington, Ovington, Itchen Abbas		Winchester			
Kings Worthy *1	Small settlement	Abuts eastern scheme boundary		4,571	4,801

\*Increase due to implementation of strategic housing allocation at Barton Farm, Winchester for 2000 dwellings (policy WT2 Local Plan Part 1)

\*1 increase due to planned development (policy KW1 Local Plan Part 2 )

Para 13.2.7 – Winchester acts as a sub regional centre

Para 13.2.12 – Kings Worthy is a not a small residential area it has a number of facilities and planned growth

Para 13.2.14 – Princesmead school lies in countryside to east of the small hamlet of Abbots Worthy

Para 13.2.16 – yes but the parish covers a much larger area which includes planned growth at Barton Farm

Potential impacts on motorised travellers - should not be underestimated a small incident on the local motorway network creates chaos in and through Winchester.

Details have been provided to consultants on behalf of Highways England with regard to various developments in the District, which presumably will inform section 16.3.10 etc

16.4.5 local developments – this should include proposals in adjoining local authorities for example Eastleigh Local Plan includes a proposed strategic growth option for 5,500 new homes on the northern edge of Eastleigh to the south of Colden Common in Winchester District. This includes a link road in Winchester District which will connect to Junction 12 of M3. Once this link road is implemented together with the planned Whiteley Way and Botley bypass will potentially create a through access route from southern Hampshire to the M3.

Table 16-4 – there are a number of planned developments within Winchester itself both commercial and residential. Policy WT3 – employment allocation at Bushfield Camp, Winchester, policy WIN 4 Central Winchester regeneration; policies WIN5-7 commercial development at Station Approach, redevelopment of Police Station site etc these are all set out in the 2017/18 AMR <https://www.winchester.gov.uk/planning-policy/annual-monitoring-report-amr>

## **E.2. 2019 EIA Scoping Report – Cover Letter**



Our ref: HE551511  
Your ref: TR010055

[REDACTED]  
The Planning Inspectorate  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

[REDACTED]  
M3 Junction 9 Improvements  
Highways England  
Bridge House  
1 Walnut Tree Close  
Guildford  
GU1 4LZ

Direct Line: [REDACTED]  
E-mail: [REDACTED]

25 January 2019

Dear [REDACTED]

**M3 Junction 9 Improvements (“the Development”)  
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (“the EIA Regulations”) – Regulation 10(1) Application for a Scoping Opinion**

I write with reference to the above Development, to notify the Secretary of State under Regulation 8(1)(b) of the EIA Regulations that we propose to provide an Environmental Statement (ES) with the application for development consent under the Planning Act 2008.

With reference to Regulation 10(1) of the EIA Regulations, I also write to apply for a scoping opinion from the Secretary of State in respect of the Development.

Please find enclosed the information required under Regulation 10(3) of the EIA Regulations 2017 (within the Environmental Scoping Report). I can confirm the required GIS shapefile has been submitted to the Planning Inspectorate by email on 17 January 2019, in accordance with the technical specifications set out in section 6.4 of Advice Note Seven. The Environmental Scoping Report document is submitted to you electronically (via the memory stick enclosed) and two hard copies are also enclosed.

For the purpose of your duties under Regulation 11(1)(a) of the EIA Regulations, the name and address of the Applicant (Highways England) for the Development are as above. In accordance with Regulation 11(1)(b) of the EIA Regulations, please provide us with a list of the notified consultation bodies and any Regulation 11(1)(c) persons and non-prescribed consultees.

For your information, we are also progressing an assessment to inform your future decision on whether an appropriate assessment is required for the Development under the Habitats Directive and Conservation of Habitats and Species Regulations 2010. We will continue to consult and engage with Natural England and to work up detailed proposals to identify and address key issues throughout the pre-application stage, as our design evolves. We will finalise the HRA Report and submit it to you at a later stage of the project.

Should you have any queries, please contact myself, [REDACTED] or [REDACTED], whom are supporting our environmental assessment and development consent application.

Yours sincerely

[REDACTED]

[REDACTED]





### **E.3. 2020 Scoping Opinion**



# **SCOPING OPINION:**

## **Proposed M3 Junction 9 Improvement**

**Case Reference: TR010055**

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Adopted by the Planning Inspectorate (on behalf of the Secretary of State) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

**November 2020**

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# 1. INTRODUCTION

## 1.1 Background

- 1.1.1 On 19 October 2020, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from Highways England (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed M3 Junction 9 Improvement (the Proposed Development).
- 1.1.2 In accordance with Regulation 10 of the EIA Regulations, an Applicant may ask the SoS to state in writing its opinion *'as to the scope, and level of detail, of the information to be provided in the environmental statement'*.
- 1.1.3 This document is the Scoping Opinion (the Opinion) provided by the Inspectorate on behalf of the SoS in respect of the Proposed Development. It is made on the basis of the information provided in the Applicant's report entitled Environmental Impact Assessment Scoping Report – Request for a Second Scoping Opinion (the Scoping Report). This Opinion can only reflect the proposals as currently described by the Applicant. The Scoping Opinion should be read in conjunction with the Applicant's Scoping Report.
- 1.1.4 The Applicant has notified the SoS under Regulation 8(1)(b) of the EIA Regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development. Therefore, in accordance with Regulation 6(2)(a) of the EIA Regulations, the Proposed Development is EIA development.
- 1.1.5 Regulation 10(9) of the EIA Regulations requires that before adopting a scoping opinion the Inspectorate must take into account:
- (a) *any information provided about the proposed development;*
  - (b) *the specific characteristics of the development;*
  - (c) *the likely significant effects of the development on the environment; and*
  - (d) *in the case of a subsequent application, the environmental statement submitted with the original application.*
- 1.1.6 This Opinion has taken into account the requirements of the EIA Regulations as well as current best practice towards preparation of an ES.
- 1.1.7 The Inspectorate has consulted on the Applicant's Scoping Report and the responses received from the consultation bodies have been taken into account in adopting this Opinion (see Appendix 2).
- 1.1.8 The points addressed by the Applicant in the Scoping Report have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the Inspectorate will take account of relevant legislation and guidelines. The Inspectorate will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with the application for a Development Consent Order (DCO).

- 1.1.9 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (e.g. on submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.
- 1.1.10 Regulation 10(3) of the EIA Regulations states that a request for a scoping opinion must include:
- (a) *a plan sufficient to identify the land;*
  - (b) *a description of the proposed development, including its location and technical capacity;*
  - (c) *an explanation of the likely significant effects of the development on the environment; and*
  - (d) *such other information or representations as the person making the request may wish to provide or make.*
- 1.1.11 The Inspectorate considers that this has been provided in the Applicant's Scoping Report. The Inspectorate is satisfied that the Scoping Report encompasses the relevant aspects identified in the EIA Regulations.
- 1.1.12 In accordance with Regulation 14(3)(a), where a scoping opinion has been issued in accordance with Regulation 10 an ES accompanying an application for an order granting development consent should be based on '*the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion)*'.
- 1.1.13 The Inspectorate notes the potential need to carry out an assessment under The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). This assessment must be co-ordinated with the EIA in accordance with Regulation 26 of the EIA Regulations. The Applicant's ES should therefore be co-ordinated with any assessment made under the Habitats Regulations.

## **1.2 The Planning Inspectorate's Consultation**

- 1.2.1 In accordance with Regulation 10(6) of the EIA Regulations the Inspectorate has consulted the consultation bodies before adopting a scoping opinion. A list of the consultation bodies formally consulted by the Inspectorate is provided at Appendix 1. The consultation bodies have been notified under Regulation 11(1)(a) of the duty imposed on them by Regulation 11(3) of the EIA Regulations to make information available to the Applicant relevant to the preparation of the ES. The Applicant should note that whilst the list can inform their consultation, it should not be relied upon for that purpose.
- 1.2.2 The list of respondents who replied within the statutory timeframe and whose comments have been taken into account in the preparation of this Opinion is

provided, along with copies of their comments, at Appendix 2, to which the Applicant should refer in preparing their ES.

- 1.2.3 The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.
- 1.2.4 Any consultation responses received after the statutory deadline for receipt of comments will not be taken into account within this Opinion. Late responses will be forwarded to the Applicant and will be made available on the Inspectorate's website. The Applicant should also give due consideration to those comments in preparing their ES.

### **1.3 The European Union (Withdrawal Agreement) Act 2020**

- 1.3.1 The UK left the European Union as a member state on 31 January 2020. The European Union (Withdrawal Agreement) Act 2020 gives effect to transition arrangements that last until the 31 December 2020. This provides for EU law to be retained as UK law and also brings into effect obligations which may come in to force during the transition period.
- 1.3.2 This Scoping Opinion has been prepared on the basis of retained law and references within it to European terms have also been retained for consistency with other relevant documents including relevant legislation, guidance and advice notes.



## **2. THE PROPOSED DEVELOPMENT**

### **2.1 Introduction**

2.1.1 The following is a summary of the information on the Proposed Development and its site and surroundings prepared by the Applicant and included in their Scoping Report. The information has not been verified and it has been assumed that the information provided reflects the existing knowledge of the Proposed Development and the potential receptors/ resources.

### **2.2 Description of the Proposed Development**

2.2.1 The Applicant's description of the Proposed Development, its location and technical capacity (where relevant) is provided in Scoping Report Section 2.

2.2.2 The Proposed Development is for the improvement of Junction 9 of the M3 over approximately 169.7 hectares where it meets the A34, A272, A33 and A31 in Winchester, Hampshire. Approximately 6,000 vehicles pass through the junction per hour during peak times creating a bottleneck on the local highway network. The Proposed Development aims to improve journey times, increase capacity and support development in line with local plans.

2.2.3 The main elements of the Proposed Development include widening of the M3 from a dual two-lane motorway to a four-lane motorway with hard-strips, construction of a smaller gyratory roundabout in place of the existing roundabout with bridge connections over the M3 for non-motorised users (NMUs); new NMU routes through the junction providing a continuous grade separated route between the South Downs National Park (SDNP), Winnall and Abbots Worthy; connector roads from the new roundabout and improved slip roads joining the M3; closed circuit television (CCTV) masts; retaining walls; signage/gantries; lighting; drainage features; utility diversions and areas for potential excess spoil management. The site location plan and an indicative land use plan are provided at Figures 2.1 and 2.3 respectively in Appendix 2.1 of the Scoping Report.

2.2.4 The existing M3 Junction 9 is joined with the A34 towards Newbury and Oxford to the North, the A272 towards Petersfield to the East, Easton Lane towards Winnall and North Winchester to the West. The surrounding area is described in section 2.3 of the Scoping Report; the urban settlement of Winchester and commercial and educational facilities are located to the west of the red line boundary and the SDNP and a small number of agricultural holdings are located to the east.

2.2.5 Figure 2.2, Appendix 2.1 and paragraphs 2.3.4 to 2.3.10 of the Scoping Report identify and locate the environmental constraints within and around the Proposed Development's red line boundary. The Proposed Development passes through the SDNP, the River Itchen Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), two ground water source protection zones (SPZ) and two Noise Important Areas (NIAs). Adjacent to and surrounding the Proposed Development are St Catherine's Hill SSSI, a number of scheduled

monuments and listed buildings, an Air Quality Management Area (AQMA) located in Winchester.

## **2.3 The Planning Inspectorate's Comments**

### **Description of the Proposed Development**

- 2.3.1 The description of the Proposed Development is relatively high-level and lacks details on all elements of the Proposed Development which are proposed to be refined throughout the detailed design stage (Scoping Report paragraph 2.5.2). The ES must include a description of all physical characteristics of the Proposed Development and other relevant features. Where uncertainty exists and flexibility is sought this should be explained not only in terms of the maximum parameters but also the anticipated limits of deviation, the dimensions, locations and alignments of the various project elements, including points of access and key structures.
- 2.3.2 Scoping Report paragraph 2.4.5 states that the M3 includes works to accommodate the proposed M3 Junction 9 to Junction 14 smart motorway project; the details and requirements for this project are not included or referenced in the Scoping Report. The ES should describe the relationship between the Proposed Development and smart motorway scheme. This should include explanation as to whether/what works are inter-related, any timings, duration, extent etc. of these works and where there is potential for significant effects, these should be assessed in the relevant Chapter(s) of the ES. Details of any associated proposed mitigation should also be set out where applicable.
- 2.3.3 Utility diversions and enabling works, as described in Scoping Report paragraph 2.4.41, are proposed to be required to accommodate the Proposed Development and would be undertaken by utilities network operators or their contractors. As they form part of the Proposed Development, any significant effects that are likely to occur as a result of these works should be assessed in the ES and any applicable mitigation should be described.
- 2.3.4 The smart motorway scheme and utility works and diversions may meet NSIP status in their own right. The NSIP status of these works should be established so that the ES can clearly explain all of the NPS that apply to the Proposed Development.
- 2.3.5 Paragraph 2.4.39 of the Scoping Report states that demolition will be considered for the pre-construction phase but no details are provided. The ES should include any requisite demolition works and land-use requirements during construction and operation phases and quantification of use/management of material, spoil and changes in topography.
- 2.3.6 Scoping Report paragraph 2.4.46 states that land may be reinstated following completion of the construction phase. The extent, timing, location and methods for undertaking any reinstatement and monitoring whether additional remedial measures are necessary should be agreed with the relevant statutory bodies and set out in a plan secured in the DCO.

- 2.3.7 Scoping Report paragraphs 2.4.36 to 2.4.39 provide high-level information on the construction phasing and activities required for the Proposed Development; construction is anticipated to last two and a half years. The ES should contain a general construction programme so that it is clear how and when the specific works will take place, and how resulting effects on road networks are to be managed. It should provide a description of the land use requirements during both the construction and operational phases as well as the plant machinery anticipated to be used. It is also important that the ES clearly identifies and distinguishes areas of land which are required either permanently or on a temporary basis.
- 2.3.8 Construction compounds and haul roads are referenced throughout the Scoping Report but are not detailed in the Proposed Development description. The ES should adequately detail the location, duration and extent of these features and factor them into the assessments undertaken. The ES should detail how their locations and use have been decided through the design stage where relevant, including reference to alternatives considered, where relevant.
- 2.3.9 Scoping Report paragraphs 2.4.34 to 2.4.35 state that lighting is only currently proposed at Easton Lane and that it is not currently anticipated to light the proposed junction or associated slip roads. Should the Applicant decide that lighting is required the ES should assess any impacts associated with lighting, such as light spill, as part of the relevant aspect assessments presenting evidence as to how this has been taken into account.
- 2.3.10 Diversions and closures of roads are listed to be required throughout in the construction phase. The ES should contain a full explanation of such closures and diversions, including whether they are temporary or permanent, and associated impacts should be fully assessed. This should also include any closures or diversions to Public Footpaths or Rights of Way.

### **Alternatives**

- 2.3.11 The EIA Regulations require that the Applicant provide 'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'.
- 2.3.12 The Inspectorate acknowledges the Applicant's intention to consider alternatives within the ES. The Inspectorate would expect to see a discrete section in the ES that provides details of the reasonable alternatives studied and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects.

### **Flexibility**

- 2.3.13 The Inspectorate notes the Applicant's desire to incorporate flexibility into their draft DCO (dDCO) and its intention to apply a Rochdale Envelope approach for this purpose. Where the details of the Proposed Development cannot be defined precisely, the Applicant will apply a worst-case scenario. The Inspectorate

welcomes the reference to Planning Inspectorate Advice Note nine 'Using the 'Rochdale Envelope'<sup>1</sup> in this regard.

- 2.3.14 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the Proposed Development have yet to be finalised and provide the reasons. At the time of application, any Proposed Development parameters should not be so wide-ranging as to represent effectively different developments. The development parameters should be clearly defined in the dDCO and in the accompanying ES. It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the Proposed Development in the ES must not be so wide that it is insufficiently certain to comply with the requirements of Regulation 14 of the EIA Regulations.
- 2.3.15 It should be noted that if the Proposed Development materially changes prior to submission of the DCO application, the Applicant may wish to consider requesting a new scoping opinion.

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<sup>1</sup> Advice Note nine: Using the Rochdale Envelope. Available at:  
<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

## 3. ES APPROACH

### 3.1 Introduction

- 3.1.1 This section contains the Inspectorate's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. General advice on the presentation of an ES is provided in the Inspectorate's Advice Note Seven 'Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements'<sup>2</sup> and associated appendices.
- 3.1.2 Aspects/ matters (as defined in Advice Note Seven) are not scoped out unless specifically addressed and justified by the Applicant and confirmed as being scoped out by the Inspectorate. The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report.
- 3.1.3 The Inspectorate has set out in this Opinion where it has/ has not agreed to scope out certain aspects/ matters on the basis of the information available at this time. The Inspectorate is content that the receipt of a Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies to scope such aspects / matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/ matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.
- 3.1.4 The Inspectorate has made effort to ensure that this Scoping Opinion is informed through effective consultation with the relevant consultation bodies. Unfortunately, at this time the Inspectorate is unable to receive hard copy consultation responses, and this may affect a consultation body's ability to engage with the scoping process. The Inspectorate also appreciates that strict compliance with COVID-19 advice may affect a consultation body's ability to provide their consultation response. The Inspectorate considers that Applicants should make effort to ensure that they engage effectively with consultation bodies and where necessary further develop the scope of the ES to address their concerns and advice. The ES should include information to demonstrate how such further engagement has been undertaken and how it has influenced the scope of the assessments reported in the ES.
- 3.1.5 Where relevant, the ES should provide reference to how the delivery of measures proposed to prevent/ minimise adverse effects is secured through dDCO requirements (or other suitably robust methods) and whether relevant consultation bodies agree on the adequacy of the measures proposed.

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<sup>2</sup> Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements and annex. Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

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

- 3.2.1 Sector-specific NPSs are produced by the relevant Government Departments and set out national policy for NSIPs. They provide the framework within which the Examining Authority (ExA) will make their recommendation to the SoS and include the Government's objectives for the development of NSIPs. The NPSs may include environmental requirements for NSIPs, which Applicants should address within their ES.
- 3.2.2 The designated NPS relevant to the Proposed Development is the NPS for National Networks (NPSNN).

## **3.3 Scope of Assessment**

### **General**

- 3.3.1 The Inspectorate recommends that in order to assist the decision-making process, the Applicant uses tables:
- to demonstrate how the assessment has taken account of this Opinion;
  - to identify and collate the residual effects after mitigation for each of the aspect chapters, including the relevant interrelationships and cumulative effects;
  - to set out the proposed mitigation and/ or monitoring measures including cross-reference to the means of securing such measures (eg a dDCO requirement);
  - to describe any remedial measures that are identified as being necessary following monitoring; and
  - to identify where details are contained in the Habitats Regulations Assessment (HRA report) (where relevant), such as descriptions of European sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.
- 3.3.2 The Inspectorate considers that where a DCO application includes works described as 'Associated Development', that could themselves be defined as an improvement of a highway, the Applicant should ensure that the ES accompanying that application distinguishes between; effects that primarily derive from the integral works which form the proposed (or part of the proposed) NSIP and those that primarily derive from the works described as Associated Development. This could be presented in a suitably compiled summary table. This will have the benefit of giving greater confidence to the Inspectorate that what is proposed is not in fact an additional NSIP defined in accordance with s22 of the PA2008.
- 3.3.3 The Scoping Report outlines that the Proposed Development is to improve a major road and is proposed to include road closures and diversions (paragraph 2.4.37), there is potential for significant effects both during construction and operation on sensitive receptors, including both vehicles and their users (for example, individuals and companies) and NMUs. The ES should ensure that

details regarding the location and timings of traffic management including diversions are set out in supporting Figures where appropriate and include methods of any such management measures; effort should be made to agree these with the relevant consultation bodies.

- 3.3.4 Piling is proposed as a potential mitigation measure to minimise the risk of new pathways to aquifer bodies (Scoping Report, paragraph 10.4.3). The ES should provide clarity on the piling methods proposed and explain how such methods can minimise impact pathways. Any potential associated impacts and mitigation measures should be assessed and likely significant effects reported within the relevant Chapter.
- 3.3.5 The Inspectorate notes that the Proposed Development is not anticipated to be decommissioned as it will likely have become an integral part of the national infrastructure. Whilst the Inspectorate agrees with this, the Proposed Development still comprises temporary elements which will inevitably require decommissioning. The ES should include an assessment of any decommissioning works required for temporary elements.
- 3.3.6 Retaining walls are proposed to resolve ground differences across the Proposed Development site. The ES should include a description of the ground level baseline (AOD), any proposed changes to these levels and the methods of construction used to undertake these changes. The ES should assess any significant effects arising from these ground level changes and associated mitigation measures in the relevant Chapters where they are likely to occur.

#### **Baseline Scenario**

- 3.3.7 The ES should include a description of the baseline scenario with and without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.

#### **Forecasting Methods or Evidence**

- 3.3.8 The ES should contain the timescales upon which the surveys which underpin the technical assessments have been based. For clarity, this information should be provided either in the introductory chapters of the ES (with confirmation that these timescales apply to all chapters), or in each aspect chapter.
- 3.3.9 The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the assessment, which clearly distinguishes effects that are 'significant' from 'non-significant' effects. Any departure from that methodology should be described in individual aspect assessment chapters.
- 3.3.10 The ES should include details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

### **Residues and Emissions**

- 3.3.11 The EIA Regulations require an estimate, by type and quantity, of expected residues and emissions. Specific reference should be made to water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases, where relevant. This information should be provided in a clear and consistent fashion and may be integrated into the relevant aspect assessments.

### **Mitigation and Monitoring**

- 3.3.12 Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should also address how any mitigation proposed is secured, with reference to specific dDCO requirements or other legally binding agreements.
- 3.3.13 The ES should identify and describe any proposed monitoring of significant adverse effects and how the results of such monitoring would be utilised to inform any necessary remedial actions.

### **Risks of Major Accidents and/or Disasters**

- 3.3.14 The ES should include a description and assessment (where relevant) of the likely significant effects resulting from accidents and disasters applicable to the Proposed Development. The Applicant should make use of appropriate guidance (e.g. that referenced in the Health and Safety Executives (HSE) Annex to Advice Note 11) to better understand the likelihood of an occurrence and the Proposed Development's susceptibility to potential major accidents and hazards. The description and assessment should consider the vulnerability of the Proposed Development to a potential accident or disaster and also the Proposed Development's potential to cause an accident or disaster. The assessment should specifically assess significant effects resulting from the risks to human health, cultural heritage or the environment. Any measures that will be employed to prevent and control significant effects should be presented in the ES.
- 3.3.15 Relevant information available and obtained through risk assessments pursuant to European Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

### **Climate and Climate Change**

- 3.3.16 The ES should include a description and assessment (where relevant) of the likely significant effects the Proposed Development has on climate (for example having regard to the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. Where relevant, the ES should



describe and assess the adaptive capacity that has been incorporated into the design of the Proposed Development. This may include, for example, alternative measures such as changes in the use of materials or construction and design techniques that will be more resilient to risks from climate change.

### **Transboundary Effects**

- 3.3.17 Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES.
- 3.3.18 The Scoping Report concludes that the Proposed Development is not likely to have significant effects on another European Economic Area (EEA) State and proposes that transboundary effects do not need to be considered within the ES.
- 3.3.19 Having considered the nature and location of the Proposed Development, the Inspectorate is not aware that there are potential pathways of effect to other EEA states but recommends that, for the avoidance of doubt, the ES details any such consideration and assessment.

### **A Reference List**

- 3.3.20 A reference list detailing the sources used for the descriptions and assessments must be included in the ES.

## **3.4 Coronavirus (COVID-19) Environmental Information and Data Collection**

- 3.4.1 The Inspectorate understands government enforced measures in response to COVID-19 may have consequences for an Applicant's ability to obtain relevant environmental information for the purposes of their ES. The Inspectorate understands that conducting specific surveys and obtaining representative data may be difficult in the current circumstance.
- 3.4.2 The Inspectorate has a duty to ensure that the environmental assessments necessary to inform a robust DCO application are supported by relevant and up to date information. Working closely with consultation bodies, the Inspectorate will seek to adopt a flexible approach, balancing the requirement for suitable rigour and scientific certainty in assessments with pragmatism in order to support the preparation and determination of applications in a timely fashion.
- 3.4.3 Applicants should make effort to agree their approach to the collection and presentation of information with relevant consultation bodies. In turn the Inspectorate expects that consultation bodies will work with Applicants to find suitable approaches and points of reference to allow preparation of applications at this time. The Inspectorate is required to take into account the advice it receives from the consultation bodies and will continue to do so in this regard.

### **3.5 Confidential and Sensitive Information**

- 3.5.1 In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to personal information specifying the names and qualifications of those undertaking the assessments and / or the presence and locations of rare or sensitive species such as badgers, rare birds and plants where disturbance, damage, persecution or commercial exploitation may result from publication of the information.
- 3.5.2 Where documents are intended to remain confidential the Applicant should provide these as separate documents with their confidential nature clearly indicated in the title and watermarked as such on each page. The information should not be incorporated within other documents that are intended for publication or which the Inspectorate would be required to disclose under the Environmental Information Regulations 2004.
- 3.5.3 The Inspectorate adheres to the data protection protocols set down by the Information Commissioners Office<sup>3</sup> . Please refer to the Inspectorate's National Infrastructure privacy notice<sup>4</sup> for further information on how personal data is managed during the Planning Act 2008 process.

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<sup>3</sup> <https://ico.org.uk>

<sup>4</sup> <https://infrastructure.planninginspectorate.gov.uk/help/privacy-notice/>

## 4. ASPECT BASED SCOPING TABLES

### 4.1 Heat and Radiation

(Scoping Report Section 5.1.14)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.1.1	5.1.14	Heat and Radiation impacts	<p>Scoping Report paragraph 5.1.15 states that this matter can be scoped out as the Proposed Development is a highways scheme and therefore it is not anticipated that there would be any significant sources of heat or radiation during construction or operation and has therefore been scoped out of the ES.</p> <p>The Inspectorate is content to scope this aspect out on this basis.</p>

ID	Ref	Other points	Inspectorate's comments
4.1.2	N/A	N/A	N/A

## 4.2 Air Quality

(Scoping Report Section 6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.2.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment

ID	Ref	Other points	Inspectorate's comments
4.2.2	6.2.4 to 6.2.7 and 6.2.9	Data supporting baseline characterisation	<p>The Scoping Report states that DEFRA background mapping for Winchester City have been downloaded and reviewed and all concentrations of air pollution are below air quality thresholds, yet this data is not provided. Additionally, in paragraph 6.2.9 it states that for the most sensitive habitats at designated sites, the predicted background NO2 rate is above the critical load for the River Itchen SSSI and SAC and below for St Catherine's Hill SSSI but these data are not presented.</p> <p>The ES should present the data supporting baseline characterisation.</p>
4.2.3	6.1	Study area	<p>The study area is proposed to be determined in line with The Design Manual for Roads and Bridges LA 105 Air Quality guidance; this includes defining the Affected Road Network (ARN) and identifying sensitive receptors within 200m of the ARN.</p> <p>The Applicant should make effort to agree the study area with the relevant consultation bodies and ensure that all roads potentially impacted by the Proposed Development, for example, as a result of road diversions or other traffic management measures, are used to determine the study area.</p>

ID	Ref	Other points	Inspectorate's comments
4.2.4	6.2.8 and 6.2.9	PM <sub>2.5</sub> and PM <sub>10</sub> baseline conditions for designated sites	<p>Scoping Report paragraphs 6.2.8 to 6.2.9 present a baseline of NO<sub>x</sub> and NO<sub>2</sub> concentrations for designated sites but not for PM<sub>2.5</sub> or PM<sub>10</sub>. No reasoning is provided for this omission.</p> <p>The ES should characterise all baseline pollutants and assess their effects on receptors where they have potential to cause significant effects or explain why this is not necessary/achievable.</p>
4.2.5	Table 6.3	NO <sub>2</sub> concentration baseline data	<p>The data presented in Table 6.3 displays NO<sub>2</sub> concentrations at monitored locations during 2013, 2014, 2016 however, the NO<sub>2</sub> is presented as one figure rather than for each year. The ES should be clear in its presentation of baseline data as to what is being represented, for example, if it is an average of the three years or the worst-case figure etc.</p>
4.2.6	6.3.1, Tables 6.6 and 6.7 and 6.10	Construction dust risk potential	<p>Scoping Report Table 6.6 and 6.7 present criteria used to determine the construction dust risk of the Proposed Development which is dependent on the scale of the proposed scheme and the distance of receptors to the construction activities. This risk level will then be used to inform the appropriate level of mitigation required.</p> <p>The ES should explain how these criteria will be applied to the Proposed Development and how the worst-case scenario will be assessed in terms of construction dust impacts. This may include consideration of the duration, timing, location and plant machinery used for construction.</p>
4.2.7	6.3.3	Operational impacts of PM <sub>2.5</sub>	<p>Scoping Report paragraph 6.3.3 states that during operation, the Proposed Development will cause impacts from PM<sub>10</sub>, NO<sub>2</sub> and NO<sub>x</sub> emissions but there is no explanation as to why PM<sub>2.5</sub> will not cause impacts. The ES should include an assessment of all potential emissions as a result of the Proposed Development or provide justification as to why no assessment is required.</p>

ID	Ref	Other points	Inspectorate's comments
4.2.8	Table 6.9	Guideline bands for judgement of significant effects	<p>Where criteria are used to determine significant effects, the Applicant should ensure that the definition is clear. In Table 6.9, whilst the figures are only guideline bands, the number of receptors cross from one definition to another, for example, if there were 10 receptors with worsening air quality objectives, it remains unclear whether they would be allocated a large or medium magnitude of change as 10 is in both categories.</p> <p>Whilst this is in line with DMRB guidance, the ES should justify the category allocated where there is overlap.</p>
4.2.9	6.6.27	Mitigation	<p>To ensure the most appropriate mitigation measures are proposed/employed to reduce any potential significant effects, the Applicant should consult with and agree upon such measures with the relevant consultation bodies.</p>
4.2.10	6.3.2 and 6.5.1	Impacts on local air quality	<p>Scoping Report paragraph 6.3.2 states that traffic management measures during the construction period could lead to impacts on local air quality, yet this is contradicted in paragraph 6.5.1 where it states impacts on local air quality are not anticipated.</p> <p>Based on these contradictory statements in relation to anticipated effects from changes in Air Quality. The Inspectorate considers that the ES should be consistent in presenting the effects.</p>

## 4.3 Cultural Heritage

(Scoping Report Section 7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.3.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment

ID	Ref	Other points	Inspectorate's comments
4.3.2	7.1.3, 7.3.9	Zone of Theoretical Visibility (ZTV)	<p>Scoping Report paragraph 7.1.3 states that a Zone of Theoretical Visibility (ZTV) has not yet been established.</p> <p>The ES should define the ZTV extent, the location of representative viewpoints, and specific heritage assets where detailed setting studies are required and make effort to agree the approach with the relevant consultation bodies.</p>
4.3.3	7.1.3	Standards for desk-based assessments	<p>Study areas are proposed to be based on standards for desk-based assessments produced by the Chartered Institute for Archaeologists (CIfA).</p> <p>The Inspectorate notes this and considers that other relevant guidelines should be referenced in the ES, where appropriate, such as <i>The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3</i> (2nd edition) by Historic England (2017), <i>Statements of Heritage Significance: Analysing Significance in Heritage Assets</i> by Historic England (2019), and <i>Standards for Archaeological Desk-based Assessments (DBA)</i> by Winchester City Council (n.d.).</p>
4.3.4	7.2.3–7.2.4	Historic aerial photographs	The Scoping Report notes that the Winchester Historic Environment Record (WHER) has been consulted for relevant data, but that due to

ID	Ref	Other points	Inspectorate's comments
			<p>the COVID-19 pandemic the Historic England Archives in Swindon is closed to the public and as of September 2020 is not available to consult historic aerial photographs. Several aerial photographs were viewed at the Hampshire Record Offices.</p> <p>The Planning Inspectorate understands these limitations, but also reminds the Applicant that the Winchester HER also holds a collection of historic aerial photographs that might be accessible.</p>
4.3.5	7.2.3– 7.2.12	Referencing data used in the assessment	<p>Paragraph 7.2.6 states that the location of cultural heritage assets derives from Historic England's National Heritage List for England which is listed in the consulted sources paragraph of consulted sources (7.2.3). However, other descriptions of the baseline environment do not reference where the information has been sourced, for example, paragraphs 7.2.7 and 7.2.19 for archaeological and historic landscape baselines.</p> <p>The ES should appropriately reference data used within the assessment and their sources.</p>
4.3.6	7.2.16	Non-designated built heritage assets and locally listed buildings	<p>The Scoping Report notes that in addition to designated built heritage assets there are likely to be non-designated built heritage assets or locally listed buildings within the study areas. Any such assets considered to be potentially significantly affected by the Proposed Scheme will be included within assessment.</p> <p>The ES should describe how these assets will be identified and assessed in the ES.</p>
4.3.7	7.3.2	Sensitivity of further archaeological remains	<p>Scoping Report paragraph 7.3.2 states that previous archaeological investigations demonstrated that whilst the majority of the archaeological remains within the red line boundary have already been removed, there is potential for further archaeological deposits to be present beyond previously investigated areas and that these could</p>



ID	Ref	Other points	Inspectorate's comments
			<p>be of medium or of high value/sensitivity. This contradicts an earlier statement in paragraph 7.2.12 that although previous construction work had not substantially diminished the potential for archaeologically significant remains to be present within the red line boundary the value/sensitivity of these particular remains is considered to be low.</p> <p>The ES should be consistent in its assessment and explain how and where assumptions, professional judgement and sources underpin the assessment.</p>
4.3.8	7.3.7–7.3.8, 7.4.3 and 7.5.1	Impacts from vibration and compaction	<p>Whilst Scoping Report paragraph 7.3.8 acknowledges that the setting and value/sensitivity of cultural heritage receptors may be indirectly affected by the Proposed Development in terms of vibration, compaction, changes in the water table and soil saturation has not been included and all impacts have potential to directly affect receptors i.e. vibration physically damaging a receptor preserved <i>in situ</i> and the short, medium and long term implications of soil saturation on those preserved <i>in situ</i>.</p> <p>The ES should include an assessment of both direct and indirect impacts from vibration, compaction, changes in the water table (due to changes in runoff from the Proposed Development) and soil saturation on cultural heritage receptors as a result of the Proposed Development where significant effects are likely to occur.</p>
4.3.9	7.4.5	Ongoing design changes	<p>Scoping Report paragraph 7.4.5 states that as details become available and if significant adverse impacts are identified, consultation on potential impacts and mitigation will be carried out with the Winchester City Council Conservation Officer, the SDNPA, Historic England and the Hampshire Garden Trust. This is a somewhat <i>ad hoc</i> approach, and consultation should be ongoing rather than just when potentially significant effects are identified.</p>

ID	Ref	Other points	Inspectorate's comments
			<p>The Applicant should make effort to undertaken ongoing consultation with the relevant consultation bodies and use information that derives from this to inform the assessment where appropriate.</p>
4.3.10	7.5.1	Residual effects	<p>Scoping Report paragraph 7.5.1 states that it is unlikely that there will be residual effects upon buried archaeological remains within the red line boundary following construction of the Proposed Development. Any remains within the impact zone will be removed during the construction phase following suitable archaeological mitigation which will preservation by record.</p> <p>The Inspectorate cautions against any premature conclusions given that it may be decided to preserve some archaeological remains <i>in situ</i> which could then be subject to potential effects from vibration, compaction, or dewatering. The ES should determine whether receptors may be preserved <i>in situ</i> and assess any effects as a result of this where they are likely to be significant.</p>
4.3.11	7.5.5	Areas for potential excess spoil management	<p>The Inspectorate would like to see more detailed consideration of areas proposed for spoil management and storage within the ES, and these areas must be evaluated in order to establish the presence, nature, and date of any archaeological remains and potential susceptibility to damage from compression. Measures including the use of geotextile membrane and/or ground protection mats below stockpiled soil may also need to be considered within the ES.</p>

## 4.4 Landscape and Visual

(Scoping Report Section 8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.4.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment

ID	Ref	Other points	Inspectorate's comments
4.4.2	8.1.1	Study area	<p>As the Zone of Theoretical Visibility (ZTV) is not yet established there is no justification that the study area of 3km north and south and 2km east and west is appropriate.</p> <p>The ES should define and justify the study area based on the Zone of Theoretical Visibility and extent to which significant effects are likely to occur. This may also introduce new viewpoint locations which the ES should identify and assess any likely significant effects where they are likely to occur.</p>
4.4.3	8.2.4, Table 8.1	Abbots Worthy House and Garden	<p>Scoping Report Table 8.1 states that "There are no parks and gardens listed on the Register of Parks and Gardens of Special Historic Interest (RHPG) located within 500m of the Proposed Scheme."</p> <p>Abbots Worthy House and Garden is considered a heritage asset by both the Hampshire Inventory of Historic Parks, Gardens and Public Green Space and The South Downs National Park Strategic Housing Land Availability Assessment (2014). Considering the location of Abbots Worthy Park is only c. 15m to the south-east of one part of the red line boundary, the ES should include Abbots Worthy House and Garden as a receptor and assess any potential significant effects</p>

ID	Ref	Other points	Inspectorate's comments
			as a result of the Proposed Development where they are likely to occur.
4.4.4	8.2.4, Table 8.1, 8.6.16	Landscape statutory designations, perceptual aspects, and Dark Sky standards	<p>The Scoping Report (Page 90, Table 8.1 notes that in 2016 the SDNP became the world's 13th International Dark Sky Reserve (IDSR). Paragraph 8.6.16 later states that there will be an assessment of the effects on the night-time environment and the SDNP's dark skies in relation to the SDNP's Dark Skies Reserve status.</p> <p>The ES should assess the potential significant effects from night-time/winter lighting of the Proposed Development during its construction and operation where they are likely to occur.</p>
4.4.5	8.2.4, Table 8.1	Landscape character	<p>Scoping Report Table 8.1 states that Hampshire County Council has produced an Integrated Landscape Character Assessment (Hampshire County Council, 2012), within which the Proposed Development falls, in part, within Character Area 3c: Itchen Valley. The only key characteristics of Character Area 3c with the potential to be affected by the Proposed Scheme is that it provides a setting to Winchester.</p> <p>The Inspectorate considers that it is premature to conclude that the key characteristic of the setting to Winchester is the only characteristic potentially affected by the Proposed Scheme, and this also misrepresents the original document. The Hampshire County Integrated Character Assessment for the Itchen Valley also notes that the Itchen Valley has "An extremely rich built heritage and setting to Winchester and developed valley sides in lower reaches" (Hampshire County Council 2012: 4). It thus has a rich built heritage in its own right and is not simply a setting for Winchester. Therefore, the ES should include an assessment of effects on landscape character for the Itchen Valley as a receptor in its own right where significant effects are likely to occur.</p>

ID	Ref	Other points	Inspectorate's comments
4.4.6	8.2.8–8.2.9, 8.2.10– 8.2.11	Visual receptors	<p>The Scoping Report notes that the list of landscape receptors will be agreed with the relevant consultation bodies.</p> <p>The list of visual receptors in Para 8.2.9 mentions those using public rights of way and areas for recreational purposes and people travelling in vehicles; but omits effects on people who live and/or work within or adjacent to the Proposed Development and open access land. Effects on people are later mentioned in paragraph 8.2.11, but it is unclear why they are related to a subsidiary position and not considered together with other receptors. The ES should define and assess significant effects on all sensitive receptors where they are likely to occur and effort should be made to agree the approach with the relevant consultation bodies.</p>
4.4.7	8.2.10, Table 8.2	Proposed view locations	<p>Proposed view locations are set out in Scoping Report Table 8.2 but no photomontages, 3D models, wireframe images, and/or Accurate Visual Representations of the Proposed Development are provided. The ES should include some or all of these visual examples. Such visual impact assessment within the ES should assess not just views from identified locations or receptors, but also views to them where significant effects are likely to occur.</p>
4.4.8	8.3.3	Key impacts	<p>Key impacts are listed in Scoping Report paragraph 8.3.3 but do not consider potential effects on topography, agricultural land, recreation and enjoyment and cumulative effects with other development.</p> <p>The ES should list all key impacts and assess them where significant effects are likely to occur.</p>
4.4.9	8.4.5	Tree survey and impacts to trees	<p>The Planning Inspectorate welcomes a detailed tree survey to determine the arboricultural constraints relevant to the Proposed Development, and that a tree protection strategy will inform elements of the final design.</p>

ID	Ref	Other points	Inspectorate's comments
			Mitigation proposed in the ES should account for changes in vegetation and foliage between winter and summer months. The ES should also assess significant effects of the Proposed Development on the setting of trees and woodland where they are likely to occur
4.4.10	8.4.7– 8.4.13	Mitigation	Paras 8.4.7–8.4.13 outline some mitigation and enhancement measures for the operation of the Proposed Development; effort should be made to agree any mitigation measures with the relevant consultation bodies to ensure that the measures are appropriate. The ES should include a full description of the proposed measures and indicate how these measures will be implemented, secured and their influence on the assessment of significant effects.
4.4.11	8.6.3	Methodology	The Scoping Report lists the 2013 <i>Guidelines for Landscape and Visual Impact Assessment</i> (3rd Edition) by The Landscape Institute and Institute of Environmental Management and Assessment (IEMA) as guidance used to inform the assessment. The Inspectorate encourages the Applicant to take account of more recent guidance such as <i>Visual Representation of Development Proposals: Technical Guidance Note 06/19</i> (Landscape Institute 2019), and <i>Infrastructure: Technical Guidance Note 04/20</i> (Landscape Institute 2020), where relevant.
4.4.12	8.6.19, Tables 8.3– 8.8	Receptor sensitivity	<p>The Scoping Report outlines how receptor sensitivity, magnitude of impact and evaluation of the significance of landscape and visual effects arising from the Proposed Development will be categorised using typical criteria tables from the <i>Design Manual for Roads and Bridges LA107 Landscape and visual effects</i> (Highways England 2020)..</p> <p>The ES should explain how sensitivity and impact magnitude are applied in relation to the guidance and explain how and where</p>

ID	Ref	Other points	Inspectorate's comments
			assumptions, professional judgement and sources underpin the assessment.

## 4.5 Biodiversity

(Scoping Report Section 9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.5.1	Section 9.8, Table 9.3, and 9.5.3 in Section 9.5	Scope – 'elements' included versus specific receptors excluded	<p>The text associated with Scoping Report Table 9.3 states that 'no elements' are to be scoped out for Biodiversity. The Table is very limited in detail and does not identify specific ecological receptors or types of anticipated impact or resulting effects.</p> <p>Contrastingly, Paragraph 9.53 does mention a specific receptor – Mottisfont Bats SAC, and states that no likely significant effects were concluded, with reference to the 'Stage 1 HRA'. It does not provide any justification or clarify if the ES will include this information.</p> <p>Section 9.5 goes on to identify the River Itchen SSSI and Easton Down Site of Importance for Nature Conservation (SINC) as well as some other features as being potentially subject to significant effects, although these are discussed in very general terms. Not all receptors identified in the Biodiversity section of the Scoping Report are mentioned in this section nor any reason given for this.</p> <p>For clarity, the Inspectorate agrees that none of the ecological features/receptors described in the Scoping Report can be scoped out. The ES must, as indicated in Paragraph 9.6.7, identify and all impact-effect pathways and assess the significance of effects. The ES should characterise impacts (i.e. describe their magnitude, extent, duration and timing, reversibility, and whether positive or negative) and justify the conclusions reached regarding the residual significant effects. The ES may draw on the conclusions of the HRA material to support such conclusions.</p>



ID	Ref	Other points	Inspectorate's comments
4.5.2	5.1.36	Reporting of intra-project effects on the River Itchen system in a standalone section.	It is for the Applicant to determine the most appropriate way of presenting this assessment. However, the Inspectorate agrees that a standalone section may aid clarity over the likely effects on this sensitive feature and considers that it may also aid co-ordination with other related assessments i.e. the Habitats Regulations Assessment and Water Framework Directive assessment referred to in Paragraph 5.1.27.
4.5.3	9.2.10, Figure 9.1	Plan of statutory and non-statutory designated sites	The Inspectorate welcomes the intended inclusion of plans in the ES. The Inspectorate considers that labelled plans showing the locations in relation to the Proposed Development of all designated sites described and assessed in the ES should be included, not solely those within 2km as indicated in the Scoping Report.
4.5.4	9.4.3	Mitigation measures	The Inspectorate welcomes the intention to include information on how embedded and essential mitigation will be delivered within the ES. The ES must clearly explain all mitigation measures applied to the assessment of significant residual effects and specify how each measure will be secured.
4.5.5	9.4.4	Detailed design	If the assessments in the ES rely on specific aspects of project design to be agreed with stakeholders post-consent, the ES should indicate the stakeholders involved, the mechanism for the process, and how it will be legally secured e.g. by DCO requirement.
4.5.6	9.4.5	First iteration EMP – mitigation strategies for known important ecological receptors	The Inspectorate understands from the Scoping Report that specific mitigation for these receptors will sit alongside more general project-wide mitigation measures in the Environmental Management Plan (EMP). The Inspectorate welcomes this approach and encourages the Applicant to engage with relevant stakeholders to agree these measures as far as possible in advance of the proposed DCO

ID	Ref	Other points	Inspectorate's comments
			application. Clear cross-references should be provided in the ES to the EMP and any other relevant application documents.
4.5.7	Table 9.1	Freshwater fish	The Scoping Report states that no more survey work is proposed to augment the desk study information, which relates to the River Itchen. It is not clear if any other water features are affected by the Proposed Development which could support notable fish species. If so, the Applicant should consider if further survey work is required and seek advice from relevant consultees in this regard. The Inspectorate would expect the ES to contain this information as part of a full explanation the assessment undertaken.
4.5.8	9.6.10	Biodiversity Net Gain (BNG)	The Inspectorate notes the intention to incorporate BNG principles into the design of the Proposed Development and how this will be addressed in the ES. The Inspectorate advises the Applicant to differentiate clearly in the ES between works associated with BNG and works which are necessary to deliver essential ecological mitigation on which the assessment in the ES relies. Details and methodologies of both ecological mitigation and BNG should be described in the ES.

## 4.6 Geology and Soils

(Scoping Report Section 10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.6.1	Table 10.8	Effects on geology as a valuable resource i.e. sterilisation of mineral resources	The Inspectorate agrees that this can be scoped out of the geology and soils assessment as it is proposed to be included in the Material Assets and Waste assessment in the ES.
4.6.2	Table 10.8	Effects on geology and designated geological sites	The Scoping Report did not identify any designated geological or geomorphological sites or features of conservation value in the immediate area affected by the Proposed Development.  The Inspectorate agrees to scope out an assessment of effects on geology and designated geological sites on this basis.

ID	Ref	Other points	Inspectorate's comments
4.6.3	14.1.3 and section 10.1	Study area	The proposed assessment includes impacts to surface waters. The Road Drainage and the Water Environment Chapter of the Scoping Report proposes a study area of the red line boundary of the Proposed Development plus a 500m buffer; this is based on hydraulic connectivity to the Proposed Development site.  The study area for the Geology and Soils Chapter proposes the red line boundary of the Proposed Development plus a 250m buffer. The Inspectorate considers that these two study areas do not align and requests that the ES either explains the reasoning as to why they are different or apply the most appropriate study area to both.

ID	Ref	Other points	Inspectorate's comments
4.6.4	10.2.7, 10.2.10	Supporting Figures	<p>The ES should supply a Figure depicting the location of receptors and geological elements within the study area (e.g. historic landfills, chalk pits, aquifers, source protection zones (SPZs), abstraction sites, rivers and flood plains etc.) in relation to the Proposed Development to enable understanding of potential impacts and effects.</p> <p>This should also be used in the ES to support scoping out potential impacts such as historic landfill sites that are too far from the Proposed Development to cause an impact (paragraph 10.2.10); no distance or visual aid is provided to support this statement.</p>
4.6.5	10.2.2 to 10.2.37	Ground investigations and further surveys	<p>A number of further surveys are proposed to be undertaken between paragraphs 10.2.2 and 10.2.37 to inform the baseline.</p> <p>Any surveys undertaken to inform the baseline and the assessment in the ES should be appended to the relevant ES Chapter.</p>
4.6.6	Tables 10.2 and 10.3	Receptor sensitivity	<p>The definition and justification of receptor sensitivity remains unclear; for example, Scoping Report Table 10.2 defines residential receptors as 'medium' sensitivity, yet it is defined as 'very high' sensitivity in Table 10.3.</p> <p>The ES should define and justify receptor sensitivity in line with the relevant guidance and/or consultation and ensure that this is consistent throughout the ES assessment.</p>
4.6.7	Section 10.4	Construction activities - Piling	<p>Whilst construction activities are not currently confirmed, paragraph 10.4.3 anticipates that piling may be undertaken. Piling creates pathways for contamination.</p> <p>The ES should assess any potential contamination impacts as a result of piling and secure specific, appropriate mitigation measures agreed through consultation with the relevant statutory bodies including mitigating potential bentonite breakouts where relevant.</p>

ID	Ref	Other points	Inspectorate's comments
4.6.8	2.4.37 to 2.4.42, 10.3.3, Table 10.5 and section 10.4	Release of carbon and impacts to land receiving excavated soil	Scoping Report Paragraph 10.3.3 proposes that impacts to soils are to be included in the Geology and Soils assessment of the ES and the quantities will be defined in the design stage (determined in Chapter 11, Materials and Waste). Impacts from excavated soils should be included in the ES assessment where significant effects are likely to occur, including impacts from the release of carbon and on the land receiving the excavations which should be identified in the ES.

## 4.7 Minerals and Waste

(Scoping Report Section 11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.7.1	Table 11.11 and 11.3.3	Materials consumption and waste generation and management during operation	<p>During operation, the quantity of materials used and waste produced as a result of the Proposed Development is anticipated to be small due to the nature of the development. The Inspectorate agrees that impacts associated with the consumption of material resources, site arisings and waste production during operation is unlikely to result in significant effects.</p> <p>However, the Inspectorate considers that this matter should be considered where likely significant effect may occur.</p>

ID	Ref	Other points	Inspectorate's comments
4.7.2	Table 11.7	Minerals safeguarding area and peat resources	The ES should provide a Figure locating any mineral safeguarding areas and/or peat deposits within the study area to enable understanding of potential impacts on these receptors.
4.7.3	Table 11.6	Mitigation	The Inspectorate is content with the embedded mitigation measures set out in Table 11.6. The proposed Materials Management Plan is included during the construction phase; this should be consulted and agreed upon with the relevant bodies before being implemented during construction. The Applicant should endeavour to agree mitigation measures, both embedded and additional, with the relevant consultation bodies and reference any such consultation in the ES.

ID	Ref	Other points	Inspectorate's comments
4.74	11.6.6	Sourcing of materials	Where the materials required to construct the Proposed Development will be sourced and transported from and their method of transportation should be included in the assessment of significant effects.
4.75	10.3.1.	Impacts from imported materials and storage of materials on site	Materials may be required to be imported to the site for construction and also there will be stored materials on site i.e. spoil. The ES should include an assessment of the importation and/or storage of these materials (e.g. leachate impacts) where significant effects are likely to occur. Details on mitigation measures to prevent/avoid such impacts should be included and secured in the Application.
4.76	Chapter 11	Potential for existing contamination	<p>The construction phase of the Proposed Development has the potential to generate road planings/waste which may contain coal tars. The ES does not consider such arisings during demolition and construction.</p> <p>Such materials are classified as hazardous waste and should be dealt with accordingly. The ES should assess impacts associated with these materials where significant effects are likely to occur.</p>

## 4.8 Noise and Vibration

(Scoping Report Section 12)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.8.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment

ID	Ref	Other points	Inspectorate's comments
4.8.2	Chapter 12	Diversion routes	Diversion routes and potential traffic flows are not yet determined in the Scoping Report. The ES should locate and describe any traffic management measures and explain any subsequent changes in traffic flow; the ES should report any noise impacts and effects that might derive from this.
4.8.3	12.2.6	Timing of noise surveys	Scoping Report paragraph 12.2.6 states that the extent and locations for baseline sound monitoring will be agreed with the LPA in advance. The duration and timings of the surveys should also be agreed with the LPA to ensure that they are representative.
4.8.4	Chapter 12	Calculation area and study area	<p>The Scoping Report refers to a scoping area and calculation area throughout Chapter 12, but these are not defined and it is unclear whether they are the same or different areas. Additionally, Table 12.1 provides a list of sensitive receptors identified as being located within the calculation area (paragraph 12.2.9) but since it is not currently defined, the Inspectorate cannot have confidence that this is a complete and accurate list.</p> <p>The ES should explain whether the calculation and study areas are different and if so, how. These areas should be defined based on the ZOI and identified on a supporting Figure and sensitive receptors</p>



ID	Ref	Other points	Inspectorate's comments
			within the study area should be identified in line with the methodology set out.
4.8.5	12.1.1	Inclusion of diverted routes in study area	<p>The study area is proposed to only include diverted routes where full carriageway closures are required during the night suggesting that any other types of diversion, i.e. during the day or partial closures, will not be included in the study area.</p> <p>The ES should define the study area based on the ZOI which should include potential impacts from all forms of traffic management. Effort should be made to agree the study area with the relevant consultation bodies.</p>
4.8.6	12.2.13, 12.6.6 and 12.6.28	Road Investment Strategy (RIS) and Noise Important Areas (NIAs)	<p>The ES should demonstrate how the Proposed Development aligns with the objectives of the RIS and provisions of the Round 3 NIAs, three of which the Proposed Development passes through as illustrated in Scoping Report Appendix 2.1, Figure 2.2.</p> <p>Scoping Report paragraph 2.6.28 says that particular consideration will be given for noise changes at NIAs in terms of magnitude of impact; impact magnitude criteria is set out in Table 12.4 and it is not explained what 'particular consideration' would entail. Where assessment diverges from the methodology the ES should explain and justify how it has changed and for what reason. Effort should be made to agree alternative approaches with the relevant consultation bodies.</p>
4.8.7	12.6.25	Predicted future noise	The ES should include and justify the assumptions they have made in relation to future operation and resulting anticipated noise impacts and effects taking into account changes in vehicle fleet and fuel source, where relevant.

ID	Ref	Other points	Inspectorate's comments
4.8.8	12.7.4	Assumptions and Limitations and worst-case scenario	<p>A number of assumptions are anticipated regarding the number, type, operation and location of plant machinery used for construction.</p> <p>Where these assumptions form the basis of the assessment, a reasonable worst-case scenario should be described, and the ES should explain why it is appropriate. Effort should be made to agree this approach with the relevant consultation bodies.</p>

## 4.9 Population and Health

(Scoping Report Section 13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.9.1	N/A	N/A	No matters have been proposed to be scoped out of the assessment

ID	Ref	Other points	Inspectorate's comments
4.9.2	Section 13.2 and Figure 13.1	Baseline Figure	<p>The only Figure accompanying Chapter 13 of the Scoping Report identifies the study area of the assessment. The sensitive receptors characterising the baseline have been described in section 13.2. It is important to understand the location of the sensitive receptors in relation to the Proposed Development to give context to the assessment of significant effects.</p> <p>The ES should include a Figure depicting the location of sensitive receptors within the study area to support the assessment of likely significant effects.</p>
4.9.3	13.1.4 to 13.1.10	Study area	<p>The proposed study area is up to 2km from the red line boundary of the Proposed Development. Public Health England highlight that the usual walking commute is approximately 2miles and cycling commute up to 3miles therefore the study area does not appear appropriate.</p> <p>The ES should fully justify the study area based on the ZoI.</p>
4.9.4	7.2.4 and Tables 13.4 and 13.5	Accounting for anomalies caused by the COVID-19 pandemic	<p>Some statistics in Chapter 13 of the Scoping Report derive from the Office of National Statistics Annual Population Survey in 2020, for example, Tables 13.4 and 13.5. The COVID-19 pandemic has disrupted the socio-economic activity across the UK throughout 2020.</p>

ID	Ref	Other points	Inspectorate's comments
			<p>The ES should explain how the pandemic may have affected baseline figures deriving from 2020 data and how the baseline, where informed by 2020 data, is representative and appropriate to inform the assessment of significant effects.</p>
4.9.5	Table 13.14	Human Health Significance	<p>A significance matrix is provided at Scoping Report Table 13.14 which combines the sensitivity and impact magnitudes defined in Tables 13.12 and 13.13. Sensitivity and impact magnitude for Human Health are defined differently to other receptors in these tables and the significance matrix will not apply. No other definitive methodology other than a 'qualitative assessment' has been put forward.</p> <p>The ES should clearly set out a methodology by which the significance of effects on Human Health are assessed and determined.</p>
4.9.6	13.7.2 and Table 13.14	Significance terminology	<p>Scoping Report paragraph 13.7.2 states that effect termed moderate or major will be deemed significant however, in the matrix in Table 13.14 effects are termed 'large' and 'very large' rather than 'major'.</p> <p>The ES should use consistent terminology across all the Chapters to avoid any confusion as to the assessment and conclusions of significant effects.</p>

## 4.10 Road Drainage and the Water Environment

(Scoping Report Section 13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.10.1	14.3.2	Assessment of nutrient neutrality	<p>An assessment of nutrient neutrality is proposed to be scoped out on the basis that no new residential development or overnight stays are required for the Proposed Development. The Applicant references Natural England guidance in this respect and WCC's position statement; this guidance and position statement are not referenced therefore it is unclear what information is being referred to.</p> <p>In the absence of more detailed justification and agreement to this approach from Natural England, the Inspectorate cannot agree to scope this out of the ES. The ES should determine where nutrients have potential to enter the water environment as a result of the Proposed Development and assess significant effects where they are likely to occur as a result.</p>
4.10.2	14.2.5	Impact pathway/receptor: Itchen Navigation	<p>The Itchen Navigation located 5km downstream from the site is proposed to be excluded from assessment due to being located too far away from the Proposed Development. It is unclear from the Scoping Report whether this is being scoped out as a receptor or impact pathway.</p> <p>The Itchen Navigation is &lt;5km from the red line boundary and downstream of the River Itchen so this statement appears to be incorrect. Other waterbodies such as the Southampton and Solent Water Special Protection Area are included in the assessment which are located 16km downstream of the Proposed Development. In the absence of a more detailed justification, the Inspectorate therefore,</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>does agree to scope out the Itchen Navigation from the ES assessment.</p> <p>The ES should assess impacts to receptors where significant effects are likely to occur.</p>

ID	Ref	Other points	Inspectorate's comments
4.103	14.1.3	Study area and Figure depicting study area and receptors	<p>The proposed study area is the red line boundary plus a 500m buffer. This is not depicted on a Figure.</p> <p>It is stated that the ES will fully justify and explain the rationale behind adapting the study area during the progression of the design. The ES should explain how the ZoI and hydrological connectivity of the site has informed the study area extent. The ES should include a supporting Figure locating the study area and receptors.</p>
4.104	7.3.3	River Crossings	<p>The Applicant proposes to cross the River Itchen at three locations including new bridge crossings/widening of existing crossings. The details regarding these proposed crossings are limited in the Scoping Report.</p> <p>The ES should include the methods proposed to cross the river including the construction activities, timings and extent. Effort should be made to agree the river crossing solutions with the relevant consultation body and significant effects should be assessed where they are likely to occur.</p>
4.105	10.2.20 and 14.2.18	Groundwater monitoring	<p>Groundwater monitoring has been undertaken across the M3 J9 site since 2019. This data will inform the baseline in terms of groundwater levels, fluctuations and quality. It is stated that it will form part of the</p>

ID	Ref	Other points	Inspectorate's comments
			<p>baseline assessment, but it is unclear what other data will be used to inform the baseline.</p> <p>The ES should explain how the data provides representative information on which to base assessments and make effort to agree the baseline scenario with the EA and any other relevant consultation bodies.</p>
4.10.6	14.2.28 and 14.6.18	River Itchen catchment area, climate change allowances and the Flood Risk Assessment (FRA)	<p>Scoping Report paragraph 14.2.28 states that the River Itchen Flood Modelling (2019) used climate change projection change factors of 35%, 45% and 105% in line with government guidance 'Flood Risk Assessments: Climate Change Allowances' (updated 22 July 2020). However, it is not stated which climate change allowances will be used for the Flood Risk Assessment (FRA).</p> <p>The FRA should define the catchment area of the River Itchen and apply the appropriate climate change allowances in line with government guidance 'Flood Risk Assessment: Climate Change Allowances' to the assessment. Effort should be made to agree the approach to the FRA with the relevant consultation bodies.</p>
4.10.7	14.2.34 to 14.2.38	Extent of Reservoir and groundwater flooding	<p>Scoping Report paragraph 14.2.38 states that the northern extent of the study area is at risk of flooding in the event of a failure of the Old Alresford Pond; it states that this will be similar in extent as river flooding, but the extent is not defined. Additionally, the extent of groundwater flooding is not defined.</p> <p>The ES should define the extent and risk of both groundwater and reservoir flooding to and from the Proposed Development where there is potential for likely significant effects. This should be supported by a Figure.</p>

ID	Ref	Other points	Inspectorate's comments
4.10.8	14.2.41 and 14.3.5	Flood Risk from temporary and permanent sewers/drainage systems	<p>Scoping Report paragraph 14.2.41 states that historic flood events in Winchester record floods between 1997 to 2006 with sources identified as a combination of groundwater, fluvial flooding and foul/combined systems.</p> <p>The FRA submitted to inform the ES should address each of the relevant sources of flooding identified.</p>
4.10.9	14.4.2 to 14.4.7	Piling impacts and mitigation	<p>Whilst impacts as a result of construction activities are proposed to be included in the ES assessment, there is no specific reference to impacts from piling and potential bentonite breakout (piling fluid). The ES should detail the piling methods and locations and potential impacts from these construction activities on the water environment, including groundwater sources.</p> <p>Mitigation should include a plan for the event of a bentonite breakout which should be secured via the DCO; effort should be made to agree the details of the plan with the relevant consultation bodies.</p>
4.10.10	Section 14.4	Mitigation	<p>The Scoping Report identifies that a temporary drainage strategy will be prepared for the construction phase and will be outlined in the ES and secured through the First and Second Iteration Environmental Management Plan (fiEMP and siEMP).</p> <p>Details of both temporary and permanent drainage features should be included in the ES and construction, operational and decommissioning impacts of these features should be assessed in the ES where significant effects are likely. Effort should be made to agree the embedded and additional mitigation measures with the relevant statutory consultation bodies to ensure that they are appropriate.</p>
4.10.11	14.2.25	Water abstraction licences	<p>It is unclear whether impacts to licenced and non-licenced groundwater abstractions will be assessed in the ES. For clarification</p>



ID	Ref	Other points	Inspectorate's comments
			purposes, the ES should identify water abstractions within the study area and assess significant effects where they are likely to occur.

## 4.11 Climate

(Scoping Report Section 15)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.11.1	15.5.4 and Table 15.12	Construction – vulnerability of the Proposed Development to climate change	<p>Due to the short term and temporary nature of construction it is anticipated that climate change will not significantly affect the workforce.</p> <p>The Inspectorate agrees that this matter can be scoped out of the assessment. Where extreme events occur, established procedures should be adhered to, to protect the workforce.</p>
4.11.2	Table 15.12	Decommissioning	<p>The Proposed Development is not anticipating being decommissioned and should decommissioning occur, this would be beyond the period of projected UK Government carbon budgets.</p> <p>The Inspectorate agrees that impacts from decommissioning can be scoped out of the assessment on this basis.</p>

ID	Ref	Other points	Inspectorate's comments
4.11.3	15.2.9	Modelled GHG emission scenarios	<p>Scoping Report paragraph 15.2.9 indicates that the end-user GHG emissions from traffic flows will be modelled using the strategic and affected road network. Modelling is not proposed for the construction phase yet the number of vehicle movements/use of plant machinery and construction timing and extent is currently unknown and could increase the impact on carbon emissions of the Proposed Development as a whole.</p>

ID	Ref	Other points	Inspectorate's comments
			Modelling should be completed for both construction and operational phases of the proposed development. Any modelling should be appended to the ES.
4.11.4	Table 15.7, 15.3.1 and 15.6.12	Movement of soils and release of GHG emissions	<p>Currently the amount of soil to be stripped/moved is unknown. These processes release carbon from the soil which is a carbon store. Additionally, this is not included in Table 15.7 of the Scoping Report as GHG emission sources.</p> <p>The ES should define the amount of soil to be moved and the subsequent carbon emissions from this and assess any significant effects where they are likely to occur.</p>
4.11.5	Table 15.6 and 15.6.6	Assessment of GHG emissions	<p>Table 15.6 of the Scoping Report states that the potential to reduce carbon emissions through operation of the Proposed Development will be explored.</p> <p>The Chapter does not propose to use a transport assessment to inform the assessment of significant effects. Additionally, the government's 'Road to Zero' strategy has committed to stopping the sale of diesel and petrol cars and vans by 2040; this should be taken into account in the assessment.</p> <p>The ES should include a transport assessment and use this to inform the assessment of the potential adverse and/or beneficial significant effects from the release/reduction in carbon emissions.</p>
4.11.6	15.4.2	Mitigation	Where mitigation is proposed to reduce the vulnerability of the Proposed Development to climate change, effort should be made to agree these measures with the relevant consultation bodies to ensure that they are appropriate.

ID	Ref	Other points	Inspectorate's comments
4.11.7	15.6.7 and 15.6.14	Explanation of how professional judgement has been applied to achieve assessment conclusions	<p>Scoping Report paragraph 15.6.7 states that the assessment will only report significant effects where they have a material impact on the ability of the government to meet carbon commitments. Paragraph 15.6.14 then states that any increase in GHG emissions is considered significant in line with IEMA guidance. Assumptions and limitations in section 15.7 include that there is uncertainty surrounding the methodology used to assess impacts to and from climate change.</p> <p>Professional judgement is proposed to determine impact magnitude to inform the significance of effects.</p> <p>The ES should provide a full explanation of how professional judgement has determined the magnitude of impact and subsequently the significance of effects and how this has materially impacted the government's ability to meet carbon commitments to give the Inspectorate confidence in the assessment and its conclusions. The assessment should clearly set out the approach to the assessment of other cumulative projects including other roads schemes.</p>
4.11.8	Table 15.8	Likelihood categories	<p>Scoping Report Table 15.8 lists the likelihood of an extreme event happening based on DMRB guidance. Both the 'low' and 'very low' categories describe the same threshold where an event happens once within 60 years. These categories feed into how the significance of an effect is determined in Table 15.10 of the Scoping Report. The Applicant should explain why a particular likelihood category has been applied referencing professional judgement as appropriate.</p>

## 4.12 Cumulative Effects

(Scoping Report Section 16)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.121	16.3.6 to 16.3.8	Traffic related air quality and noise	<p>As traffic related air quality and noise impacts are already the basis of the air quality and noise assessments, this is not proposed to be assessed as a separate topic in the cumulative chapter.</p> <p>On the basis that traffic modelling accounts for future growth, air quality and noise assessments are considered to be inherently cumulative. Therefore, the Inspectorate agrees with this approach and is content to scope out this matter.</p>
4.122	16.3.11	Climate vulnerability	Vulnerability to climate change is specific to the Proposed Development and will not result in impacts to neighbouring developments and cumulative effects. The Inspectorate is content to scope this matter out of the cumulative assessment on this basis.
4.123	16.3.12	Materials and Waste	The Applicant explains that waste capacity and materials availability are based on future regional demand projections including landfill void capacity and are inherently cumulative. Therefore, cumulative effects from materials and waste are assessed in the individual chapters. On this basis, the Inspectorate is content to scope this matter out.

ID	Ref	Other points	Inspectorate's comments
4.124	Table 16.1	Receptors	It is not made clear which receptors are being referred to where there are potential interrelationships between aspects. For example, 'Residents along the existing Road Network' and 'Residents close to

ID	Ref	Other points	Inspectorate's comments
			the Proposed Scheme' – it is unclear whether these receptors are the same.
4.12.5	Table 16.2	Study areas	In previous aspect reviews in this Scoping Opinion, there have been comments relating to the justification and application of study areas. The ES should assess the cumulative effects based on fully justified study areas from the individual aspect Chapters, unless other justified.
4.12.6	16.3.14	Identification of 'other developments' and long list of developments	Effort should be made to agree the of the list of other developments and relevant aspects for assessment with the Local Planning Authority.

## 5. INFORMATION SOURCES

5.0.1 The Inspectorate's National Infrastructure Planning website includes links to a range of advice regarding the making of applications and environmental procedures, these include:

- Pre-application prospectus<sup>5</sup>
- Planning Inspectorate advice notes<sup>6</sup>:
  - Advice Note Three: EIA Notification and Consultation;
  - Advice Note Four: Section 52: Obtaining information about interests in land (Planning Act 2008);
  - Advice Note Five: Section 53: Rights of Entry (Planning Act 2008);
  - Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements;
  - Advice Note Nine: Using the 'Rochdale Envelope';
  - Advice Note Ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects (includes discussion of Evidence Plan process);
  - Advice Note Twelve: Transboundary Impacts;
  - Advice Note Seventeen: Cumulative Effects Assessment; and
  - Advice Note Eighteen: The Water Framework Directive.

5.0.2 Applicants are also advised to review the list of information required to be submitted within an application for Development as set out in The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009.

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<sup>5</sup> The Planning Inspectorate's pre-application services for applicants. Available from: <https://infrastructure.planninginspectorate.gov.uk/application-process/pre-application-service-for-applicants/>

<sup>6</sup> The Planning Inspectorate's series of advice notes in relation to the Planning Act 2008 process. Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

## APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

**TABLE A1: PRESCRIBED CONSULTATION BODIES<sup>7</sup>**

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Crown Estate Commissioners	The Crown Estate
The Secretary of State for Defence	Ministry of Defence
The National Health Service Commissioning Board	NHS England
Public Health England, an executive agency of the Department of Health	Public Health England
The Health and Safety Executive	Health and Safety Executive
The Environment Agency	The Environment Agency
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England - London and South East
The Forestry Commission	Forestry Commission - South East and London
The Office for Nuclear Regulation (the ONR)	The Office for Nuclear Regulation (the ONR)
The Relevant Highways Authority	Hampshire County Council Highways Authority
The Relevant Strategic Highways Company	Highways England - South East
The relevant Clinical Commissioning Group	NHS West Hampshire Clinical Commissioning Group
The relevant fire and rescue authority	Hampshire Fire and Rescue Service
The relevant police and crime commissioner	Hampshire Police and Crime Commissioner
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Itchen Valley Parish Council Chilcomb Parish Council Headbourne Worthy Parish Council Kings Worthy Parish Council

<sup>7</sup> Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')



**TABLE A2: RELEVANT STATUTORY UNDERTAKERS<sup>8</sup>**

STATUTORY UNDERTAKER	ORGANISATION
The relevant Clinical Commissioning Group	NHS West Hampshire Clinical Commissioning Group
The National Health Service Commissioning Board	NHS England
The relevant NHS Foundation Trust	Leigh House Hospital NHS Foundation Trust
	South Central Ambulance Service Foundation Trust
Railways	Network Rail Infrastructure Ltd
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes England
The relevant Environment Agency	The Environment Agency – south east region
The relevant water and sewage undertaker	Southern Water
The relevant public gas transporter	Cadent Gas Limited
	Energetics Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	ESP Connections Ltd
	Fulcrum Pipelines Limited
	Harlaxton Gas Networks Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Murphy Gas Networks limited

<sup>8</sup> 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)

STATUTORY UNDERTAKER	ORGANISATION
	Quadrant Pipelines Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
The relevant electricity distributor with CPO Powers	Eclipse Power Network Limited
	Energetics Electricity Limited
	Energy Assets Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Leep Electricity Networks Limited
	Murphy Power Distribution Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited
	Southern Electric Power Distribution Plc
National Grid Electricity Transmission Plc	

**TABLE A3: SECTION 43 LOCAL AUTHORITIES (FOR THE PURPOSES OF SECTION 42(1)(B))<sup>9</sup>**

<b>LOCAL AUTHORITY<sup>10</sup></b>
South Downs National Park Authority
Winchester City Council
Basingstoke and Deane Borough Council
Eastleigh Borough Council
East Hampshire District Council
Test Valley Borough Council
Fareham Borough Council
Havant Borough Council
Portsmouth City Council
Hampshire County Council
New Forest National Park Authority
Bracknell Forest Borough Council
Southampton City Council
West Berkshire Council
Wiltshire Council
Wokingham Borough Council
Dorset Council
Bournemouth, Christchurch and Poole Council
Surrey County Council
West Sussex County Council

<sup>9</sup> Sections 43 and 42(B) of the PA2008

<sup>10</sup> As defined in Section 43(3) of the PA2008

## APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

<b>CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:</b>
Basingstoke and Deane Borough Council
Bracknell Forest Council
Dorset Council
East Hampshire District Council
Eastleigh Borough Council
Fareham Borough Council
The Forestry Commission
Hampshire County Council
Havant Borough Council
The Health and Safety Executive
Itchen Valley Parish Council
Kings Worthy Parish Council
The Ministry of Defence
Natural England
The Office of Nuclear Regulation
Public Health England
Royal Mail
The South Downs National Park Authority
Winchester City Council



Emily Park  
The Planning Inspectorate

Our Ref: 20/02938/EN10  
Your Ref: TR010055-000100

18 November 2020

Dear Sir/Madam,

**Location: Junction 9 M3 Basingstoke Hampshire**  
**Proposal: M3 Junction 9 Improvement - EIA Scoping Notification and Consultation**

Thank you for consulting the council on the EIA Scoping Opinion by Highways England relating to works they proposes to undertake at junction 9 of the M3. It is understood that an application is expected to be submitted in 2021. As the proposed development constitutes a national infrastructure project (under the Planning Act 2008) a Development Consent Order is required for the development to proceed, for which PINS are the determining authority.

The improvement site is located within the planning authority boundaries of Winchester City Council, Hampshire County Council and the South Downs National Park Authority. The proposal seeks to widen the M3 at junction 9 to form a four lane motorway to improve access to and from the A34. This will consist of a smaller gyratory roundabout, new walking, cycling and horse riding facilities, connector roads from the new free-flow links to a new gyratory roundabout and improved motorway slip roads.

Previous comments were provided for this scheme in 2019 (our ref: 19/00284/EN10). Following feedback from consultation exercises carried out by Highways England, the scheme has been materially amended as follows:

- Altered and increased Indicative Application Boundary
- New or improved bridge structures over the River Itchen system
- New highways and roundabout configuration

Whilst it is considered that the above amendments do not alter the previous response provided by the planning team (as the site lies outside the borough of Basingstoke and Deane and the impacts would therefore be slight and indirect), it should be noted that the council have commenced work on reviewing the adopted Local Plan. The Local Plan Update will consider the development needs of the borough over the longer term (beyond 2029) and any subsequent impacts on, or requirements for improvements to, the local highway network and mass transit routes. The council will shortly be commissioning relevant transport assessments which will involve consultation with Highways England, as well as Hampshire County Council in their capacity as Highway Authority.

The site is not within Basingstoke and Deane borough, so any impacts would be likely to be slight and indirect. The planning policy team therefore has no comments on the scope of the ES.

If you have any queries or require further information, please do not hesitate to contact Jemma Cox on [REDACTED] or email [REDACTED]

Yours sincerely

Planning and Development Manager

Emily Park  
The Planning Inspectorate

Our Ref: 20/02938/EN10  
Your Ref: TR010055-000100

18 November 2020

Dear Sir/Madam,

**Location: Junction 9 M3 Basingstoke Hampshire**  
**Proposal: M3 Junction 9 Improvement - EIA Scoping Notification and Consultation**

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If you have any queries or require further information, please do not hesitate to contact Jemma Cox on [REDACTED] or email [REDACTED]

Yours sincerely

Planning and Development Manager



EMILY PARK  
ENVIRONMENTAL SERVICES  
CENTRAL OPERATIONS  
TEMPLE QUAY HOUSE  
2 THE SQUARE  
BRISTOL  
BS1 6PN  
Tuesday 17 November 2020

Application CS/20/89049  
Please ask for April Waterman  
Direct dial [REDACTED]  
Working hours [REDACTED]  
Email [REDACTED]

**Planning Act 2008 (as amended) and The Infrastructure Planning  
(Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) -  
Regulations 10 and 11**

**Application No:** CS/20/89049  
**Description:** PINS Consultation to Eastleigh Borough Council as Statutory Consultee: Environmental Statement Scoping Opinion Request by Highways England relating to a prospective application for an Order to grant Development Consent for the M3 Junction 9 Improvement (the Proposed Development).  
**Site:** M3 Junction 9, Land to the North, North East and East of Winchester.

In pursuance of powers under the above Act and in accordance with your letter received on Tuesday 20 October 2020 the Council, as Local Planning Authority, thanks you for your consultation and makes the following comment:

Eastleigh Borough Council (EBC) considers that the Environmental Impact Assessment (EIA) should include a thorough analysis of the impacts of the scheme, in its construction and operational phases, in terms of the physical works, emissions from road traffic, temporary and permanent alteration of surface and ground water, air quality and the noise environment, and consequent effects particularly on human health and on biodiversity, in affected areas within the Eastleigh Borough.

In chapter 6 of the Scoping Report the extent of the study area for air quality assessment is not detailed: instead it is noted that its definition, which will be guided by the also as-yet-unidentified Affected Road Network extent (ARN) "*will be presented in a plan within the Environmental Statement and agreed with statutory bodies*". EBC is keen to see that the air quality study area, when identified, properly

Eastleigh Borough Council, Eastleigh House, Upper Market Street, Eastleigh, Hampshire SO50 9YN

T: [REDACTED] E: [direct@eastleigh.gov.uk](mailto:direct@eastleigh.gov.uk) W: [www.eastleigh.gov.uk](http://www.eastleigh.gov.uk)



encompasses all areas where human health and biodiversity are likely to be affected, including by impacts from traffic management measures during construction (which are also not yet detailed). As it is understood that the construction phase of the Proposed Scheme is estimated to be in the order of two and a half years, the potential for air quality impacts from altered traffic patterns within Eastleigh Borough (not only planned diversions and scheme traffic routing but also likely voluntary driver avoidance of perceived or actual congestion as it becomes evident) should be acknowledged and included in the ES.

Chapter 12, at 12.1.1, notes that the study area in relation to construction noise will only include diversion routes where a project requires full carriageway closures during the night. At 12.1.2 and 5 it is stated that the final study area is not yet known for construction noise and vibration. It is considered that such study area should include routes affected by traffic management measures comprising the diversion of all or selected traffic at any time of day, as well as the planned routing of construction traffic, where this would affect flows on highways in the Eastleigh Borough area. If not scoped into the EIA, an explanation of the omission should be given.

Although the desk study area proposed for Biodiversity (chapter 9) will be set at 10km from the maximum extent of the Indicative Application Boundary (IAB) for European designated sites, and the study area for designated sites covers all areas within 200m of the Affected Road Network (itself an undefined area – see comment above), the survey area used to collect habitat data and for most species surveys is noted as only extending 250m from the IAB. This limited area of survey would not provide baseline data within ecologically sensitive areas of Eastleigh Borough likely to be affected by the Proposed Scheme. At 9.5.1 and 2 the Scoping Report acknowledges that the “*Construction and operation activity of the M3 J9 Improvement has the potential to result in significant effects to designated sites, protected and notable habitats and species*”, including the River Itchen SAC and SSSI. However, the Scoping Report does not make clear over what area of the River Itchen such effects (and mitigation/compensation measures) would be identified. If species and habitat survey data is only collected within a short range of the IAB then this precludes the proper assessment of impacts of the development on the integrity of the designated site downstream of the proposed scheme. The study area for Biodiversity needs to extend beyond the survey areas set out in the Scoping Report particularly in terms of the River Itchen SAC and SSSI within the Eastleigh Borough area.

It is noted that in the earlier Planning Inspectorate Scoping Opinion (adopted March 2019), in the Aspect based scoping tables, at ID 4.4.3, ref 9.2.7 Statutory Designated sites, a similar general point was made: “*The study area for the assessments should be defined by the extent of the likely impact rather than arbitrary limits of distance and the ES should assess all impacts to designated sites where significant effects are likely.*” The revised Scoping Report appears not to have taken this matter on board.



Chapter 14 of the Scoping Report addresses Road Drainage and the Water Environment. At 14.1.2 it states that the groundwater risks associated with habitats and designated areas are scoped separately (and are therefore dealt with) in Chapter 9 – Biodiversity. For the reasons set out above, relating to inadequate geographical extent for the study areas, and a lack of full recognition for potential impacts to be experienced downstream of the IAB (not only within the River Itchen but also the Solent and Southampton Water SPA and Ramsar designations into which it flows) in Chapter 9, it is considered that the Scoping Report underestimates the potential for significant effects on off-site receptors from drainage impacts on the water environment close to the M3 J9 scheme.

It is agreed that the Proposed Scheme would not generate new overnight stays (new accommodation) and on this count would not likely have an effect on the nutrient loading of water entering the Solent & Southampton Water SPA. The loss of or change of activity on agricultural land as a result of the Proposed Scheme may, however, affect the relevant nutrient load on a temporary or permanent basis, depending on the area of agricultural land affected, and the nature, degree and duration of such loss or change. If to be scoped out, the ES should explain this decision with reference to agricultural land.

Thank you again for your consultation.

Yours faithfully

Andy Grandfield  
Head of Housing and Development

Emily Park  
Environmental Services,  
Central Operations,  
Temple Quay House,  
2 The Square,  
Bristol,  
BS1 6PN

South East & London Area Office  
Bucks Horn Oak  
Farnham  
Surrey  
GU10 4LS

[planningconsultationSEL@forestrycommission.gov.uk](mailto:planningconsultationSEL@forestrycommission.gov.uk)

**Area Director**  
Craig Harrison

VIA EMAIL ONLY

Your Ref: TR010055-000100  
Our Ref: 23 NSIP M3 jct 9

Date: 17<sup>th</sup> November 2020

Dear Emily

**Planning Act 2008 (as amended) and The Infrastructure Planning  
(Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) –  
Regulations 10 and 11**

**Application by Highways England (the Applicant) for an Order granting  
Development Consent for the M3 Junction 9 Improvement Project (the  
Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and  
duty to make available information to the Applicant if requested**

Thank you for consulting the Forestry Commission on the Scoping Opinion in your letter dated 20<sup>th</sup> October 2020.

The Forestry Commission is the Government experts on forestry & woodland and a statutory consultee (as defined by Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009)<sup>1</sup> for major infrastructure (Nationally Significant Infrastructure Projects (NSIPs)) that are likely to affect the protection or expansion of forests and woodlands (Planning Act 2008).

As highlighted in the National Planning Policy Framework revised July 2018<sup>2</sup>:  
Irreplaceable habitats include ancient woodland, ancient trees and veteran trees:

Paragraph 175c – *“development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused,*

---

<sup>1</sup> <http://www.legislation.gov.uk/uksi/2009/2264/contents/made>

<sup>2</sup> <https://www.gov.uk/government/collections/revised-national-planning-policy-framework>

*unless there are wholly exceptional reasons and a suitable compensation strategy exists"*

The Forestry Commission has also prepared joint standing advice with Natural England on ancient woodland, ancient trees and veteran trees<sup>3</sup> which we refer you to as it notes that ancient woodland, ancient trees and veteran trees are an irreplaceable habitat, and that, in planning decisions, Plantations on Ancient Woodland Sites (PAWS) should be treated equally in terms of the protection afforded to ancient woodland. It highlights the Ancient Woodland Inventory as a way to find out if woodland is ancient. **Woodland under 2 hectares may not appear on the Ancient Woodland Inventory** but may still have ancient woodland characteristics, so we would suggest that a detailed investigation is undertaken to ascertain whether any additional ancient woodlands exist that may be impacted by the proposed scheme.

The EIA Scoping Report provided by Highways England states that there are no Ancient woodlands within 2km of the site. With reference to the comment above regarding woodland less than 2ha the existing baseline summary would need to be updated, if Ancient Woodland is found. The table should mention Ancient Woodland, Ancient Trees or Veteran Trees being "Irreplaceable Habitats" as per the National Planning Policy Framework. If there isn't any ancient woodland, ancient trees or veteran trees impacted we would expect this to be referenced in the Environmental Statement.

The standing advice provides details on the hierarchy of: avoid impacts, mitigate impacts and compensate as a last resort. This hierarchy could apply to any deterioration to priority woodland, ancient trees and veteran trees during the works. Ancient trees and Veteran trees can be individual trees or groups of trees including within hedgerows.

We are pleased to note that other, non-ancient woodland has been identified, particularly as lowland broadleaved deciduous woodland is a Habitat of Principle Importance.

We note that no veteran trees have been identified. Ancient trees and veteran trees can be individual trees, or groups of trees including within hedgerows<sup>4</sup>. Site investigations for the ES should identify ancient and veteran trees.

Any potential impact on landscape regarding Ancient Woodland, Ancient trees and Veteran trees and other woodland should be included in the Environment Statement.

If there is loss of woodlands it should be included in the compensation package. Opportunities to strengthen and buffer existing woodland and provide connectivity should be considered. New Woodland creation would be extremely positive in buffering

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<sup>3</sup> <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

<sup>4</sup> <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

existing woodland, providing a screening and potentially expanding public access. The appropriate species should be considered to enhance the scheme. It is important that the right trees are planted in the right locations.

The ES should consider the importance of practicing good biosecurity, this includes when sourcing tree stock. Purchasing UK-grown plants can help avoid accidentally introducing pest or diseases on imported stock.

We suggest that a UKFS-compliant Woodland Creation Design Plan is considered for any potential woodland creation habitat proposed in the development; including its long term management to address future management including 'land locked' areas to ensure suitable planting schemes and the appropriate infrastructure is in place, and that woods can be effectively managed (including timber extraction) in the future. The Forestry Commission would welcome the opportunity to be engaged in the planting proposals.

A UKFS-compliant woodland management plan should be undertaken for any woodland management of existing woodland proposals put forward as part of the mitigation package. We note that Highways England intend to draw up a 15-year management plan for the current and to-be-created woodland, and we expect to see this confirmed, in detail, within the ES.

I hope this is of benefit. Please do not hesitate to contact me on the email address above for any further clarifications.

Yours sincerely

Caroline Gooch  
Local Partnerships Advisor

## A summary of Government policy on ancient woodland

[Natural Environment and Rural Communities Act 2006](#) (published October 2006).

**Section 40** – “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”.

[National Planning Policy Framework](#) (published July 2018).

**Paragraph 175** – “*development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists*”.

[National Planning Practice Guidance](#) – Natural Environment Guidance. (published March 2014)

This Guidance supports the implementation and interpretation of the National Planning Policy Framework. This section outlines the Forestry Commission’s role as a non statutory consultee on “*development proposals that contain or are likely to affect Ancient Semi-Natural woodlands or Plantations on Ancient Woodlands Sites (PAWS) (as defined and recorded in [Natural England’s Ancient Woodland Inventory](#)), including proposals where any part of the development site is within 500 metres of an ancient semi-natural woodland or ancient replanted woodland, and where the development would involve erecting new buildings, or extending the footprint of existing buildings*”

It also notes that ancient woodland is an irreplaceable habitat, and that, in planning decisions, **Plantations on Ancient Woodland Sites (PAWS) should be treated equally in terms of the protection afforded to ancient woodland in the National Planning Policy Framework**. It highlights the Ancient Woodland Inventory as a way to find out if a woodland is ancient.

[The UK Forestry Standard](#) (4th edition published August 2017).

Page 23: “Areas of woodland are material considerations in the planning process and may be protected in local authority Area Plans. These plans pay particular attention to woods listed on the Ancient Woodland Inventory and areas identified as Sites of Local Nature Conservation Importance SLNCIs)”.

[Keepers of Time](#) – A Statement of Policy for England’s Ancient and Native Woodland (published June 2005).

**Page 10** “The existing area of ancient woodland should be maintained and there should be a net increase in the area of native woodland”.

[Natural Environment White Paper “The Natural Choice”](#) (published June 2011)

**Paragraph 2.53** - This has a “renewed commitment to conserving and restoring ancient woodlands”.

**Paragraph 2.56** – “The Government is committed to providing appropriate protection to ancient woodlands and to more restoration of plantations on ancient woodland sites”.

[Standing Advice for Ancient Woodland and Veteran Trees](#) (first published October 2014, revised November 2017)

This advice, issued jointly by Natural England and the Forestry Commission, is a material consideration for planning decisions across England. It explains the definition of ancient woodland, its importance, ways to identify it and the policies that are relevant to it.

The Standing Advice refers to an [Assessment Guide](#). This guide sets out a series of questions to help planners assess the impact of the proposed development on the ancient woodland. Summaries of some [Case Decisions](#) are also available that demonstrate how certain previous



planning decisions have taken planning policy into account when considering the impact of proposed developments on ancient woodland.

[Biodiversity 2020: a strategy for England's wildlife and ecosystem services](#) (published August 2011).

**Paragraph 2.16** - Further commitments to protect ancient woodland and to continue restoration of Plantations on Ancient Woodland Sites (PAWS).

## Importance and Designation of Ancient and Native Woodland

### **Ancient Semi Natural Woodland (ASNW)**

Woodland composed of mainly native trees and shrubs derived from natural seedfall or coppice rather than from planting, and known to be continuously present on the site since at least AD 1600. Ancient Woodland sites are shown on Natural England's Inventory of Ancient Woodland.

### **Plantations on Ancient Woodland Site (PAWS)**

Woodlands derived from past planting, but on sites known to be continuously wooded in one form or another since at least AD 1600. They can be replanted with conifer and broadleaved trees and can retain ancient woodland features, such as undisturbed soil, ground flora and fungi. Very old PAWS composed of native species can have characteristics of ASNW. Ancient Woodland sites (including PAWS) are on Natural England's Inventory of Ancient Woodland.

### **Other Semi-Natural Woodland (OSNW)**

Woodland which has arisen since AD 1600, is derived from natural seedfall or planting and consists of at least 80% locally native trees and shrubs (i.e., species historically found in England that would arise naturally on the site). Sometimes known as 'recent semi-natural woodland'.

Other woodlands may have developed considerable ecological value, especially if they have been established on cultivated land or been present for many decades.

## Information Tools – The Ancient Woodland Inventory

This is described as provisional because new information may become available that shows that woods not on the inventory are likely to be ancient or, occasionally, vice versa. In addition ancient woods less than two hectares or open woodland such as ancient wood-pasture sites were generally not included on the inventories. For more technical detail see [Natural England's Ancient Woodland Inventory](#). Inspection may determine that other areas qualify.

As an example of further information becoming available, Wealden District Council, in partnership with the Forestry Commission, Countryside Agency, the Woodland Trust and the High Weald AONB revised the inventory in their district, including areas under 2ha. Some other local authorities have taken this approach.



## Further Guidance

[Felling Licences](#) - Under the Forestry Act (1967) a Felling Licence is required for felling more than 5 cubic metres per calendar quarter. Failure to obtain a licence may lead to prosecution and the issue of a restocking notice.

[Environmental Impact Assessment](#) - Under the Environmental Impact Assessment (Forestry) (England and Wales) Regulations 1999, as amended, deforestation which is likely to have a significant impact on the environment may also require formal consent from the Forestry Commission.

**From:** [Planning Team C](#)  
**To:** [M3 Junction 9](#)  
**Subject:** FW: TR010055 - M3 Junction 9 Improvement - EIA Scoping Notification and Consultation Reg 11  
**Date:** 27 October 2020 15:46:02

---

Good afternoon

Please see the below response from the Highways Team

Kind regards

**Sam Gibbs-Jones**  
**Administrative Officer, Planning Support**  
**Growth and Economy**  
**Dorset Council**



[dorsetcouncil.gov.uk](http://dorsetcouncil.gov.uk)



---

**From:** Kate Tunks <[REDACTED]>  
**Sent:** 27 October 2020 14:49  
**To:** Planning Team C <[REDACTED]> uk>; Hilary Jordan <[REDACTED]>  
<[REDACTED]> uk>; Ewan Wilson <[REDACTED]>  
**Subject:** RE: TR010055 - M3 Junction 9 Improvement - EIA Scoping Notification and Consultation Reg 11

This is the Winchester North junction which is 30 miles from Dorset's eastern border.  
No comments from us.

Hi Ewan – Are BCP making any comment?

Thanks

**Kate Tunks**  
**Service Manager for Infrastructure & Assets**  
**Highways**

**Dorset Council**



[dorsetcouncil.gov.uk](http://dorsetcouncil.gov.uk)



---

**From:** Planning Team C <[redacted]>  
**Sent:** 27 October 2020 13:17  
**To:** Hilary Jordan <[redacted]>; Kate Tunks <[redacted]>  
**Subject:** FW: TR010055 - M3 Junction 9 Improvement - EIA Scoping Notification and Consultation Reg 11  
**Importance:** High

Good afternoon

Please see the below email and attachment

Kind regards

**Sam Gibbs-Jones**  
**Administrative Officer, Planning Support**  
**Growth and Economy**  
**Dorset Council**



[dorsetcouncil.gov.uk](http://dorsetcouncil.gov.uk)



---

**From:** M3 Junction 9 <[M3Junction9@planninginspectorate.gov.uk](mailto:M3Junction9@planninginspectorate.gov.uk)>  
**Sent:** 20 October 2020 10:08  
**Subject:** TR010055 - M3 Junction 9 Improvement - EIA Scoping Notification and Consultation Reg 11

**FAO: Head of Planning**

Dear Sir/Madam,

Please see attached correspondence on the proposed M3 Junction 9 Improvement.

Please note the deadline for consultation responses is 19 November 2020.

Kind regards,

Emily Park (MSc ACIEEM AIEMA)  
EIA Advisor

Major Casework Directorate  
Direct Line: [REDACTED]  
Helpline: 0303 444 5000  
Email: [REDACTED]

Web: <https://infrastructure.planninginspectorate.gov.uk/> (National Infrastructure Planning)

Web: [www.gov.uk/government/organisations/planning-inspectorate](http://www.gov.uk/government/organisations/planning-inspectorate) (The Planning Inspectorate)

Twitter: @PINSgov

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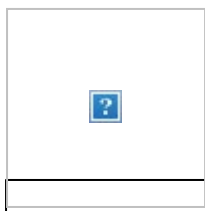


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DPC:76616c646f72



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Winchester, Hampshire SO23 8UD

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Textphone 0300 555 1390  
Fax 01962 847055  
www.hants.gov.uk

Planning Inspectorate  
Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol, BS1 6PN

Enquiries to	Neil Massie	My reference	M3JCT9SCOPING
Direct Line	[REDACTED]	Your reference	TR010055-000100
Date	19 November 2020	Email	[REDACTED]

Sent by email to: [M3Junction9@planninginspectorate.gov.uk](mailto:M3Junction9@planninginspectorate.gov.uk)

**For the attention of Emily Park**

Dear Madam,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11**

**Application by Highways England (the Applicant) for an Order granting Development Consent for the M3 Junction 9 Improvement (the Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested**

Thank you for the opportunity to respond on this EIA Scoping Notification and Consultation (Reg 11) for the M3 Junction 9 Improvement project. The County Council provides the following response in its capacity as the local highway authority, the lead local flood authority, the local minerals and waste planning authority and on behalf of the County Archaeologist.

### **Local Highway Authority**

This development is of a scale for which a full Transport Assessment will be required. This will fully assess the transport and highway impact of the proposed development.

*Director of Economy, Transport and Environment*  
Stuart Jarvis BSc DipTP FCIHT MRTPI

It is recommended that the scope of the EIA is expanded to include an assessment of the proposal on traffic flows on the local highway network. It is expected that the congestion relief resulting from the proposal will influence route choice and therefore traffic flows on particular routes. The EIA will need to consider the impact this has on Air Quality and Noise issues, and any severance resulting from changes to traffic flows on particular routes.

### **Lead Local Flood Authority**

The scoping report is comprehensive and scopes in the water environment as the LLFA would request. It also acknowledges the need for a Flood Risk Assessment and drainage strategy. Please direct the applicant to our website <https://www.hants.gov.uk/landplanningandenvironment/environment/flooding/planning> for full guidance on what is required and further information on recommended surface water drainage techniques.

The County Council as LLFA would highlight that there are known flooding issues downstream of the site from fluvial, pluvial and groundwater sources and therefore any betterment in terms of flood risk would be welcomed.

Also, please note that if the proposals include works to an ordinary watercourse, under the Land drainage Act 1991, as amended by the Flood and Water Management Act 2010, prior consent of the Lead Local Flood Authority is required for this work. This consent is required as a separate permission to planning. Details can be found here: <https://www.hants.gov.uk/landplanningandenvironment/environment/flooding/change-watercourse>

### **Minerals and Waste Planning Authority**

The County Council as Minerals and Waste Planning Authority is pleased to see that the Scoping Opinion concluded to 'Scope In' the impact on mineral safeguarding areas and peat resources as part of the EIA scope. The County Council's research shows that there is approximately 25.75 ha of safeguarded mineral deposits, safeguarded under Policy 15 (Safeguarding – mineral resources) of the adopted Hampshire Mineral and Waste Plan (HWMP) (2013), within the red line boundary of the planning application. While it can be conceded that not all of this area may be sterilised as part of the development, the County Council strongly approves the assessing of the proposed development's impact on the safeguarded deposits. Within this report the County Council would expect to see an assessment for the provision of prior extraction of any available mineral deposits.

In line with the above comment, the County Council would also expect to see a Mineral Resource Assessment / Report accompanying the main application upon submission.

With regard to further safeguarding issues, the application site lies in close proximity to the following safeguarded waste site: Easton Lane Depot, a concrete batching plant operated by CEMEX UK. This site is safeguarded under Policy 26 (Safeguarding – waste infrastructure) of the HMWP. This policy is designed to protect current and potential waste sites from pressures to be replaced by other forms of development, including through ‘encroachment’ where nearby land-uses impact their ability to continue operating.

While the highway improvements may potentially enhance the operation of the safeguarded site upon completion, the site’s ability to continue operating at its current capacity may be impacted during the improvement works. While this issue is unlikely to require consideration within the EIA, the County Council will expect to see how the operation of the safeguarded site has been considered within any forthcoming application.

### **County Archaeologist**

It is noted that in the summary, both at the start and end of the document, archaeology is ‘scoped in’ and this is very much welcomed. Although the existing highway has had a considerable impact, the compound and soil disposal areas offer broad new areas of impact as do the additional impacts of highways work beyond the margins of the existing.

It is noted in paragraph 7.2.1 that a new desk based assessment (DBA) is being prepared to replace the previous DBAs of 2017 and 2018, both in response to comments regarding the impact on Scheduled Monuments and, it is imagined, in light of new archaeological information identified in the trial trenching and geophysics surveys referred to in para 7.2.12 (but which have not yet been seen by the County Archaeologist). The DBA will inform future consultation, as well as further evaluation strategies and final mitigation strategy.

Paragraphs 7.2.12 and 7.4.2 indicate that further evaluation is planned, including geophysical survey and trial trenching, “the scope of which will be discussed and agreed with Winchester City Council and Hampshire County Council as the scheme design evolves”. Paragraph 7.4.2 states that the evaluation stages will clarify the “nature, extent and significance of archaeological deposits and inform a suitable mitigation strategy”. This is welcomed.

Paragraph 7.3.3 confirms that significant intrusive works will impact archaeology and paragraphs 7.3.2 and 7.4.1 suggest that in light of archaeological remains already found and recorded these may be of medium to high significance. Paragraph 7.4.2 states that a mitigation strategy will be set out informed by the evaluation stage. Paragraph 7.4.2 indicates that in the meantime geotechnical work will, where possible, be archaeologically monitored.



In light of paragraphs 7.2.12, 7.3.2, 7.3.3 it is noted in paragraph 7.4.1 that the Environmental Statement will “fully and clearly set out the value/sensitivity of archaeological remains”. This is welcomed.

Paragraph 7.5.1 indicates that further work will be presented regarding the residual impact on Scheduled Monuments when the ZTV has been completed.

The County Council is therefore happy to welcome the fact that archaeology is scoped in, and the approach to assessing the impact and mitigation as set out in Section 7 Cultural Heritage.

I trust that these comments are of assistance to you. If you wish to discuss any of the comments raised, please do not hesitate to contact my colleague Neil Massie on [REDACTED] [REDACTED] who is providing a coordinating role for the County Council on this project.

Yours sincerely,

Stuart Jarvis  
Director of Economy, Transport and Environment

Emily Park

Our Ref: GEN/20/00873

Direct Line: [REDACTED]

Ask For: Mr L Oliver

Email: [planning.development@havant.gov.uk](mailto:planning.development@havant.gov.uk)

26 October 2020

**Site Location:** M3 Junction 9 Improvement

**Re:** Consultation request from Planning Inspectorate in relation to Scoping Opinion/Reg 11 Notification.

Dear Madam,

I am writing to you further to your enquiry received on the 20 October 2020 regarding the above scheme.

I can confirm that Havant Borough Council have no comments to make.

Yours faithfully

Mr L Oliver  
Principal Planner  
Our Ref: GEN/20/00873



CEMHD Policy - Land Use Planning,  
NSIP Consultations,  
Building 1.2,  
Redgrave Court,  
Merton Road,  
Bootle, Merseyside  
L20 7HS.

HSE email: [NSIP.applications@hse.gov.uk](mailto:NSIP.applications@hse.gov.uk)

FAO Emily Park  
The Planning Inspectorate  
Temple Quay House  
Temple Quay  
Bristol  
BS1 6PN  
By email only

Dear Ms Park,

11 November 2020

**PROPOSED M3 JUNCTION 9 IMPROVEMENT (RE-SCOPED) (the project)  
PROPOSAL BY HIGHWAYS ENGLAND (the applicant)  
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as  
amended) REGULATIONS 10 and 11**

Thank you for your letter of the 20 October 2020 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

**HSE's land use planning advice**

Will the proposed development fall within any of HSE's consultation distances?

According to HSE's records there is one major accident hazard sites within the proposed DCO application boundary of the proposed M3 junction9 improvement for this nationally significant infrastructure project.

This is based on the current configuration for the red line area as illustrated in, for example, Site Location Plan (Figure 2.1), of the M3 Junction 9 Improvement, Environmental Impact Assessment, Scoping Report – Request for a second Scoping Opinion. Report number: HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002, Date: October 2020, Revision: P02

The site is: UK Petroleum Products Ltd HSE reference H0522.

HSE's Land Use Planning advice would be dependent on the location of areas where people may be present. When we are consulted by the Applicant with further information under Section 42 of the Planning Act 2008, we can provide full advice

Hazardous Substance Consent

The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) will probably require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others for which HSC is required, and the

associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015 as amended.

HSC would be required to store or use any of the Named Hazardous Substances or Categories of Substances at or above the controlled quantities set out in Schedule 1 of these Regulations.

Further information on HSC should be sought from the relevant Hazardous Substances Authority.

#### Consideration of risk assessments

Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 Annex on the Planning Inspectorate's website - [Annex G – The Health and Safety Executive](#). This document includes consideration of risk assessments on page 3

#### Explosives sites

HSE has no comment to make as there are no licensed explosives sites in the vicinity.

#### Electrical Safety

No comment from a planning perspective.

Please note that any further electronic communication on this project can be sent directly to the HSE designated e-mail account for NSIP applications the details of which can be found at the top of this letter or hard copy correspondence should be sent to:

Mrs Monica Langton  
NSIP Consultations  
1.2 Redgrave Court  
Merton Road, Bootle  
Merseyside, L20 7HS

Yours sincerely,

*Monica*

Monica Langton  
CEMHD4 Policy

**From:** [Michelle](#)  
**To:** [M3 Junction 9](#)  
**Subject:** Itchen Valley Parish Council Response: Junction 9 Improvement - EIA Scoping Notification and Consultation Reg 11.  
**Date:** 19 November 2020 20:56:01  
**Attachments:** [image003.jpg](#)

---

Dear All,

We have been asked to comment on the proposed Scoping Consultation Reg 11 document and after a discussion by our council members, Itchen Valley Parish Council would like to submit a 'No Comment' response at this stage to the Junction 9 Improvement - EIA Scoping Notification and Consultation Reg 11.

Thanks & Best Regards,

Michelle Leadbitter-Allen  
Parish Clerk & RFO



## Itchen Valley Parish Council

I work 20 hours a week on a flexible basis.

T: [REDACTED]

E: [REDACTED]

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## **Kings Worthy Parish Council Response to M3 Junction 9 Environmental Report**

We as the Parish Council for Kings Worthy and Abbots Worthy have reviewed the Environmental Impact Assessment Scoping Report for the M3 Junction 9 Improvement scheme and can report that generally we find the report sufficient to ensure minimum impact to our parishes during the construction phase, however we have noted that there are several omissions and some minor errors in the statements concerning our parish. These are listed below:

In Section 12: Noise and Vibration Kings Worthy Primary School is omitted from Table 12.1 although St. Swithin's and Winnall Primary are included, although in our opinion they appear further from the construction area than Kings Worthy Primary. We would prefer that this education establishment is also included. It should be noted that Kings Worthy Primary is included in Table 13.8. In a similar vein, a Pre-school and Day Nursery exists at Woodhams Farm which lies very close to the end of the area covering the A34 section and we feel this establishment should be included in both Table 12.1 and Table 13.8. We would welcome your comments on the inclusion of these two educational establishments into the document. The document also mentions Princes Meads School at Abbots Worthy but it is not included in any of the monitoring regimes and therefore missing from both Table 12.1 and 13.8 but could be adversely affected if the North Spoil Management Area is adopted. In the event of this area being used the school should, in our opinion, be included in both Table 12.1 and 13.8

As a Parish Council we have serious concerns relating to noise pollution caused for those areas of our parish which border the A34. Currently these areas suffer high levels of noise from the A34 and we anticipate that these will increase if the current speed limit on the approach to this area is removed with the improvement proposed. In our view the mean traffic speed will increase and the current incline leading to this section of road will further increase speeds and resultant noise levels. As a parish we intend to fully cooperate with the Winchester City Council Environmental Health office to ensure that the Baseline conditions as outlined in paragraph contained 12.2, inclusive, are undertaken and monitor those areas of our parish that we feel may need additional sound mitigation activities both during and after the construction phase.

We believe that there are factual errors in section 13.2.12 which relate to our parishes and these require review in our opinion. Below is an extract from the document with the errors and omissions modified.

*'The Worthys'*

*13.2.12 Kings Worthy is a residential area which lies between the fork of the A34, A33 and the South Western main line. Within this local settlement are a food convenience store which is used by smaller villages to the north and east, a primary school, nursery and pre-school, two post offices/convenience stores, a church, a sports and social club and a pharmacy. In addition to these community facilities, there are take-aways' shops and two dining pubs.*

*13.2.13 It is likely that some of the local trips to the facilities listed above are made by non- motorised means by local residents and the surrounding villages. For access to other services, it is likely that these will currently be sought in the centre of Winchester, via vehicular means by the B3047 (London and Worthy Roads), or Harestock to the west by Wellhouse Lane.*

*13.2.14 Abbots Worthy lies to the south east of Kings Worthy, in between the A33 Basingstoke Road and the M3. There are a small number of residential properties accessed from the B3047. There are no community facilities within Abbots Worthy, other than Prince's mead School.*

*13.2.15 There is some off-road pedestrian provision along the B3047 and a public footpath from Mill Lane to Kings Worthy, so it is likely that the journeys from Abbots Worthy are made on foot to local facilities in Kings Worthy, or by vehicle into Kings Worthy and Winchester by the A33/A34 or the B3047.*

*13.2.16 Headbourne Worthy is located west of Kings Worthy, separated by the A34. The community facilities located within this small residential area is restricted to the Cobbs Farm Shop and Cafe.*

*13.2.17 There is pedestrian provision on the B3047 to Kings Worthy and there is a pedestrian footway on Springvale Road into Kings Worthy. Some residents from Headbourne Worthy could, however, access facilities in Kings Worthy on foot, but it is more likely that the majority of journeys are made by vehicle into Kings Worthy (via London Road or Springvale Road), Harestock (via Wellhouse Lane) or Winchester (via the B3047).*

Our final point relates to the use of the North Area for excess spoil management. The area lays outside our parish as it is sited between the current M3 and the village of Easton, however the temporary haul road proposed run around part of our parish. This area is a known area of sensitivity and constitutes part of the ancient floodplain that protects elements of our parish and a wider area of Winchester City. In view of the sensitivity of this area we feel it would be totally inappropriate to cross it with a haul road and multiple vehicle movements.



Ministry  
of Defence

# Defence Infrastructure Organisation

Safeguarding Department  
Statutory & Offshore

Emily Park  
Planning Inspectorate  
Environmental Services  
Temple Quay House  
2 The Square  
Bristol, BS16PN

Defence Infrastructure Organisation  
Kingston Road  
Sutton Coldfield  
West Midlands  
B75 7RL

Tel: [REDACTED]

E-mail: [DIO-safeguarding-statutory@mod.gov.uk](mailto:DIO-safeguarding-statutory@mod.gov.uk)

Your reference: TR010055-000100  
Our reference: 10049653

[www.mod.uk/DIO](http://www.mod.uk/DIO)

19 November 2020

Dear Ms Park

## **MOD Safeguarding – SITE OUTSIDE SAFEGUARDING AREA**

**Proposal: Application by Highways England (the Applicant) for an Order granting Development Consent for the M3 Junction 9 Improvement (the Proposed Development)**

**Location: M3, Junction 9**

**Grid Ref: E: 449680 – N: 130487**

Thank you for consulting Defence Infrastructure Organisation (DIO) on the above proposed development. This application relates to a site outside of Ministry of Defence (MOD) statutory safeguarding areas (SOSA). We can therefore confirm that the MOD has no safeguarding objections to this proposal.

I trust this adequately explains our position on this matter, however should you have any questions regarding this matter please do not hesitate to contact me.

Yours sincerely

Debi Parker  
Assistant Safeguarding Manager  
DIO Safeguarding Team



**From:** [Hebden, Rachael](#)  
**To:** [Park, Emily](#)  
**Subject:** N/20/0010 Junction 10  
**Date:** 03 November 2020 15:18:12

---

Dear Ms Park,

Re: Scoping opinion for improvements to Junction 10 of the M3 ref N/20/0010

Thank you for consulting Fareham Borough Council regarding the above application for a scoping opinion. I can confirm that the Local Planning Authority have no comments to make.

Kind regards,

Rachael Hebden  
Senior Planner Strategic Sites (Development Management)  
Fareham Borough Council  
[REDACTED]



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Date: 09 November 2020  
Our ref: 331436  
Your ref: TR010055



Emily Park  
Major Casework Directorate  
The Planning Inspectorate

Customer Services  
Hornbeam House  
Crewe Business Park  
Electra Way  
Crewe  
Cheshire  
CW1 6GJ

**BY EMAIL ONLY**

Dear Emily

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11**

**Application by Highways England (the Applicant) for an Order granting Development Consent for the M3 Junction 9 Improvement Project (the Proposed Development)**

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in your consultation dated 20 October 2020 which we received on the same date.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Natural England welcomes the early engagement with Highways England regarding the proposals and the comprehensive ES Scoping Report. Case law<sup>1</sup> and guidance<sup>2</sup> has stressed the need for a full set of environmental information to be available for consideration prior to a decision being taken on whether or not to grant planning permission. Annex A to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for this development.

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

Please note that Natural England reserves the right to provide further comments on this proposal beyond this EIA scoping opinion, should your authority seek our views on the planning application. This includes any third party appeal against any screening decision your authority may make.

For any queries relating to the specific advice in this letter only please contact Rachael Clemson on 07500 954264. For any new consultations, or to provide further information on this consultation please send your correspondences to [REDACTED]

Yours sincerely

Rachael Clemson  
Sustainable Development Lead Adviser  
Thames Solent Area Team

<sup>1</sup> Harrison, J in *R. v. Cornwall County Council ex parte Hardy* (2001)

<sup>2</sup> Note on *Environmental Impact Assessment Directive for Local Planning Authorities* Office of the Deputy Prime Minister (April 2004) available from

<http://webarchive.nationalarchives.gov.uk/+/http://www.communities.gov.uk/planningandbuilding/planning/sustainability/environmental/environmentalimpactassessment/noteenvironmental/>

## **Annex A – Advice related to EIA Scoping Requirements**

### **1. General Principles**

Schedule 4 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2017, sets out the necessary information to assess impacts on the natural environment to be included in an ES, specifically:

- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases.
- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the proposed development.
- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen.
- A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.
- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects. Effects should relate to the existence of the development, the use of natural resources and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment.
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
- A non-technical summary of the information.
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the 'in combination' effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.

### **2. Biodiversity and Geology**

#### **2.1 Ecological Aspects of an Environmental Statement**

Natural England advises that the potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within this assessment in accordance with appropriate guidance on such matters. Guidelines for Ecological Impact Assessment (EclA) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM) and are available on their website.

EclA is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components. EclA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal.

The National Planning Policy Framework sets out guidance in S.174-177 on how to take account of biodiversity interests in planning decisions and the framework that local authorities should provide to assist developers.

#### **2.2 Internationally and Nationally Designated Sites**

The ES should thoroughly assess the potential for the proposal to affect designated sites. European sites (e.g. designated Special Areas of Conservation and Special Protection Areas) fall within the scope of the Conservation of Habitats and Species Regulations 2017 (as amended). In addition paragraph 176 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.

Should a Likely Significant Effect on a European/Internationally designated site be identified or be uncertain, the competent authority (in this case the Local Planning Authority) may need to prepare an Appropriate Assessment, in addition to consideration of impacts through the EIA process.

### **Sites of Special Scientific Interest (SSSIs) and sites of European or international importance (Special Areas of Conservation, Special Protection Areas and Ramsar sites)**

The development site is situated within, close to or adjacent to the following designated nature conservation sites:

- River Itchen Special Area of Conservation
- River Itchen Site of Special Scientific Interest
- St Catherine's Hill Site of Special Scientific Interest
- Cheesefoot Head Site of Special Scientific Interest

Further information on the SSSI and its special interest features can be found at [REDACTED]. The Environmental Statement should include a full assessment of the direct and indirect effects of the development on the features of special interest within River Itchen SSSI and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.

European site conservation objectives are available on our internet site [REDACTED].

### **2.3 Regionally and Locally Important Sites**

The EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. The Environmental Statement should therefore include an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures.

Natural England does not hold local information on local sites, local landscape character and local or national biodiversity priority habitats and species. We recommend that you seek further information from the Hampshire Biodiversity Information Centre and other appropriate bodies (which may include the local wildlife trust, local geoconservation group or other recording society and a local landscape characterisation document).

### **2.4 Protected Species - Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 (as amended)**

The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law, but advises on the procedures and legislation relevant to such species. Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, groups and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.

The conservation of species protected by law is explained in Part IV and Annex A of Government Circular 06/2005 *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*. The area likely to be affected by the proposal should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES.

In order to provide this information there may be a requirement for a survey at a particular time of year. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. Natural England has adopted [REDACTED] for protected species which includes links to guidance on survey and mitigation.

## **2.5 Habitats and Species of Principal Importance**

The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act 2006 places a general duty on all public authorities, including local planning authorities, to conserve and enhance biodiversity. Further information on this duty is available here <https://www.gov.uk/guidance/biodiversity-duty-public-authority-duty-to-have-regard-to-conserving-biodiversity>.

Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats, 'are capable of being a material consideration...in the making of planning decisions'. Natural England therefore advises that survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local BAP.

Natural England advises that a habitat survey (equivalent to Phase 2) is carried out on the site, in order to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present. The Environmental Statement should include details of:

- Any historical data for the site affected by the proposal (e.g. from previous surveys);
- Additional surveys carried out as part of this proposal;
- The habitats and species present;
- The status of these habitats and species (e.g. whether priority species or habitat);
- The direct and indirect effects of the development upon those habitats and species;
- Full details of any mitigation or compensation that might be required.

The development should seek if possible to avoid adverse impact on sensitive areas for wildlife within the site, and if possible provide opportunities for overall wildlife gain.

The Hampshire Biodiversity Information Centre should be able to provide the relevant information on the location and type of priority habitat for the area under consideration.

## **3. Designated Landscapes and Landscape Character**

### **Nationally Designated Landscapes**

As the development site is within/adjacent to South Downs National Park, consideration should be given to the direct and indirect effects upon this designated landscape and in particular the effect upon its purpose for designation within the environmental impact assessment, as well as the content of the relevant management plan for South Downs National Park.

### **Landscape and visual impacts**

Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography.

The EIA should include a full assessment of the potential impacts of the development on local landscape character using [landscape assessment methodologies](#). We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed.

Natural England supports the publication *Guidelines for Landscape and Visual Impact Assessment*, produced by the Landscape Institute and the Institute of Environmental Assessment and Management in 2013 (3rd edition). The methodology set out is almost universally used for landscape and visual impact assessment.

In order to foster high quality development that respects, maintains, or enhances, local landscape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit.

The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.

The assessment should refer to the relevant [National Character Areas](#) which can be found on our website. Links for Landscape Character Assessment at a local level are also available on the same page.

#### **4. Access and Recreation**

Natural England encourages any proposal to incorporate measures to help encourage people to access the countryside for quiet enjoyment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways are to be encouraged. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.

We recommend early engagement with South Downs National Park to discuss incorporating measures to improve access to the National Park and links to the wider footpath network.

#### **Rights of Way, Access land, Coastal access and National Trails**

The EIA should consider potential impacts on access land, public open land, rights of way and coastal access routes in the vicinity of the development. Consideration should also be given to the potential impacts on the adjacent/nearby [Click here to enter text](#). National Trail. The National Trails website [\[redacted\]](#) provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts. We also recommend reference to the relevant Right of Way Improvement Plans (ROWIP) to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

#### **5. Air Quality**

Air quality in the UK has improved over recent decades but air pollution remains a significant issue; for example over 97% of sensitive habitat area in England is predicted to exceed the critical loads for ecosystem protection from atmospheric nitrogen deposition ([England Biodiversity Strategy](#), Defra 2011). A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The planning system plays a key role in determining the location of developments which may give rise to pollution, either directly or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water and land. The assessment should take account of the risks of air pollution and how these can be managed or reduced. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System ([\[redacted\]](#)). Further information on air pollution modelling and assessment can be found on the Environment Agency website.

#### **6. Climate Change Adaptation**

The [England Biodiversity Strategy](#) published by Defra establishes principles for the consideration of

biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' ([NPPF](#) Para 174), which should be demonstrated through the ES.

## **7. Cumulative and in-combination effects**

A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.

The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):

- a. existing completed projects;
- b. approved but uncompleted projects;
- c. ongoing activities;
- d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
- e. plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

## **8. Considerations in relation to National Planning Policy Framework (NPPF)**

The ES should set out how the proposals will meet the tests for "Major" development within a National Park, as set out in NPPF paragraph 172. In particular, measures will need to be identified that minimise any detrimental effect on the environment, the landscape and recreational opportunities within the National Park. In addition, in relation to NPPF paragraph 170 and 175 the scheme should seek wherever possible to avoid, minimise, or as a last resort compensate impacts on biodiversity, while seeking to ensure an overall biodiversity net gain.

The key objective of the landscape, access and biodiversity aspects of the scheme should be to ensure that the wider landscape affected by the proposals, the biodiversity it supports and the provision for public access are significantly enhanced by the development. Such measures should include enhancements on land within the applicant's control and might include:

- The creation and restoration of areas of priority habitats such as chalk grassland, native woodland, riparian habitat, etc. The aim should be to create attractive, biodiverse habitats with low maintenance requirements along the road corridor.
- Provision for enhancing ecological connectivity both along the motorway and across. The latter might include provision of appropriately sited green bridge (s), enhanced connectivity of habitats along the River Itchen including measures for the safe passage of otter, etc.
- The creation of new public access opportunities that link up to the wider footpath network.
- The use of chalk embankments, sown with key butterfly food plants to provide biodiverse habitats and enhanced noise attenuation along access tracks.

Further, given the scale of the scheme there may nevertheless remain significant wider residual impacts to landscape and biodiversity interests. In order to address and moderate any such wider residual impacts the scheme the ES should also include the preparation of a comprehensive landscape, biodiversity and access enhancement plan for the wider areas of landscape affected by the proposals that are outside the applicants control.

The measures identified in the enhancement plan should be used to calculate a reasonable level of offset funding needed to meet the wider objectives of the plan and achieve full moderations of the adverse impacts of the scheme. Potential landscape, biodiversity and access offset measures that would meet the objectives of the plan and should therefore be made eligible for funding might include:

- Measures to enhance local landscape e.g. through the restoration of boundary features, removal of eyesores, appropriate tree planting, restoration of the setting of historic features, etc.
- Measures to permanently remove landscape features that are out of character such as conifer plantations.
- Measures to improve ecological connectivity.
- Establishment of new areas of BAP priority habitat, including chalk grassland, farm ponds and broad leaved native woodland.
- Provision for the enhancement of existing wildlife sites.
- Measures for conserving and enhancing BAP priority species.
- Measures for enhancing access opportunities, particularly away from the noise and visual intrusion of the M3.

Natural England would welcome the opportunity to comment on the landscape, biodiversity and access enhancement plan and agree the funding arrangements in due course.

Please note that Natural England reserves the right to provide further comments on this proposal beyond this EIA scoping opinion, should your authority seek our views on the planning application. This includes any third party appeal against any screening decision your authority may make.





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England

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Your Ref: TR010055-000100

Our Ref: 55336

Ms Emily Park  
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Major Casework Directorate  
Temple Quay House  
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18<sup>th</sup> November 2020

Dear Ms Park

### **Nationally Significant Infrastructure Project M3 Junction 9 Improvements - Scoping Consultation Stage**

Thank you for including Public Health England (PHE) in the scoping consultation phase of the above application. Advice offered by PHE is impartial and independent.

PHE exists to protect and improve the nation's health and wellbeing and reduce health inequalities; these two organisational aims are reflected in the way we review and respond to Nationally Significant Infrastructure Project (NSIP) applications.

The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

Having considered the submitted scoping report we wish to make the following specific comments and recommendations:

#### **Environmental Public Health**

We understand that the promoter will wish to avoid unnecessary duplication and that many issues including air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the Environmental Statement (ES). We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed

mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made the promoters should fully explain and justify their rationale in the submitted documentation.

### Recommendation

Our position is that pollutants associated with road traffic, particularly particulate matter and oxides of nitrogen are non-threshold; i.e., an exposed population is likely to be subject to potential harm at any level and that reducing public exposures of non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards will have potential public health benefits. We support approaches which minimise or mitigate public exposure to non-threshold air pollutants, address inequalities (in exposure), maximise co-benefits (such as physical exercise). We encourage their consideration during development design, environmental and health impact assessment, and development consent.

## **Noise**

PHE's mission is to protect and improve the nation's health and wellbeing and reduce health inequalities. Environmental noise can cause stress and disturb sleep, which over the long term can lead to a number of adverse health outcomes [1, 2].

The Noise Policy Statement for England (NPSE) [3] sets out the government's overall policy on noise. Its aims are to:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- contribute to the improvement of health and quality of life.

These aims should be applied within a broader context of sustainable development, where noise is considered alongside other economic, social and environmental factors. PHE expects such factors may include [4]:

- Ensuring healthy lives and promoting well-being for all at all ages;
- promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all;
- building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation;
- reducing inequality; and
- making cities and human settlements inclusive, safe, resilient and sustainable.

PHE's consideration of the effects of health and quality of life attributable to noise is guided by the recommendations in the 2018 Environmental Noise Guidelines for the European Region [1] published by the World Health Organization, and informed by high quality systematic reviews of the scientific evidence [2, 5, 6]. The scientific evidence on noise and health is rapidly developing, and PHE's recommendations are also informed by relevant studies that are judged to be scientifically robust and consistent with the overall body of evidence.

In line with its mission, PHE believes that Nationally Significant Infrastructure Projects (NSIP) should not only limit significant adverse effects, but also explore opportunities to improve the health and quality of life of local communities and reduce inequalities.

PHE also recognises the developing body of evidence showing that areas of tranquillity offer opportunities for health benefits through psychological restoration. NSIP applications need to demonstrate that they have given due consideration to the protection of the existing sound environment in these areas.

## Significance of Impacts

Determining significance of impacts is an essential element of an Environmental Impact Assessment, and therefore significance needs to be clearly defined at the earliest opportunity by the Applicant. PHE recommends that the definition of significance is discussed and agreed with relevant stakeholders, including local authority environmental health and public health teams and local community representatives, through a documented consultation process. PHE recommends that any disagreement amongst stakeholders on the methodology for defining significance is acknowledged in the planning application documentation and could inform additional sensitivity analyses.

For noise exposure, PHE expects assessments of significance to be closely linked to the associated impacts on health and quality of life, and not on noise exposure per se (in line with the NPSE). The latest revision of the Design Manual for Roads and Bridges (DMRB) Table 3.49 LA111 [7] includes proposed values for the Lowest Observable Adverse Effect Level (LOAEL) and Significant Observable Adverse Effect Level (SOAEL)<sup>1</sup> for operational noise, and these values are likely to inform judgements on significance of impact. Whilst DMRB does not explicitly reference the underpinning evidence that informed these numbers, the night time LOAEL and SOAEL of 40 dB  $L_{\text{night}}$  (outside, free-field) and 55 dB  $L_{\text{night}}$  (outside, free-field) respectively, correspond to the guideline value and interim target proposed in the WHO Night Noise Guidelines (2009) [8]. The Night Noise Guidelines emphasized that the interim target was "not a health-based limit value by itself. Vulnerable groups cannot be protected at this level".

The daytime SOAEL of 68 dB  $L_{A10,18\text{hr}}$  (façade) appears to be derived from the relative noise level in the Noise Insulation Regulations (NIR) [9], which is linked to the provision of enhanced noise insulation for new highway infrastructure. The NIR does not explicitly refer to the underpinning evidence on which the relevant noise level is based, and there is a lack of good quality evidence linking noise exposure expressed in the  $L_{A10}$  metric to health effects. Therefore, it is helpful to convert these levels to  $L_{\text{den}}$  and  $L_{\text{Aeq},16\text{hr}}$  metrics, which are more widely used in the noise and health literature. Assuming motorway traffic, a level of 68 dB  $L_{A10,18\text{hr}}$  (façade) is approximately equivalent to<sup>2</sup> free-field outdoor levels of 69dB  $L_{\text{den}}$  (or<sup>3</sup> 64 $L_{\text{Aeq},16\text{hr}}$ ). The corresponding internal noise levels are<sup>4</sup>

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<sup>1</sup> As defined in the Noise Policy Statement for England [3] and the Planning Practice Guidance [14].

<sup>2</sup> Using equation 4.16 from [22], assuming free-field levels;  $L_{A10,18\text{hr}}$  (free-field) =  $L_{A10,18\text{hr}}$  (façade) – 2.5dB(A) as per CRTN [13].

approximately 54dB  $L_{Aeq,16hr}$  (open windows), 48dB  $L_{Aeq,16hr}$  (tilted windows) and 36dB  $L_{Aeq,16hr}$  (closed windows).

For construction noise the latest revision of the DMRB makes reference to Section E3.2 and Table E.1 in Annex E (informative) of BS 5228-1:2009+A1:2014 [10] for the definition of SOAELs. Table E.1 of BS 5228-1:2009+A1:2014 provides examples of threshold values in three categories, based on existing ambient values. Threshold values are higher when ambient noise levels are higher. Daytime (07:00-19:00, weekdays) thresholds can be traced back to principles promoted by the Wilson Committee in 1963 [11]: “Noise from construction and demolition sites should not exceed the level at which conversation in the nearest building would be difficult with the windows shut.” The Wilson committee also recommended that “Noisy work likely to cause annoyance locally should not be permitted between 22.00 hours and 07.00 hours.” BS 5228 states that these principles have been expanded over time to include a suite of noise levels covering the whole day/week period taking into account the varying sensitivities through these periods.

With reference to the noise exposure hierarchy table in the Planning Practice Guidance (Noise) [14], PHE is not aware of good quality scientific evidence that links specific noise levels to behavioural/attitudinal changes in the general population. Reactions to noise at an individual level are strongly confounded by personal, situational and environmental non-acoustic factors [16, 17], and large inter-personal variations are observed in the reaction of a population to a particular noise level [18-21]. For these reasons PHE is not able to provide evidence-based general recommendations for SOAELs that are able to achieve the aims and objectives of the Noise Policy Statement for England and the Planning Practice Guidance on noise. DMRB allows for project specific LOAELs and SOAELs to be defined if necessary, and PHE recommends that for each scheme the Applicant gives careful consideration of the following:

- i. The existing noise exposure of affected communities – in particular, consideration of any designated Noise Important Areas identified in proximity to the scheme;
- ii. The size of the population affected – for example an effect may be deemed significant if a large number of people are exposed to a relatively small noise change;
- iii. The relative change in number and type of vehicle pass-bys;
- iv. Changes in the temporal distribution of noise during day/evening/night, or between weekdays and weekends;
- v. Soundscape and tranquillity, in particular the value that communities put on the lack of environmental noise in their area, or conversely, on the lack of public areas within walking distance that are relatively free from environmental noise;
- vi. Opportunities for respite (predictable periods of relief from noise), either spatially or temporally;
- vii. Cumulative exposure to other environmental risk factors, including other sources of noise and air pollution,

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<sup>3</sup> Using conversion factors in para. 2.2.13 Transport Analysis Guidance (TAG) Unit A3 [15]

<sup>4</sup> Using external – internal level differences reported by Locher et al. (2018) [12], based on measurements at 102 dwellings in Switzerland in 2016.

viii. Local health needs, sensitivities and objectives.

The WHO Environmental Noise Guidelines (2018) do not define LOAELs for environmental noise sources, partly because the scientific evidence suggests that there is no clear threshold where adverse impacts on health and quality of life cease to occur in the general population. Based on the systematic reviews that informed the 2018 WHO Environmental Noise Guidelines [2], the daytime operational noise LOAEL quoted in DMRB is equivalent to approximately 8% of the population Highly Annoyed<sup>5</sup>, and the night time LOAEL is equivalent to approximately 2% of the population Highly Sleep Disturbed<sup>6</sup>. Therefore, the impact assessment should acknowledge that adverse health effects will occur beyond the assessment threshold (LOAEL). PHE recommends that the Applicant explains what its chosen SOAELs for a specific scheme mean in population health terms in a similar fashion.

PHE does not believe that the current scientific evidence supports the modification of SOAELs and UAELs based on the existing noise insulation specification of residential dwellings, and in particular whether enhanced sound insulation avoids significant adverse effects on health and quality of life. See also sections on *Mitigation* and *Step Changes in Noise Exposure*.

## Health Outcomes

PHE encourages the applicant to present noise exposure data in terms of the  $L_{den}$  metric (in addition to  $L_{eq}$  and  $L_{10}$ ), to facilitate interpretation by a broad range of stakeholders. This is because most recent scientific evidence on the health effects of environmental noise is presented in terms of  $L_{den}$  [1, 5, 6]. PHE believes that quantifying the health impacts associated with noise exposure and presenting them in health-based metrics allows decision makers to make more informed decisions.

For transportation sources, PHE recommends the quantification of health outcomes using the methodology agreed by the Interdepartmental Group on Costs and Benefits - Noise subgroup [IGCB(N) [23] (currently under review)), and more recent systematic reviews [1, 5, 6]. PHE believes there is sufficient evidence to quantify the following health outcomes: long-term annoyance, sleep disturbance, ischaemic heart disease (IHD), and potentially stroke<sup>7</sup> and diabetes<sup>8</sup>. Effects can be expressed in terms of number of people affected, number of disease cases, and Disability Adjusted Life Years (DALYs). THE IGCB(N) guidance can also be used to translate these effects into monetary terms.

Some health outcomes, namely annoyance and self-reported sleep disturbance, can be influenced by the local context and situation. In these cases, it would be preferable to use exposure-response functions (ERFs) derived in a local context. However, PHE is not aware of any ERFs for road traffic being available for a UK context from data gathered in the last two decades. Therefore, in PHE's

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<sup>5</sup> 55 dB  $L_{A10,18hr}$  (façade) is approximately equal to 57 dB  $L_{den}$  (free-field), assuming motorway traffic [13, 22]. Applying the exposure-response function presented in Guski et al., 2017 [19] for road traffic noise and annoyance (excluding Alpine and Asian studies), approximately 8% of a population is highly annoyed at 57 dB  $L_{den}$ .

<sup>6</sup> Applying the exposure-response function presented in Basner et al., 2018 [20] for road traffic noise and sleep disturbance gives the result that approximately 2% of a population is highly sleep disturbed at 40 dB  $L_{night}$ .

<sup>7</sup> A literature review commissioned by Defra [6] identified nine longitudinal studies on road traffic noise and incidence of stroke, and eight longitudinal studies on road traffic noise and stroke mortality.

<sup>8</sup> A literature review commissioned by Defra [6] identified four longitudinal studies on road traffic noise and incidence of diabetes.

view the ERFs presented in the WHO-commissioned systematic reviews offer a good foundation for appraisal of the health effects associated with road traffic noise [2]. For annoyance, the average curve derived excluding Alpine and Asian studies may be considered more transferable to a UK context. For metabolic outcomes, no ERF was published in the WHO ENG 2018. A recent meta-analysis of five cohort studies of road traffic noise and incidence of diabetes was reported by Vienneau in 2019 [24].

Where schemes have the potential to impact a large number of people, PHE expects the Applicant to carry out literature scoping reviews to ensure that the most robust and up-to-date scientific evidence is being used to quantify adverse effects attributable to the Scheme.

PHE expects to see a clear outline of the steps taken to arrive at the final judgement of significance based on these health outcomes, including a description of local circumstances and modifiers anticipated, and how reasonably foreseeable changes in these circumstances will be dealt with during the assessment process.

### Identification and Consideration of Receptors

The identification of noise sensitive receptors in proximity to the proposed scheme - or route options - is essential in providing a full assessment of potential impacts. Examples of noise sensitive receptors include but are not limited to:

- i. Noise Important Areas
- ii. Residential areas
- iii. Schools, hospitals and care homes
- iv. Community green and blue spaces and areas valued for their tranquillity, such as local and national parks
- v. Public Rights of Way (PRoWs)

Noise Important Areas (NIAs) are areas with the highest levels of noise exposure at a national level and as such require very careful consideration in terms of protection from increased noise levels as well as opportunities for noise mitigation that can lead to an improvement in health and quality of life. DMRB requires a list of noise mitigation measures that the project will deliver in Noise Important Areas. PHE supports this requirement - new development should offer an opportunity to reduce the health burden of existing transport infrastructure, particularly for those worst affected. PHE would encourage this approach to extend beyond NIAs, in line with the third aim of NPSE [3].

### Baseline Sound Environment

The greater the understanding of the baseline sound environment, the greater the potential for the assessment to reflect the nature and scale of potential impacts, adverse or beneficial, associated with the Scheme. PHE recommends that traditional averaged noise levels are supplemented by a qualitative characterisation of the sound environment, including any particularly valued characteristics (for example, tranquillity) and the types of sources contributing to it [25].

PHE recommends that baseline noise surveys are carried out to provide a reliable depiction of local diurnal noise variations for both weekdays and weekends, in a variety of locations, including the

difference between day (07:00-19:00), evening (19:00-23:00) and night-time (23:00-07:00) periods. This is particularly important if there are areas within the scheme assessment boundary with atypical traffic day/evening/night distributions. Achieving these aims is likely to require long-term noise monitoring in multiple locations for a period greater than seven days. This information should be used to test the robustness of any conversions between noise metrics (e.g. converting from  $L_{A10,18hr}$  to  $L_{Aeq,2300-0700}$  and  $L_{den}$ ).

PHE suggests that a variety of metrics can be used to describe the sound environment with and without the scheme – for example, levels averaged over finer time periods, background noise levels expressed as percentiles, and number of event metrics (e.g. N65 day, N60 night) – and that, where possible, this suite of metrics is used to inform judgements of significance. There is emerging evidence that intermittency metrics can have an additional predictive value over traditional long-term time-averaged metrics for road traffic noise [27].

## Mitigation

PHE expects decisions regarding noise mitigation measures to be underpinned by good quality evidence, in particular whether mitigation measures are proven to reduce adverse impacts on health and quality of life. For interventions where evidence is weak or lacking, PHE expects a proposed strategy for monitoring and evaluating their effectiveness during construction and operation, to ensure the effectiveness of said measures.

With regards to road traffic noise, low-noise road surfaces, acoustic barriers, traffic management and noise insulation schemes can all be considered. Priority should be given to reducing noise at source, and noise insulation schemes should be considered as a last resort. PHE expects any proposed noise insulation schemes to take a holistic approach which achieves a healthy indoor environment, taking into consideration noise, ventilation, overheating risk, indoor air quality and occupants' preference to open windows. There is, at present, insufficient good quality evidence as to whether insulation schemes are effective at reducing long-term annoyance and self-reported sleep disturbance [28], and initiatives to evaluate the effectiveness of noise insulation to improve health outcomes are strongly encouraged.

PHE notes the suggestion in DMRB methodology that post-construction noise monitoring cannot provide a reliable gauge for reference against predicted impacts of operational noise. The issues highlighted in DMRB relate to noise exposure, and not to health outcomes. PHE suggests that monitoring of health and quality of life can be considered pre and post operational phases, to ascertain whether mitigation measures are having the desired effect for local communities.

PHE expects consideration of potential adverse effects due to noise and vibration during construction and recommends that a full and detailed Construction Environmental Management Plan (CEMP) is developed and implemented by the Applicant and/or the contractor responsible for construction. PHE recommends that the CEMP includes a detailed programme of construction which highlights the times and durations of particularly noisy works, the measures taken to reduce noise at source, the strategy for actively communicating this information to local communities, and procedures for responding effectively to any specific issues arising.

There is a paucity of scientific evidence on the health effects attributable to construction noise associated with large infrastructure projects [5, 6] where construction activities may last for a relatively long period of time. PHE recommends that the Applicant considers emerging evidence as it becomes available and reviews its assessment of impacts as appropriate.

## Green Spaces and Private Amenity Areas

PHE expects proposals to take into consideration the evidence which suggests that quiet areas can have both a direct beneficial health effect and can also help restore or compensate for the adverse health effects of noise in the residential environment [29-31]. Research from the Netherlands suggests that people living in noisy areas appear to have a greater need for areas offering quiet than individuals who are not exposed to noise at home [29]. Control of noise at source is the most effective mitigation for protecting outdoor spaces; noise insulation schemes do not protect external amenity spaces (such as private gardens and balconies or community recreation facilities and green spaces) from increased noise exposure.

PHE expects consideration to be given to the importance of existing green spaces as well as opportunities to create new tranquil spaces which are easily accessible to those communities exposed to increased noise from the scheme. These spaces should be of a high design quality and have a sustainable long-term management strategy in place.

## Step-changes in Noise Exposure and the Change-effect

The Applicant should take into consideration the “change-Effect”, i.e. the potential for a real or anticipated step-change in noise exposure to result in attitudinal responses that are greater or lower than that which would be expected in a steady state scenario [28, 32]. Where a perception of change is considered likely, PHE recommends that the change-effect is taken into account in the assessment for the opening year of the proposed development. For longer term assessments, the effects of population mobility need to be taken into consideration.

## Community Engagement and Consultation Feedback

PHE recommends that public consultations carried out during the planning application process clearly identify the predicted changes to the sound environment during construction and operation of the Scheme, the predicted health effects on neighbouring communities, proposed noise mitigation strategies and any proposed measures for monitoring that such mitigation measures will achieve their desired outcomes.

PHE encourages the Applicant to use effective ways of communicating any changes in the acoustic environment generated by the scheme to local communities. For example, immersive and suitably calibrated audio-visual demonstrations can help make noise and visual changes more intuitive to understand and accessible to a wider demographic. If the proposed scheme will have an impact over a relatively large geographical area, the Applicant should consider community-specific fact-sheets and/or impact maps, which are easily accessible to all individuals both in hard copy and online. If online, search functionality can potentially be included, for example, by postcode.

## Human Health and Wellbeing

PHE exists to protect and improve the nation's health and wellbeing and reduce health inequalities; these two organisational aims are reflected in the way we review and respond to Nationally Significant Infrastructure Project (NSIP) applications. The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy built and natural environments to global ecosystem trends.



All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

This section of PHE's scoping response, identifies the wider determinants of health and wellbeing we expect the ES to address, to demonstrate whether they are likely to give rise to significant effects. PHE has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements.

The four themes are:

- Access
- Traffic and Transport
- Land Use
- Socioeconomic

Having considered the submitted scoping report, we wish to make the following specific comments and recommendations:

1. The submitted scoping report number: HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002, proposes using the Design Manual for Roads and Bridges LA112 Population and Health (Highways England, 2020) methodology for assessing health and wellbeing. This is an acceptable methodology and should be enhanced by supplementing the baseline health information (Para 3.25) with specific data on mental health and suicide. A [Mental Well-being Impact Assessment \(MWIA\)](#) could also be used as a methodology.
2. Further justification is required for the decision to undertake the principal health study in an area of 2km from the IAB. The usual walking commute is approximately 2 miles, and a cycling commute over 3 miles, therefore the impact of the development on those who normally cycle and walk from further afield could also be considered.
3. The scoping report does not identify a definition of health and wellbeing. The scoping report should accept the broad definition of health proposed by the World Health Organisation (WHO) and also include specific reference to mental health within the definition of health.
4. The EIA should clearly identify the range of vulnerable populations that have been considered within the assessment. The assessments and findings of the ES and any EqIA should be cross referenced between the two documents, particularly to ensure the comprehensive assessment of potential impacts for health and inequalities and where resulting mitigation measures are mutually supportive.
5. Paragraph 13.7.1 states that the health and wellbeing assessment will draw upon conclusions within the Economic Appraisal, Equalities Impact Assessment and WCH Assessment. Please also ensure that the H&WB assessment is cross referenced to findings within other relevant chapters such as traffic and transport, landscape and greenspace. The health and wellbeing impacts of road safety must also be included.

Yours sincerely

For and on behalf of Public Health England  
[nsipconsultations@phe.gov.uk](mailto:nsipconsultations@phe.gov.uk)

Please mark any correspondence for the attention of National Infrastructure Planning Administration.

#### References:

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## **Appendix: PHE recommendations regarding the scoping document**

### **General approach**

The EIA should give consideration to best practice guidance such as the Government's Good Practice Guide for EIA<sup>9</sup>. It is important that the EIA identifies and assesses the potential public health impacts of the activities at, and emissions from, the installation. Assessment should consider the development, operational, and decommissioning phases.

It is not PHE's role to undertake these assessments on behalf of promoters as this would conflict with PHE's role as an impartial and independent body.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, EIA should start at the stage of site and process selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES<sup>10</sup>.

The following text covers a range of issues that PHE would expect to be addressed by the promoter. However this list is not exhaustive and the onus is on the promoter to ensure that the relevant public health issues are identified and addressed. PHE's advice and recommendations carry no statutory weight and constitute non-binding guidance.

### **Receptors**

The ES should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from, or activities at, the development. Off-site human receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land. Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

### **Impacts arising from construction and decommissioning**

Any assessment of impacts arising from emissions due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for.

We would expect the promoter to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place to mitigate any potential impact on health from emissions (point source, fugitive and traffic-related). An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The promoter should ensure that there are robust mechanisms in place to respond to any complaints of traffic-related pollution, during construction, operation, and decommissioning of the facility.

### **Emissions to air and water**

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<sup>9</sup> Environmental Impact Assessment: A guide to good practice and procedures - A consultation paper; 2006; Department for Communities and Local Government. Available from: <http://webarchive.nationalarchives.gov.uk/20100410180038/http://communities.gov.uk/planningandbuilding/planning/sustainability/environmental/environmentalimpactassessment/>

<sup>10</sup> DCLG guidance, 1999 <http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf>

Significant impacts are unlikely to arise from installations which employ Best Available Techniques (BAT) and which meet regulatory requirements concerning emission limits and design parameters. However, PHE has a number of comments regarding emissions in order that the EIA provides a comprehensive assessment of potential impacts.

When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these:

- should include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary
- should encompass all pollutants which may be emitted by the installation in combination with all pollutants arising from associated development and transport, ideally these should be considered in a single holistic assessment
- should consider the construction, operational, and decommissioning phases
- should consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts
- should fully account for fugitive emissions
- should include appropriate estimates of background levels
- should identify cumulative and incremental impacts (i.e. assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e. rail, sea, and air)
- should include consideration of local authority, Environment Agency, Defra national network, and any other local site-specific sources of monitoring data
- should compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as UK Air Quality Standards and Objectives and Environmental Assessment Levels)
  - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (a Tolerable Daily Intake or equivalent). Further guidance is provided in Annex 1
  - This should consider all applicable routes of exposure e.g. include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion
- should identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development

Whilst screening of impacts using qualitative methodologies is common practice (e.g. for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken.

PHE's view is that the EIA should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure.

#### *Additional points specific to emissions to air*

When considering a baseline (of existing air quality) and in the assessment and future monitoring of impacts these:

- should include consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs)
- should include modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst case conditions)

- should include modelling taking into account local topography

#### *Additional points specific to emissions to water*

When considering a baseline (of existing water quality) and in the assessment and future monitoring of impacts these:

- should include assessment of potential impacts on human health and not focus solely on ecological impacts
- should identify and consider all routes by which emissions may lead to population exposure (e.g. surface watercourses; recreational waters; sewers; geological routes etc.)
- should assess the potential off-site effects of emissions to groundwater (e.g. on aquifers used for drinking water) and surface water (used for drinking water abstraction) in terms of the potential for population exposure
- should include consideration of potential impacts on recreational users (e.g. from fishing, canoeing etc) alongside assessment of potential exposure via drinking water

### **Land quality**

We would expect the promoter to provide details of any hazardous contamination present on site (including ground gas) as part of the site condition report.

Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the migration of material off-site should be assessed<sup>11</sup> and the potential impact on nearby receptors and control and mitigation measures should be outlined.

Relevant areas outlined in the Government's Good Practice Guide for EIA include:

- effects associated with ground contamination that may already exist
- effects associated with the potential for polluting substances that are used (during construction / operation) to cause new ground contamination issues on a site, for example introducing / changing the source of contamination
- impacts associated with re-use of soils and waste soils, for example, re-use of site-sourced materials on-site or offsite, disposal of site-sourced materials offsite, importation of materials to the site, etc.

### **Waste**

The EIA should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).

For wastes arising from the installation the EIA should consider:

- the implications and wider environmental and public health impacts of different waste disposal options
- disposal route(s) and transport method(s) and how potential impacts on public health will be mitigated

### **Other aspects**

Within the EIA PHE would expect to see information about how the promoter would respond to accidents with potential off-site emissions e.g. flooding or fires, spills, leaks or releases off-site. Assessment of accidents should: identify all potential hazards in relation to construction, operation and decommissioning; include an assessment of the risks posed; and identify risk management measures and contingency actions that will be employed in the event of an accident in order to mitigate off-site effects.

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<sup>11</sup> Following the approach outlined in the section above dealing with emissions to air and water i.e. comparing predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as Soil Guideline Values)

The EIA should include consideration of the COMAH Regulations (Control of Major Accident Hazards) and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009: both in terms of their applicability to the installation itself, and the installation's potential to impact on, or be impacted by, any nearby installations themselves subject to the these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report<sup>12</sup>, jointly published by Liverpool John Moores University and the HPA, examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be negligible." PHE supports the inclusion of this information within EIAs as good practice.

## **Electromagnetic fields (EMF)**

This statement is intended to support planning proposals involving electrical installations such as substations and connecting underground cables or overhead lines. PHE advice on the health effects of power frequency electric and magnetic fields is available in the following link:

<https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields>

There is a potential health impact associated with the electric and magnetic fields around substations, and power lines and cables. The field strength tends to reduce with distance from such equipment.

The following information provides a framework for considering the health impact associated with the electric and magnetic fields produced by the proposed development, including the direct and indirect effects of the electric and magnetic fields as indicated above.

## **Policy Measures for the Electricity Industry**

The Department of Energy and Climate Change has published a voluntary code of practice which sets out key principles for complying with the ICNIRP guidelines:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf)

Companion codes of practice dealing with optimum phasing of high voltage power lines and aspects of the guidelines that relate to indirect effects are also available:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/224766/powerlines\\_v\\_cop\\_microshocks.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_v_cop_microshocks.pdf)

## **Exposure Guidelines**

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<sup>12</sup> Available from:   






precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

## **The Stakeholder Advisory Group on ELF EMFs (SAGE)**

SAGE was set up to explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government:

[REDACTED]

SAGE issued its First Interim Assessment in 2007, making several recommendations concerning high voltage power lines. Government supported the implantation of low cost options such as optimal phasing to reduce exposure; however it did not support the option of creating corridors around power lines on health grounds, which was considered to be a disproportionate measure given the evidence base on the potential long term health risks arising from exposure. The Government response to SAGE's First Interim Assessment is available here:

[REDACTED]

The Government also supported calls for providing more information on power frequency electric and magnetic fields, which is available on the PHE web pages (see first link above).

## **Ionising radiation**

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection<sup>13</sup> (ICRP) are followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety Standards<sup>14</sup> (BSS) and these form the basis for UK legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2016.

PHE expects promoters to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group). Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the fetus should also be

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<sup>13</sup> These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at [REDACTED]

<sup>14</sup> Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

calculated<sup>15</sup>. The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate. The methods for assessing individual and collective radiation doses should follow the guidance given in 'Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012'<sup>16</sup>. It is important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

Any radiological impact assessment should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is addressed. Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities<sup>17</sup>. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of radiological impact during the post operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years. The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased. For scenarios where the probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose. For inadvertent intrusion, the dose if the intrusion occurs should be presented. It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered. The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the 'expected' migration scenario can be used to compare the relatively early impacts from some disposal options if required.

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<sup>15</sup> HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at <https://www.gov.uk/government/publications/embryo-fetus-and-breastfed-infant-application-of-dose-coefficients>

<sup>16</sup> The Environment Agency (EA), Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency, Health Protection Agency and the Food Standards Agency (FSA).

Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012.

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/296390/geho1202bklh-e-e.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf)

<sup>17</sup> HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009

## Annex 1

### Human health risk assessment (chemical pollutants)

The points below are cross-cutting and should be considered when undertaking a human health risk assessment:

- The promoter should consider including Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES
- Where available, the most recent United Kingdom standards for the appropriate media (e.g. air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants. Where UK standards or guideline values are not available, those recommended by the European Union or World Health Organisation can be used
- When assessing the human health risk of a chemical emitted from a facility or operation, the background exposure to the chemical from other sources should be taken into account
- When quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the 'Margin of Exposure' (MOE) approach<sup>18</sup> is used

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<sup>18</sup> Benford D et al. 2010. Application of the margin of exposure approach to substances in food that are genotoxic and carcinogenic. Food Chem Toxicol 48 Suppl 1: S2-24

**From:** [Vicki Enston](#) on behalf of [ONR Land Use Planning](#)  
**To:** [M3 Junction 9](#)  
**Subject:** RE: TR010055 - M3 Junction 9 Improvement - EIA Scoping Notification and Consultation Reg 11  
**Date:** 03 November 2020 11:15:02  
**Attachments:** [image001.png](#)

---

Good Morning

Thank you for your emails dated 20<sup>th</sup> October 2020.

This application is not within an ONR Land Use Planning consultation zone, therefore ONR have no comment to make.

You can find information concerning our Land Use Planning consultation process here:

[REDACTED]

Kind regards

Vicki

**Vicki Enston**

Regulatory Officer

Land Use Planning

Emergency Preparedness & Response

Office for Nuclear Regulation

**T:** [REDACTED]

**E:** [REDACTED]



The Office for Nuclear Regulation's mission is to provide efficient and effective regulation of the nuclear industry, holding it to account on behalf of the public.

**Website:** [REDACTED]

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**From:** M3 Junction 9 <M3Junction9@planninginspectorate.gov.uk>

**Sent:** 20 October 2020 10:09

**Subject:** TR010055 - M3 Junction 9 Improvement - EIA Scoping Notification and Consultation Reg 11

Dear Sir/Madam,

Please see attached correspondence on the proposed M3 Junction 9 Improvement.

Please note the deadline for consultation responses is 19 November 2020.

Kind regards,

Emily Park (MSc ACIEEM AIEMA)  
EIA Advisor

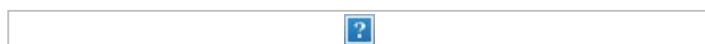
Major Casework Directorate  
Direct Line: [REDACTED]  
Helpline: 0303 444 5000  
Email: [REDACTED]

Web: <https://infrastructure.planninginspectorate.gov.uk/> (National Infrastructure Planning)

Web: [www.gov.uk/government/organisations/planning-inspectorate](http://www.gov.uk/government/organisations/planning-inspectorate) (The Planning Inspectorate)

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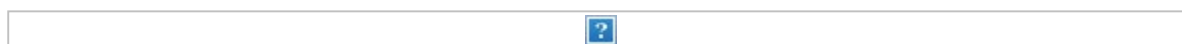


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## **M3 Junction 9 Improvement – proposed DCO application by Highways England**

### **Royal Mail Group Limited comments on information to be provided in applicant's Environmental Statement**

#### **Introduction**

We write with reference to the email from Highways England's consultants Stantec to Royal Mail dated 23 October 2020 inviting Royal Mail to send its comments to PINs on the scope of Highways England's Environmental Statement.

Royal Mail's consultants BNP Paribas Real Estate have reviewed the applicant's Scoping Report dated October 2020.

#### **Statutory and Operational Information about Royal Mail**

Under section 35 of the Postal Services Act 2011 (the "Act"), Royal Mail has been designated by Ofcom as a provider of the Universal Postal Service. Royal Mail is the only such provider in the United Kingdom.

The Act provides that Ofcom's primary regulatory duty is to secure the provision of the Universal Postal Service. Ofcom discharges this duty by imposing regulatory conditions on Royal Mail, requiring it to provide the Universal Postal Service.

In respect of its postal services functions, section 29 of the Act provides that Ofcom's primary regulatory duty is to secure the provision of the Universal Postal Service. Ofcom discharges this duty by imposing regulatory conditions on Royal Mail, requiring it to provide the Universal Postal Service.

Under sections, 30 and 31 of the Act (read with sections 32 and 33) there is a set of minimum standards for Universal Service Providers, which Ofcom must secure. The conditions imposed by Ofcom reflect those standards. There is, in effect, a statutory obligation on Royal Mail to provide at least one collection from letterboxes and post offices six days a week and one delivery of letters to all 29 million homes and businesses in the UK six days a week (five days a week for parcels). Royal Mail must also provide a range of "end to end" services meeting users' needs, e.g. First Class, Second Class, Special Delivery by 1 pm, International and Redirections services.

Royal Mail is under some of the highest specification performance obligations for quality of service in Europe. Its performance of the Universal Service Provider obligations is in the public interest and should not be affected detrimentally by any statutorily authorised project.

The Government imposes financial penalties on Royal Mail if its Universal Service Obligation service delivery targets are not met. These penalties relate to time targets for:

- collections,
- clearance through plant, and
- delivery.

Royal Mail's postal sorting and delivery operations rely heavily on road communications. Royal Mail's ability to provide efficient mail collection, sorting and delivery to the public is sensitive to changes in the capacity of the highway network.

Royal Mail is a major road user nationally. Disruption to the highway network and traffic delays can have direct consequences on Royal Mail's operations, its ability to meet the Universal Service Obligation and comply with the regulatory regime for postal services thereby presenting a significant risk to Royal Mail's business.

## Potential impacts of the scheme on Royal Mail

Royal Mail has four operational facilities within 10 miles of the proposed DCO boundary as listed below:

Winchester Delivery Office	WINNALL MANOR ROAD WINCHESTER SO23 0AA	0.75 miles
Alresford Delivery Office	STATION ROAD ALRESFORD SO24 9AA	7.9 miles
Romsey Delivery Office	15 CHURCH STREET ROMSEY SO51 8XA	8.4 miles
Eastleigh Delivery Office	2 GOODWOOD ROAD EASTLEIGH SO50 4NT	8.5 miles

Junction 9 of the M3, as the intersection between the M3 and the A34, is a critical junction used by both Royal Mail's national operation and its local collection, distribution and delivery operation.

Nationally, on any given day, this junction will potentially see 85 national services carry mail to and from Dorset and Southampton Mail Centres. Vehicles operate over a 24 hour period with the majority passing through this junction between 19:00 and 05:00 daily and across 7 days a week. The M3 /A34 junction is used by services to and from the South West Distribution Centre (SWDC) in Bristol and the National Distribution Centre (NDC) in Northampton.

The M3 is used by services to and from Princess Royal Distribution Centre in London and also by services to and from Stanstead Airport that will convey air mails for the UK. The majority of national services operate double decked services and due to height restrictions on some bridges the routes are limited for these vehicles.

Delays in any service can compromise the exchange of mail at the hubs to their due destinations and an example would be the 04:18 service from NDC to Southampton. The service needs to arrive at the latest in Southampton by 04:18 as the mail centre has to unload and sort mails due to the Isle of Wight by 05:35 so the vehicle can leave and connect with the due ferry in Portsmouth with the aim of arriving in Newport no later than 08:15 to meet delivery.

M3 junction 9 also handles local Royal Mail operations both for collections, distribution and delivery especially to offices in Winchester, Alresford, Andover Tidworth, Amesbury and Bulford. The local Winchester Delivery Office, which is c 0.75 miles away from this motorway junction, uses it to gain access to A34 for delivery routes situated just off the A34 which is north of the M3.

The total number of local 7.5 tonne vehicle services that use the junction daily across a 24 hr period is 35 x 7.5t movements across the day.

Once complete, the proposed M3 Junction 9 Improvement will undoubtedly improve traffic conditions on it and the surrounding highway network, so Royal Mail does not wish to prevent it from going ahead. However, in view of the high operational importance of this motorway junction to Royal Mail's business as outlined above, it wishes to protect of its future ability to provide an efficient mail sorting and delivery service to the public in accordance with its statutory obligations which may potentially be adversely affected by the construction of this proposed improvement scheme.

### Royal Mail's comments on scope of Environmental Statement

1. Royal Mail requests that the Transportation section and the Transport Assessment within Highways England's ES includes information on the needs of major road users (including Royal Mail). The ES should acknowledge the requirement to ensure that major road users are not disrupted through full advance consultation at the appropriate stages in the DCO and development processes.
2. Royal Mail requests that it is fully pre-consulted (at least one month in advance) by Highways England and its contractors on any proposed road closures / diversions/ alternative access arrangements, hours of working and the content of any Construction Traffic Management Plan. The ES should acknowledge the need for this consultation with Royal Mail and other relevant major road users.

Royal Mail is able to supply the applicant with information on its road usage / trips if required.

Should PINS or Highways England have any queries in relation to the above then in the first instance please contact -

Denise Stephenson [REDACTED] of Royal Mail's Legal Services Team or  
Dan Parry-Jones ([REDACTED]) of BNP Paribas Real Estate.



**From:** [Holmes, Jon](#)  
**To:** [M3 Junction 9](#)  
**Subject:** Scoping Opinion  
**Date:** 04 November 2020 12:25:37

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Dear Sir/Madam,

**Scoping Consultation**

**Application by Highways England for an Order granting Development Consent for the M3 Junction Improvement**

Thank you for notifying us of this matter. Having reviewed the Scoping Report (Highways England, October 2020), East Hampshire District Council has no comment.

Yours faithfully

Jon Holmes  
Principal Planning Officer  
**East Hampshire District Council**  
Penns Place  
Petersfield GU31 4EX  
T. [REDACTED]  
W. [www.easthants.gov.uk](http://www.easthants.gov.uk)

19 November 2020

The Planning Inspectorate  
Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol, BS1 6PN

**Sent via email only**

**Your Reference:** TR010055-000100  
**Our Reference:** SDNP/20/04610/SCOPE

Dear Sirs,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11**

**Application by Highways England (the Applicant) for an Order granting Development Consent for the M3 Junction 9 Improvement (the Proposed Development)**

Thank-you for your letter dated 20 October 2020, requesting comments from the South Downs National Park Authority (SDNPA) on the applicant's report that accompanied their request for a second Scoping Opinion from the Secretary of State.

### **General Comments**

We welcome the acknowledgment within the report that any assessment work will reflect the highest status of protection the landscape of a National Park enjoys and welcome the statement in paragraph 1.3.3 that 'consideration will be given to the enhancement of the South Downs National Park (SDNP) where possible'.

However, we would like to see this statement strengthened including recognition of the duty of public bodies to have regard to the purposes of designation namely to:

- Conserve and enhance the natural beauty, wildlife and cultural heritage; and
- Promote opportunities for the understanding and enjoyment of the special qualities of National Parks by the public.

Currently the Scoping Opinion Report does not highlight the importance of the National Park's purposes as a guiding principle in the preparation of the M3 junction 9 improvement design and development. We would wish to see the purposes of designation mentioned in Section 2.2. as a guiding principle under 'improved environment'.

Improvements to the environment should seek to conserve and enhance natural beauty, not least because 68% of the proposed scheme will fall within the SDNP and otherwise lie immediately adjacent to the boundary.

Environmental mitigation as set out in paragraph 2.4.49 should therefore make explicit reference to furthering the purpose of designation ensuring the proposed development conserves and enhances

landscape character and special qualities of the National Park and opportunities for understanding and enjoyment of these qualities.

We believe that a focus on the Statutory Purposes whilst developing the scheme and for example, undertaking the LVIA, will enable the baseline assessment to consider the existing adverse effects of the M3 corridor on the natural beauty and recreation of the area and therefore to actively seek enhancement of the current situation through the proposed works as well as conserve existing qualities of the area.

We are concerned that without this focus it is possible the M3 junction 9 improvements will merely seek to minimise landscape effects of the proposals through mitigation rather than taking a more holistic and strategic approach to address current adverse effects of road infrastructure. Given the national importance of the South Downs landscape we consider a more ambitious and creative approach is required.

We also welcome (whilst not commenting on the suitability of any proposed mitigation) the expansion of the 'Indicative Application Boundary' (IAB) to include land for potential mitigation and enhancement measures and that it is subject to change as the proposal develops.

We welcome this approach, but would like to state for the record now that the SDNPA does have some concerns with the extent of the IAB in relation to areas for potential excess spoil management. This is because in these areas, spoil will need to be graded to tie in with existing contours and will require sufficient room to achieve this effectively. Currently the red line of the IAB has straight edges which cut across contours and this may not be conducive to achieving this aim.

We would also like to make the following comments in relation to particular chapters of the report.

### **Air Quality**

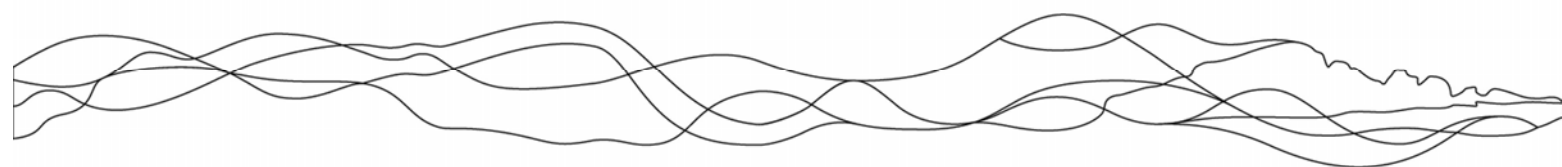
Our February 2019 comments (in response to the first Scoping Opinion request) relating to this issue remain unchanged. The existing tree and woodland cover within and surrounding the proposed site plays a significant role in absorbing air pollution. The SDNPA considers that any air quality assessment needs to acknowledge and consider the impacts from the proposed removal of the existing vegetation for both the construction and operational phases of the proposed scheme.

### **Cultural Heritage**

Zone of Theoretical Visibility (ZTV) – although this has still not been produced, the SDNPA welcomes that the revised Scoping Opinion Report does now acknowledge that 'any cultural heritage assets identified as having inter-visibility with the Proposed Scheme and considered to have the potential to receive significant effects from the Proposed Scheme will be assessed during further detailed assessment regardless of distance from the IAB'.

The brief synopsis of known archaeological features (both designated and non-designated) within the IAB and the Study Area (outlined between 7.2.7 and 7.2.12) show that the proposed scheme will impact sites of significance, both locally, regionally and nationally, with some having the potential to shed light on the development and ongoing history of Winchester as a settlement and its relationship to the wider landscape.

At 7.2.12 it says that 'the archaeological remains excavated during previous archaeological investigations within the IAB have been removed from the IAB and therefore have no value/ sensitivity'. Whilst, this is correct (they have been excavated), they remain indicative of wider archaeological potential and provide valuable context for known and currently unknown archaeological remains. The Scoping Opinion Report appears to go on to acknowledge this but we



would welcome confirmation that this connection will be reflected in the new Desk Based Assessment mentioned at 7.1.2.

At 7.3.8 there is no mention of the short, medium and long term implications of the proposed scheme on in situ preservation of below ground archaeology in the event of potential changes in water table and soil saturation caused by management of water flow from the road and in relation to changes in the wider landscape, although this is mentioned specifically at 7.4.3 and at 7.5.1. We would suggest that this should be listed as a specific potential direct or indirect impact at 7.3.8 for consistency.

We welcome the suggestion in 7.4.5 of ongoing consultation as the detailed design progresses. However, we would also like to reiterate that we would want any discussions to include enhancement measures (to help support the Statutory Purposes and Duty of the SDNP), not just mitigation measures.

## **Landscape and Visual**

### *Study Area Boundary*

The SDNPA notes that the study area for the LVIA is 3km north/south and 2km east/west from the red line of the current IAB. Given the location of additional areas for management of excess spoil, we consider that the study area should be expanded to 3km from the red line of the IAB in all directions. This would ensure that all viewpoints fall within the study area (including Whiteshute Lane, see comments below on viewpoints) and all landscape effects can be fully considered.

### *Landscape Receptor – Topography*

The SDNPA welcomes the recognition of topography as important to the SDNP and in providing a setting to the River Itchen. We would also draw attention to the fact that topography is a key element in defining the setting to Winchester City as set out in the Winchester City and its setting study (1998). We also note that topography is one of the key landscape elements which will be affected by the proposed scheme.

We would welcome the opportunity to work with Highways England to identify the best location for the management of excess spoil and currently we do have concerns that the selected areas may result in the 'in filling' of topography.

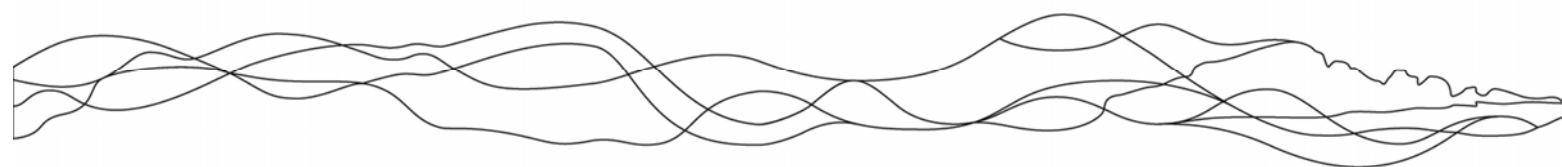
### *Landscape Character Baseline*

The SDNPA welcomes reference to all the key landscape character assessments which cover the study area and wish to see the Winchester City and its setting study (as noted above) is also included.

In 2018/19 the SDNPA commissioned consultants to consider the existing M3 corridor in relation to landscape and potential mitigation. This study defined local landscape character areas. We note in the scoping opinion para 8.6.8 that the LVIA may defined local character areas. Extracts of the plans and descriptive text of the local landscape character areas already defined for the SDNPA have been shared with Highways England's consultants (in email correspondence in Oct 2020) and we would encourage the use of these within the assessment.

### *Reference to other studies*

As highlighted in our February 2019 comments, we note that cultural heritage will include reference to historic landscape characterisation (HLC). We would wish to see collaboration between cultural heritage and landscape effects in relation to HLC in accordance with Guidance on Landscape and Visual Impact Assessment (3<sup>rd</sup> Edition) paragraphs 5.7-5.11. We feel this is an important part of understanding the landscape baseline and in developing appropriate mitigation.



### Public Rights of Way

We note that in Table 8-1 reference is made to public rights of way (footpaths, bridleways, byways and cycle routes) but no reference is made to Open Access Land of which there are a number of areas within the study area, for example Whiteshute Lane, St Catherine's Hill, north of Morestead Road and Magdalen Hill Down. We would suggest that effects from areas of open access are included in the assessment and that where viewpoints are identified within open access land, the location is chosen based on a worst case scenario.

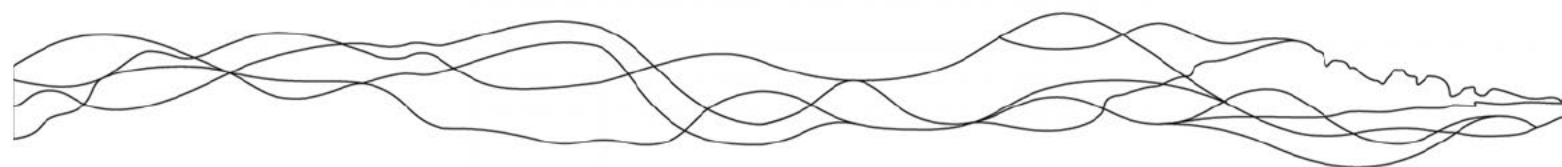
### Viewpoint Locations

Whilst no ZTV for the proposed scheme has been included within the Scoping Opinion Report, we note that a ZTV will be prepared as part of the LVIA. We welcome this and would encourage the use of a series of ZTVs looking at different components of the scheme in order to establish the effects of individual elements of the proposals and also to inform and finalise the selection of representative viewpoint locations. We consider this level of detail is required for a scheme of this complexity.

Based on the information provided to date including Table 8-2 and Figure 5-3-1 we would like to make the following suggestions regarding the proposed viewpoint locations and have also suggested a number of additional viewpoints which reflect the current junction improvement proposals, including areas of search for management of excess spoil, set out in Table 1 below. These are also illustrated in Figure 1 below (orange circles are those viewpoints detailed in the Scoping Opinion Report, the purple circles reflect suggested relocation of a viewpoint and green circles reflect proposed new viewpoints). Some, but not all, of these suggestions have been shared with Highway England's consultants in recent email correspondence.

Table 1: Suggested amendments to viewpoints (purple in Figure 1) and additional viewpoints (green in Figure 1)

Viewpoint	Commentary
7	Ensure the location of this viewpoint is from the open space/footpath access within the area of biodiversity enhancement associated with Barton Farm development. A location on slightly higher land north of the proposed hedgerow may be a better location to reflect a worst case scenario (shown on attached plan)
8	The main footpath to the northwest of the viewpoint has open views looking north. Consider reviewing the location of viewpoint 8 to ensure it is from a location which reflects a worst case scenario.
10	There are two viewpoints marked as No 10. Both appear to be from public rights of way. However, Whiteshute Lane is also an area of Open Access Land and there are open elevated views from this publicly accessible location. Consider moving the location of viewpoint 10 to the open Downland ensuring it reflects a worst case scenario (revised location shown in Figure 1).
12	There are two viewpoints marked as No. 12. Assume that one is from the main road approaching the junction and the other from residential receptors. Suggest both are retained and renumbered.
13	Ensure viewpoint is located at gap in hedgerow (as Long Walk is recognised part of the PROW network in lieu of any other paths, hence its name).
Additional Viewpoints	Identified to reflect revised Indicative Application Boundary and areas of search for excess spoil.
A	Itchen Valley along valley floor between A33 and M3





Additional Viewpoints	Identified to reflect revised Indicative Application Boundary and areas of search for excess spoil.
B	Public right of way on northern valley slopes with views south towards search area for excess spoil
C	B3047 road bridge looking south along M3 with area of search for excess spoil in background
D	Southern route for Itchen Way along southern side of floodplain with views south towards area of search for excess spoil and M3 carriageway
E	Historic byway leading from Easton to Itchen Watermeadows / Long Walk adjacent to area of search for excess spoil and with elevated views across M3 corridor
F	Elevated views from northern slopes of Itchen Valley looking southwest across valley to M3 corridor and area of search for excess spoil
G	Townscape view from residential properties at Coram Close with views east across Itchen Valley
H	Elevated views across A31 to steep slopes / area of search for excess spoil from public right of way and open access land
I	Views north from South Downs Way footbridge
J	Views west from Kings Lane adjacent to area of search for excess spoil
K	Views northwest from Chilcomb Church looking northwest towards areas of search for excess spoil along A31.
L	Views north down M3 corridor from elevated land along Morestone Road – exact location to be determined – open access land to north of road and or public footpath / open access land to south.

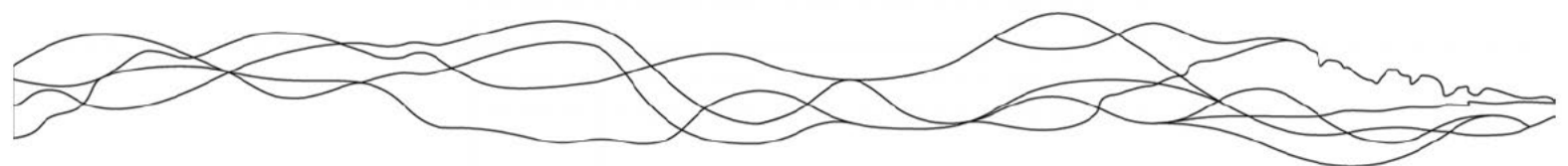


Figure 1: viewpoints



#### *Potential Impacts*

Paragraph 8.3.1 notes significant effects include the removal of, or damage to, landscape elements and on landscape character. To this we would also add the introduction of new uncharacteristic elements.

Paragraph 8.3.3 lists the key impacts likely to arise as a result of the proposed scheme. To this list we would like to see added:

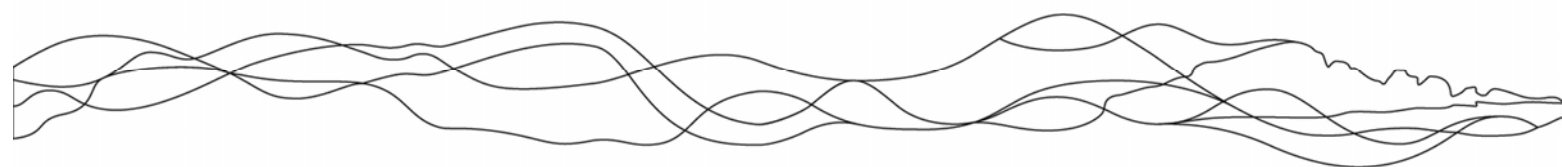
- Effects on topography;
- Effects on open agricultural land;
- Change to recreation and enjoyment, and
- Cumulative effects with other road infrastructure in the area.

We would also expect the LVIA to consider all aspects of the proposed development including ancillary development such as CCTV masts, signage and lighting which may be more visually obvious given the height of elements.

#### *Mitigation*

Section 8.4 includes details of mitigation and despite 'enhancement measures' being included in the title the descriptive text provides few details of enhancement, except for the better management of existing vegetation (paragraph 8.4.11) and creation of chalk grassland. It is also unclear if all mitigation will be undertaken within the red line of the IAB or if there is additional scope for off-site mitigation.

Paragraph 8.4.1 states the principle objective of landscape mitigation is to 'integrate and minimise adverse landscape and visual impacts'. Given a significant part of the proposals fall within the SDNP we would suggest that the principle objective to mitigation is to further the purposes of the National Park designation as referenced above.



It is noted in paragraph 8.4.8 that earthworks will be designed, where possible, to help integrate into the gently undulating topography of the area, ensuring sensitive grading to seamlessly marry in with the existing adjacent Downland, especially on the eastern side of the M3 corridor. We have already highlighted concerns regarding the red line boundary of the IAB and would add that the identification of areas for the management of spoil should seek to:

- highlight changes in topography and not ‘fill in’ shallow coombes or depressions;
- avoid the creation of landscape effects within areas of landscape that would otherwise remain relatively unaffected by the proposed scheme;
- consider these areas for the restoration of chalk grassland;
- take account of the role of some areas in the setting of Winchester or the Itchen Valley, and
- enhance recreational routes and connections between Winchester and the SDNP.

We would wish to see the development of mitigation measures which are grounded in an understanding of the special qualities of the National Park and local areas and which seek not just to minimise the adverse effects, but also actively seek enhancement the landscape and special qualities including through the reduction in existing effects of road infrastructure on the SDNP.

In terms of recreation, we welcome the recognition that the vicinity of the Junction 9, M3 corridor road infrastructure is a substantial barrier to the South Downs National Park for horse riders, pedestrians and cyclists. Given the purposes of National Park designation we would wish to see measures proposed to improve the current situation.

#### *Methodology*

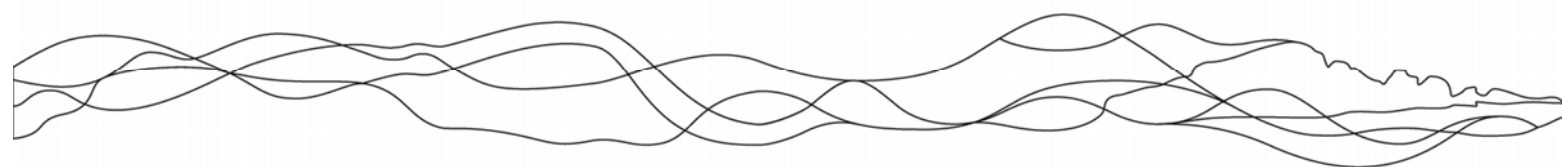
We note that table 8-8 sets out a significance matrix to guide professional judgement. We also note in paragraph 8.6.20 that where the effect could be one of two grading’s professional judgement will be used to determine which effect is applicable. We would suggest that rather than chose one or another the profession judgment provides a commentary on where the effects lie within the spectrum between the two categories. To do otherwise runs the risk of downplaying or overstating effects. We therefore recommend that the wording in the table is changed from ‘moderate or large’ to ‘moderate to large’.

Currently both very high and high sensitivity receptors, when combined with a negligible magnitude of change, would give rise to slight significance of effect only. Given the status of a ‘very high sensitivity receptor’ compared to a ‘sensitive receptor’ we would expect negligible effects on the former to reflect a slight to moderate effect rather than just slight. Currently the gradation of significant effects for ‘very high sensitivity receptors’ jumps from ‘slight’ to ‘moderate or large’ whereas for high sensitivity receptors it is more gradual e.g. slight, slight to moderate, moderate to large and large or very large.

#### *Assessing Effects on the National Park*

The SDNPA recommends that when assessing effects on the National Park consideration is given to the purposes of National Park designation and the effects are considered in terms of how they:

- conserve the special qualities of the SDNP as a whole (with reference to the special qualities) including those expressed at a local level;
- enhance the character and qualities of the landscape within the study area and the distinctiveness of the SDNP landscape as a whole, and
- provide opportunities for the enjoyment and understanding of the landscape within the SDNP.





## **Biodiversity**

Further to our 2019 comments (in response to the first Scoping Opinion request), the SDNPA welcomes the updated survey work being undertaken (both in 2020 and 2021) and welcome the inclusion of further assessment work of the SSSI features, priority habitats and species set out in the Scoping Opinion Report.

We note that the areas of additional land now included in the IAB are currently undergoing Preliminary Ecological Assessment (PEA) and it would be helpful to understand any recommendations that come out of this work and assurances that any recommendations are incorporated into the ES.

## **Noise and Vibration**

Our February 2019 comments (in response to the first Scoping Opinion request) relating to this issue remain unchanged. The existing tree and woodland cover within and surrounding the site plays a significant role in acting as a buffer to the significant noise generated by the vehicles using the existing roads. Therefore, the SDNPA considers that any noise assessment needs to acknowledge and consider the impacts from the proposed removal of the existing vegetation for both the construction and operational phases of the proposed scheme.

## **Population and Health**

The SDNPA would encourage that any assessment on health and population includes, where possible, the impact of COVID-19. For example,

- paragraphs 13.2.21 onwards state health indicators from 2017 and 2019. This will not address health implications of COVID-19, and our changing relationship with greenspace (and needs around access to greenspace) as part of COVID-19 recovery for communities.
- paragraphs 13.2.26 onwards state labour market projections based on certain assumptions made pre-COVID-19 about how people work and the health and development of the UK economy. 13.2.31 goes on to state that the main employment sectors in the area as 'likely to be directly impacted by journey time improvements, changes in productivity, access to markets and / or effects on development land and are therefore of relevance to this impact assessment'. This proposes a pre-COVID-19 approach to work delivery, supply chains etc.

We would also suggest, contrary to paragraph 13.2.36, that the Winchester Science Centre and Planetarium does fall within the proximity of the IAB and therefore should be included within the assessment as a specific likely tourism destination.

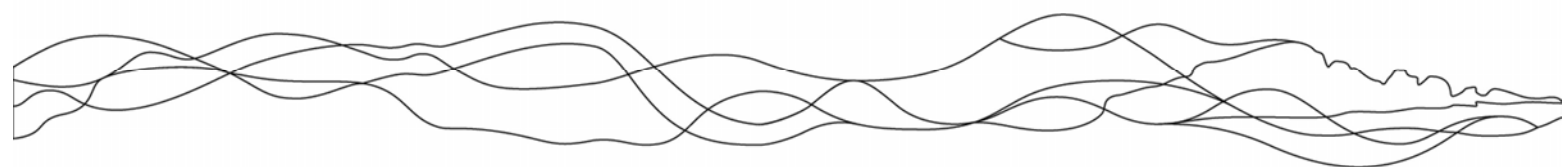
## **Road Drainage and the Water Environment**

Our February 2019 comments (in response to the first Scoping Opinion request) are unchanged, the report highlights the key issues relation to flooding and water quality both in surface water and groundwater. However, of principal concern is the siting of the works on Source Protection Zone 1 for groundwater and the potential for operational discharges to soakaways. Ideally future drainage schemes should not be direct to a soakaway without additional interventions.

There are also major risks of contamination of the River Itchen during construction and operation, as the only river in the SDNP which has good WFD status all necessary measures should be put in place to avoid any pollution incidents. The SDNPA therefore welcomes reference to this issue.

However, the SDNPA does not agree that the issue of Nitrate Neutrality should be scoped out of the assessment (as referred to in Table 14.4). This scheme could have a significant environment impact in relation to this issue. For example,

- the potential impact of water run-off from the new road surfaces;



- during the construction phase the earth works / ground disturbance works could create run-off issues given the site's close proximity to the River Itchen (part of the fluvial catchment area for the Solent Special Protection Area), and
- during the operational phase, the scheme or any mitigation or enhancement measures could have significant positive benefit taking land out of agricultural use and converting it to a use (for mitigation) that does not artificially increase the nitrogen load of the land and / or creating wetland environments that act as a nitrogen sink and remove nitrogen from the river (a catchment management solution).

### **Update to South Downs Landscape Character Assessment**

For information, the SDNPA has recently updated its Landscape Character Assessment. The 2020 updated assessment is available to view online (and is interactive) at <https://www.southdowns.gov.uk/landscape-design-conservation/south-downs-landscape-character-assessment/south-downs-landscape-character-assessment-2020/>.

We trust the information above will be of assistance to the Secretary of State in forming their scoping opinion. If you have any queries regarding the above please contact Kelly Porter, Major Projects Lead, on [REDACTED] or [REDACTED]

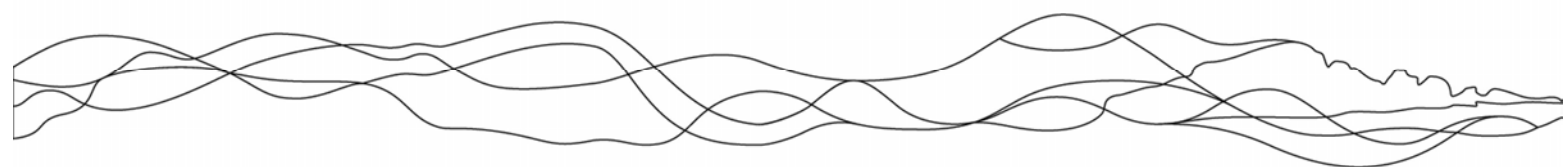
Yours faithfully

Tim Slaney  
Director of Planning  
South Downs National Park Authority

South Downs Centre, North Street,  
Midhurst, West Sussex, GU29 9DH

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Chief Executive: Trevor Beattie







Environmental Services  
Central Operations  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

Your Ref: TR010055-000100  
Our ref: 20/02296/SCOPE  
Contact: Robert Green  
Direct Line: [REDACTED]  
Email: [REDACTED]

19th November 2020

Dear Sir / Madam,

**CONSULTATION UNDER THE PLANNING ACT 2008 (AS AMENDED) AND THE  
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT)  
REGULATIONS 2017 - REGULATIONS 10 AND 11**

**Applicant:** Highways England

**Proposal:** Order granting Development Consent for the M3 Junction 9  
Improvement

**Location:** M3 - Junction 9

Thank you for your consultation to Winchester City Council regarding the above EIA scoping opinion, which was received on 20<sup>th</sup> October 2020.

This follows a previous Scoping Opinion consultation to which Winchester City Council replied on 22<sup>nd</sup> February 2019 (19/00224/SCOPE).

The Planning Inspectorate has identified Winchester City Council Local Planning Authority as a consultation body which must be consulted before adopting its Scoping Opinion. You have asked us to:

- Inform the Planning Inspectorate of the information we consider should be provided in the Environment Statement; or
- Confirm we do not have any comments.

Further to this request, I hereby enclose the response below.



Please contact the case officer, Robert Green, if there is anything you would like to discuss.

Yours Sincerely,

**Julie Pinnock BA (Hons) MTP MRTPI**

Service Lead - Built Environment

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**SCOPING OPINION**

**Consultation from the Planning Inspectorate regarding the EIA Scoping Opinion for the M3 Junction 9 Improvement works.**

Winchester City Council as Local Planning Authority wish to submit comments in respect of the Scoping Opinion consultation request from the Planning Inspectorate regarding the Scoping Report submitted to the Authority on 20<sup>th</sup> October 2020.

I include general comments to the Scoping Opinion first which covers interrelated matters and the City Council's declaration of a Climate Emergency.

I then include the responses from the specialist departments of Winchester City Council.

*Please Note: The Council has complied with the request to provide a scoping opinion consultation response on a without prejudice basis and in so doing does not necessarily accept or imply that the development accords with the policies of the Development Plan.*



## General Comments of Winchester City Council Local Planning Authority

- The general topic headings to be scoped in, as summarised in section 17.1.1 of the submitted report are agreed.
- Whilst 'assessment of nutrient neutrality' is proposed to be scoped out in Table 17-2 (*road drainage and the water environment*), an assessment of the nutrient impact would be expected within other supporting documents outside of the Environmental Statement given the identified ongoing concerns for the Solent water system in the region.
- Winchester City Council declared a Climate Emergency in June 2019 and *Climate* will form a vital part of the Environmental Statement and on-going assessment of the scheme. Whilst Climate correctly has its own topic section in the Environmental Statement, this is a topic which is interrelated with and has involvement in other parts of the ES. It is therefore important that the applicant provides an assessment of how Climate and the Climate Emergency declaration have been considered and responded to across all topics of the ES.
- Within *Landscape and Visual*, it is important to note the proposed spoil management areas are within the South Downs National Park and it would be expected this is also considered within the landscape impact assessment.
- Guidance on EIA: Scoping (European Commission, June 2001) is available on this website: [REDACTED]  
[REDACTED]
- It is recommended that there is continuous review of the Winchester City Council Local Plan 2036 (Winchester City Council 2018) as it emerges through the scope of the EIA - <https://www.winchester.gov.uk/planning-policy/winchester-city-council-local-plan-2036>

## Consultation Responses

A number of departments within Winchester City Council have been consulted as part of this consultation. The comments that Winchester City Council submit are set out in these consultation responses in respect of the various topic matters as listed:

- Drainage
- Ecology
- Environmental Protection – Air Quality/Noise
- Environmental Protection – Contaminated Land
- Historic Environment – Archaeology
- Historic Environment – Heritage
- Landscape
- Strategic Planning
- Urban Design



## Drainage

Bridge works over the Itchen would be of interest to the Environment Agency, they would also need to issue a permit separately to planning. They may wish to comment on EIA matters relating to the proposed scheme.

Regards

**Tom Callaway**  
Land Drainage Engineer

Winchester City Council  
Cipher House  
Moorside Road  
Winchester  
SO23 7RX

Tel: [REDACTED]  
Ext: [REDACTED]



## Ecology

I am happy with the revised proposals regarding the assessment of biodiversity.

The River Itchen SAC/SSSI is one of the main ecological features with potential to be impacted, as well as a number of other habitats and species in the environment. Disturbance, fragmentation and pollution are the main potential impacts and avoidance, mitigation, compensation and enhancement measures will have to be looked at.

Enhancements can include habitat creation which should strategically connect with other important habitats.

Regards,  
Rick

Richard Smith MSc CEnv MCIEEM  
Principal Ecologist & Biodiversity Officer  
Natural Environment and Recreation

Winchester City Council  
Colebrook Street

Winchester, SO23 9LJ

Tel: [REDACTED]

Ext: [REDACTED]



*Ecology (Response to 19/00224/SCOPE)*

## Internal Consultation Request

To : **Ecology**

From: **Esther Gordon** [REDACTED]

Planning Application: **19/00224/SCOPE**

Location: **M3 Junction 9 Easton Lane Winchester Hampshire**

Proposal: **Application for an Order granting Development Consent for the M3 Junction 9 Improvement Project**

Respond by: 20 February 2019

**Listed or Conservation Information (if Applicable)**

### **Response from Ecology 20<sup>th</sup> February 2019**

#### **Section 6 covers Air Quality**

Ecological receptors with background nitrogen deposition below the critical load within St Catherine's Hill SSSI, but above within River Itchen SSSI and SAC.

The assessment on LSE (likely significant effects) on ecological receptors will be undertaken in accordance with HA standards and the associated interim advice notes.

#### **Section 9 covers Biodiversity**

LSE is predicted for a number of notable species through habitat loss, disturbance and direct mortality and a hierarchical approach to mitigation will be adopted to avoid/reduce adverse impacts. Compensation/offsetting measures may be required. A biodiversity net gain needs to be assessed and achieved.

Great Crested Newts (GCN) have been scoped out as the results of the laboratory analysis identified that none of the waterbodies included within the analysis contained GCN newt DNA and GCN are considered to be absent from the study area and the extent of the Proposed Scheme.

#### **Section 14 covers Road Drainage and the Water Environment**

Best practice recommendations for the prevention of contamination and pollution, an erosion prevention and sediment control plan, should be outlined in detail in the CEMP. The potential impacts from pollution, changes to groundwater resources, accidental spillages and flood risk on the River Itchen SSSI and SAC will be assessed through the HRA.

## Environmental Protection – Air Quality/Noise

### Environmental Health

Regarding below I can confirm that the alterations to the scheme have not changed our position to that within our response to the provision scoping opinion request (as detailed in our response to 19/00224/SCOPE) i.e. **no adverse comments**. I understand this is also the case with regards to Contaminated land matters but have asked James Hucklesby to confirm this to you tomorrow. I can also advise that we have already had more detailed conversations with the applicant's environmental consultants on matters relating to noise and air quality in order to assist in informing the expected detailed methodologies within any subsequent EIA.

Regards

#### **Phil Tidridge**

Chartered Environmental Health Practitioner  
Winchester City Council  
Colebrook Street  
Winchester, SO23 9LJ

External Tel: [REDACTED]

Internal Ext: [REDACTED]



[www.winchester.gov.uk](http://www.winchester.gov.uk)

[REDACTED]

I have reviewed the scoping report with specific reference to the potential air quality and noise scoping elements (Alison Harker has already commented regarding contaminated land). Overall I have no objections in principle to the scoping works proposed but below are a few detailed comments.

#### **Air Quality (Chapter 6)**

I am satisfied with the data and assessment criteria presented and the criteria scoped in for further detailed assessment. Table 6.5 summarises the elements to be scoped in to the EIA for air quality and I would provide the following feedback regarding these scoping proposals:

1. The assessment of impact due to traffic management measures during construction – I would expect this to include air quality impacts caused by road closures and traffic diversions with specific reference to potential adverse impact this has on Winchester City Centre and the current AQMA.

2. The assessment of impacts on emissions including particulate matter for the local air quality area – This is welcomed but it is not clear if the “particulate matter” referenced is PM10, PM2.5 or both. With a future focus on PM2.5 modelling for this criteria would be welcomed.

#### **Noise and Vibration (Chapter 12)**

I am satisfied with the assessment criteria presented and the criteria scoped in for further detailed assessment.

Baseline noise data (Paragraph 12.6.46) - I can confirm I have already had discussions with Andrew Clarke at Jacobs regarding suitable locations and durations for “establishing baseline noise data to establish the relationship between daytime/night-time noise levels and select the most appropriate method to predict noise levels at night, from available traffic data.”

Regards

**Phil Tidridge**  
Environmental Health & Licensing  
Winchester City Council



## Environmental Protection – Contaminated Land

I have reviewed the contaminated land section of the supplied scoping report for the M3 Junction 9 Improvement and I can confirm that the alterations to the scheme have not changed our position to that within our response to the provision scoping opinion request (as detailed in our response to 19/00224/SCOPE) **i.e. no adverse comments.**

If you have any questions regarding the above please contact me.

Kind regards

James

**James Hucklesby**

Environmental Health Protection Officer  
Environmental Health  
Winchester City Council  
Colebrook Street  
Winchester, SO23 9LJ

Tel: [REDACTED]  
Ext: [REDACTED]



## Environmental Protection – Contaminated Land (Response to 19/00224/SCOPE)

### Comments

Thank you for your consultation.

I have reviewed the Highways England M3 Junction 9 Improvements Environmental Impact Assessment Scoping Report (Report Ref: HE551511-JAC-EGN-0\_00\_00-RP-LE-0001 P03, January 2019) and have the following comments to make:

Chapter 10 - Geology and Soils reports a potential for contaminant linkages to exist and recommends these are duly investigated and assessed as part of the EIA using the documented methodology. I can confirm I am satisfied with the proposals contained in the scoping report regarding the assessment of potentially contaminated land and have no adverse comments at this stage.

## Historic Environment - Archaeology

### Planning Consultation Comments

**RE: 20/02296/SCOPE**

**M3 Junction 9, Easton Lane, Winchester**

#### **Key issues:**

1. The preservation, conservation, investigation and recording of archaeological interest (Policy DM26 Winchester District Local Plan Part 2; Policy CP20 Winchester District Joint Core Strategy; NPPF Section 16).

#### **Consultation response:**

I have reviewed the Highways England M3 Junction 9 Improvement Environmental Impact Assessment Scoping Report – Request for a second Scoping Opinion. (Report Number: HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002, Date: October 2020, Revision: P02).

Chapter 7 of the report considers Cultural Heritage and Section 7.8, Table 7-4 confirms that archaeological remains (along with Historic Buildings and Historic Landscapes) are matters that are to be scoped into the EIA.

#### **Sections 7.1 Study Area and 7.2 Baseline conditions**

A new Cultural Heritage Desk-Based Assessment is currently in preparation for the revised scheme area. I can confirm that the proposed study area has been accepted and is similar to that for previous studies relating to this scheme. Data from the Winchester Historic Environment Records has already been supplied to the Project Team for this, as noted in para. 7.2.3.

The scoping report confirms that the CH DBA will consider in more detail setting issues on designated heritage assets (Scheduled Monuments), historic landscapes and undesignated assets, addressing concerns raised during previous iterations of this scheme (para. 7.2.1).

The proposed sources of information for the CH DBA are set out in para. 7.2.3 of the scoping report. Whilst I agree that these are appropriate, it is important that all previous archaeological reports are included (the 2019 Sumo report on a previous second phase of geophysical survey is not referenced).

#### **Section 7.3 Potential impacts**

The potential impacts likely to arise from the scheme set out in this section of the scoping report are considered to be comprehensive. Both direct and indirect impacts are to be considered, with the former including temporary works areas, landscaping /

planting and bridge works. I am pleased to note that potential indirect impacts from de-watering / changes to hydrological regimes on archaeological, geoarchaeological and palaeoenvironmental remains are also to be considered (para. 7.3.7). Although a Zone of Theoretical Visibility has yet to be defined (para. 7.5.2), impacts to the setting of Scheduled Monuments (views from / skyline changes / inter-visibility) and division of Historic Landscapes will also be assessed (para. 7.3.8 – 7.3.9).

#### **Section 7.4 Design, mitigation and enhancement measures**

The proposed phased programme of further geophysical survey and evaluation trenching following the increase in the site boundary and other scheme changes (para. 7.4.1 – 7.4.2) is welcomed.

An archaeological watching brief is proposed on further ground investigations and geotechnical investigations, particularly in the floodplain of the River Itchen (para. 7.4.2). Where such investigations are not safe to monitor or they comprise boreholes it is proposed that logs are passed to the archaeological team for review (para. 7.4.2). In my view this may not be sufficient and the strategy for further evaluation should include purposive geoarchaeological boreholes and attendance by qualified geoarchaeologists / environmental specialists where appropriate.

#### **Section 7.5 Description of likely significant effects**

I concur with the statement that residual effects on buried archaeological remains following mitigation are unlikely, barring any potential changes to local hydrological regimes (section 7.5). Regarding the former, the provision for consultation with the Historic England science advisor, as set out in para. 7.4.3 in this context is welcomed. This issue should be considered through joint working by the relevant project teams throughout the design, site investigation and analysis stages of the EIA.

Possible residual effects to the setting of Scheduled Monuments and on Historic Landscapes (para. 7.5.2 & 7.5.3) have also been identified, with further assessment required and (for the former), the production of a suitable Zone of Theoretical Visibility.

#### **Section 7.6 Assessment Methodology**

I advise that the proposed EIA methodology set out in Section 7.6 of the Scoping Report is appropriate and follows accepted sector methodologies.

#### **Section 7.7 Assessment assumptions and limitations**

I have no comments on this section of the Scoping Report, the contents of which are noted and agreed.

#### **Conclusions**

Further to this Scoping Report and the comments provided above, it is considered that an appropriate EIA will be undertaken and should result in a comprehensive ES. Key to this will be cross area engagement between the Cultural Heritage and other Project teams, including but not confined to Geology and Soils, Road Drainage and Water Environment and Landscape and Visual considerations.

Further discussions will be required through the ongoing design stage, in relation to the further site investigations that are required (including purposive geoarchaeological investigations), and in developing proposals for an appropriate archaeological mitigation strategy.

Where there are any further changes to the site boundary, additional assessment for Cultural Heritage should be undertaken in line with proposed EIA methodology.

**Tracy Matthews**  
**Historic Environment (Archaeology) Officer**

**16/11/2020**

Historic Environment – Heritage

## **Historic Environment**

### **Planning Consultation Comments**

**RE: 20/02296/SCOPE      Proposal Site: M3 Junction 9, Easton Lane, Winchester**

**Consultation response:** No objection

#### **Key issues:**

The preservation of the setting of listed buildings (S.66 P(LBCA) Act 1990; Policy DM29 of the Winchester District Local Plan Part 2 Adopted 2017; Policies CP19 & CP20 Winchester District Joint Core Strategy; NPPF Section 16).

The preservation or enhancement of the character or appearance of conservation areas (S.72 P(LBCA) Act 1990; Policies DM27 & DM28 of the Winchester District Local Plan Part 2 Adopted 2017; Policy CP19 & CP20 Winchester District Joint Core Strategy; NPPF Section 16).

#### **Comments and advice:**

These comments are made following review of the Highways England M3 Junction 9 Improvement Environmental Impact Assessment Scoping Report – Request for a



second Scoping Opinion. (Report Number: HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002, October 2020, Revision: P02).

Table 7-4 in Section 7.8 of Chapter 7 (Cultural Heritage) confirms that Historic Buildings and Historic Landscapes, including Conservation areas, will be scoped into the EIA.

It is considered that the proposed methodology is in accordance with established best practice.

**Rachel White – Historic Environment Team Leader**      **19/11/2020**

## Landscape

We have reviewed the following:

### **M3 Junction 9 Improvement Environmental Impact Assessment Scoping Report – Request for a second Scoping Opinion**

**Report Number:** HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002

**Date:** October 2020

**Revision:** P02

**Chapter 8 ‘Landscape and Visual’** reports that there is the potential for the Proposed Scheme to have an impact on the surrounding landscape and visual receptors and recommends that these impacts are assessed as part of the EIA using the methodology set out in this chapter.

We are satisfied with the proposals contained in this second Scoping Report regarding the assessment of landscape and visual impacts and have no adverse comments at this stage.

We note that reference is made to the SDNP Integrated Landscape Character Assessment from 2011. There is now an update online:

<https://www.southdowns.gov.uk/landscape-design-conservation/south-downs-landscape-character-assessment/south-downs-landscape-character-assessment-2020/>

## Strategic Planning

No further comments beyond response to 19/00224/SCOPE –

## Internal Consultation Request

To : **Strategic Planning Policy**

From: **Esther Gordon** [REDACTED]

Planning Application: **19/00224/SCOPE**  
Location: **M3 Junction 9 Easton Lane Winchester Hampshire**  
Proposal: **Application for an Order granting Development Consent for the M3 Junction 9 Improvement Project**  
Respond by: 20 February 2019  
**Listed or Conservation Information (if Applicable)**

**Additional remarks:**

Population and health, cumulative effects.

This is a Nationally Significant project being dealt with by the Planning Inspectorate. The deadline for comments is the 20th Feb. Please can you agree with what has been scoped in and out of the EIA Statement.

**Response from strategic planning 12 February 2019**

The following concentrates on the population and health section of the document and various references to local plan policy.

Section 6 onwards of the scoping report includes reference to a number of development plans and specific policies. The following raises general matters only it will be necessary for technical specialists to review relevant content and comment as necessary.

Firstly, reference to Winchester District Local Plan Review (Adopted 2006) – Saved Policies needs to be clarified – this only applies to the SDNP part of the Winchester District, until SDNP has its own policies adopted. Winchester District Local Plan Review (Adopted 2006) does not apply to Winchester Local Planning Authority area as this has three adopted local plans:

1. Local Plan Part 1 – Joint Core Strategy adopted March 2013
2. Local Plan Part 2 – Development Management and Site Allocations adopted April 2017
3. Gypsy, Traveller and Travelling Showpeople DPD (to be adopted 28 February 2019)

In addition Hampshire Mineral and Waste Local Plan 2013 will be relevant  
In terms of Local Plan Part 1 predominantly relevant policies should include :-

- DS1 – development strategy and principles
- WT1 - development strategy for Winchester Town
- MTRA4 – Development in the Countryside
- CP13 – High Quality Design
- CP15 - Green infrastructure
- CP16 - biodiversity
- CP17 – flooding, flood risk and the water environment
- CP20 – heritage and landscape character
- CP21 – infrastructure and community benefit

Local Plan Part 2 relevant policies should include:-

- WIN1 – Winchester Town
- WIN3 – Winchester views and roofscape

- WIN11 – Winnall – Winchester
- DM17 – site development principles
- DM19 – development and pollution
- DM20 – Development and noise
- DM23 – rural character
- DM24 – special trees, important hedgerows and ancient woodland
- DM26 – archaeology
- DM31 – locally listed heritage assets

Section 6 – air quality – should also refer to our Air Quality SPD currently being prepared.

### Section 13 – population and health

Table 13-3 settlements – some data needs clarifying

Name	Type of settlement	Distance from proposed scheme	2011 census	2017 SAPF	2024 SAPF
Winchester Unparished area (incl wards of St Pauls, St Bartholomew, St Michael, St Luke, St Barnabas)	Urban	Built up area of Winchester lies adjacent to the scheme (st Bartholomew ward actually covers the scheme)		41,080	43,441
Headbourne worthy (parish)	Village in large parish on edge of winchester	Abuts eastern scheme boundary		560	3,380*
Itchen valley (Parish) incl villages of Easton, Avington, Ovington, Itchen Abbas	Small rural villages	villages to east of Winchester		1,328	1,288
Kings Worthy *1	Small settlement	Abuts eastern scheme boundary		4,571	4,801

\*Increase due to implementation of strategic housing allocation at Barton Farm, Winchester for 2000 dwellings (policy WT2 Local Plan Part 1)

\*1 increase due to planned development (policy KW1 Local Plan Part 2 )

Para 13.2.7 – Winchester acts as a sub regional centre

Para 13.2.12 – Kings Worthy is a not a small residential area it has a number of facilities and planned growth

Para 13.2.14 – Princesmead school lies in countryside to east of the small hamlet of Abbots Worthy

Para 13.2.16 – yes but the parish covers a much larger area which includes planned growth at Barton Farm

Potential impacts on motorised travellers - should not be underestimated a small incident on the local motorway network creates chaos in and through Winchester. Details have been provided to consultants on behalf of Highways England with regard to various developments in the District, which presumably will inform section 16.3.10 etc

16.4.5 local developments – this should include proposals in adjoining local authorities for example Eastleigh Local Plan includes a proposed strategic growth option for 5,500 new homes on the northern edge of Eastleigh to the south of Colden Common in Winchester District. This includes a link road in Winchester District which will connect to Junction 12 of M3. Once this link road is implemented together with the planned Whiteley Way and Botley bypass will potentially create a through access route from southern Hampshire to the M3.

Table 16-4 – there are a number of planned developments within Winchester itself both commercial and residential. Policy WT3 – employment allocation at Bushfield Camp, Winchester, policy WIN 4 Central Winchester regeneration; policies WIN5-7 commercial development at Station Approach, redevelopment of Police Station site etc these are all set out in the 2017/18 AMR <https://www.winchester.gov.uk/planning-policy/annual-monitoring-report-amr>

## Urban Design

### Urban Design

#### Planning Consultation Comments

**RE: 20/02296/SCOPE M3 Junction 9 Easton Lane Winchester Hampshire**

#### Consultation Response

I have reviewed the Highways England M3 Junction 9 Improvements Environmental Impact Assessment Scoping Report (Report Ref: HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002, Date: October 2020, Revision: P02) and as Urban Design I have no comments.

Considerations on design should be cover by Highways Authority and Visual Impacts by Landscape.

Regarding Sustainability, this is a matter outside of my area of expertise but I'm assuming that, as an all encompassing subject, it should be considered across all areas in the EIA.



## **E.4. 2020 EIA Scoping Report – Cover Letter**

Our ref: HE551511  
Your ref: TR010055

**BY EMAIL**

██████████  
The Planning Inspectorate  
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████████████████████  
M3 Junction 9 Improvement  
Highways England  
Bridge House  
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Direct Line: ██████████  
Email: [M3junction9Improvements@highwaysengland.co.uk](mailto:M3junction9Improvements@highwaysengland.co.uk)

19 October 2020

Dear ██████████

**M3 Junction 9 Improvement Scheme (the “Proposed Scheme”)  
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the “EIA Regulations 2017”) – Regulation 8(1)(b) and Regulation 10(1)**

I write with reference to the above Proposed Scheme, to notify the Secretary of State under Regulation 8(1)(b) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the “EIA Regulations 2017”) that we propose to provide an Environmental Statement (‘ES’) with the application for development consent under the Planning Act 2008.

With reference to Regulation 10(1) of the EIA Regulations 2017, I also write to apply for a scoping opinion from the Secretary of State in respect of the Proposed Scheme.

Please find enclosed the information required under Regulation 10(3) of the EIA Regulations 2017 within the EIA Scoping Report, which includes the following:

- a plan sufficient to identify the land;
- a description of the Proposed Scheme, including its location and technical capacity;
- an explanation of the likely significant effects of the Proposed Scheme on the environment; and
- such other information or representations provided by Highways England.

I can confirm the required GIS shapefile has been submitted to the Planning Inspectorate by email on 30 September 2020, in accordance with the technical specifications set out in Section 6.4 of the Planning Inspectorate’s Advice Note 7.



For the purpose of your duties under Regulation 11(1)(a) of the EIA Regulations 2017, the name and address of the Applicant (Highways England) for the Proposed Scheme are as above. In accordance with Regulation 11(1)(b) of the EIA Regulations 2017, please provide us with a list of the notified consultation bodies and any Regulation 11(1)(c) persons and non-prescribed consultees.

In accordance with Regulation 10(6) of the EIA Regulations 2017, the Secretary of State has a statutory 42 days to adopt a Scoping Opinion. As such, it is assumed that a Scoping Opinion would be available by 30 November 2020.

If you have any comments or queries regarding this letter or the wider M3 Junction 9 Improvement Scheme proposals, then please do not hesitate to contact me, Andrew Saunders [REDACTED] or Rob Gully [REDACTED] whom are supporting our environmental assessment and development consent order application.

Yours sincerely,

[REDACTED]  
[REDACTED]

Enclosures:

- EIA Scoping Report

## **E.5. 2020 EIA Scoping Report**

# **M3 Junction 9 Improvement**

## **Environmental Impact Assessment**

### **Scoping Report – Request for a second**

### **Scoping Opinion**

**Report Number:** HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002

**Date:** October 2020

**Revision:** P02



## M3 Junction 9 Improvement

PCF Stage 3 EIA Scoping Report

Report No: HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002-P02

Planning Inspectorate Reference TR010055

On behalf of **Highways England**



Project Ref: 48176 | Rev: P02 | Date: October 2020

Registered Office: Buckingham Court Kingsmead Business Park, London Road, High Wycombe, Buckinghamshire, HP11 1JU  
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## Document Control Sheet

**Project Name:** M3 Junction 9 Improvement  
**Project Ref:** 48176  
**Report Title:** PCF Stage 3 EIA Scoping Report  
**Doc Ref:** HE551511-VFK-EGN-X\_XXXX\_XX-TN-LE-0002  
**Date:** October 2020

	Name	Position	Signature	Date
<b>Prepared by:</b>	Natasha Worrall/ Various	Assistant Environmental Planner	NW	19.10.2020
<b>Reviewed by:</b>	Jonny Murphy	Principal Environmental Planner	JM	19.10.2020
<b>Approved by:</b>	Andrew Saunders/ Dermot Scanlon	Director – Road & Rail Director – Major Infrastructure	AS/DS	19.10.2020

Revision	Date	Description	Prepared	Reviewed	Approved
P01	24.09.2020	First Issue	NW/Var	JM	AS/DS
P02	15.10.2020	Updated with internal comment	NW/Var	JM	AS/DS

This report has been prepared by Stantec UK Limited ('Stantec') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which Stantec was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). Stantec accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

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## Executive Summary

### Introduction

The M3 Junction 9 improvement scheme (the Proposed Scheme) is classed as a Nationally Significant Infrastructure Project under the Planning Act 2008, and as such requires a Development Consent Order to proceed. This scoping report sets out the proposed scope of the Environmental Impact Assessment (EIA) to be undertaken for the Proposed Scheme and is being submitted to the Planning Inspectorate as part of a formal request for a Scoping Opinion. Once agreed, the EIA will be undertaken and reported within an Environmental Statement. The Environmental Statement will be submitted to the Planning Inspectorate as part of the application for Development Consent, which is due to be made on behalf of Highways England in 2021.

### Characteristics of the Proposed Scheme

M3 Junction 9 is a key transport interchange which connects South Hampshire (facilitating an intensive freight generating industry) and the wider sub-region, with London via the M3 and the Midlands/North via the A34 (which also links to the principal east-west A303 corridor).

Significant volumes of traffic use the grade separated, partially signalised gyratory (approximately 6,000 vehicles per hour during the peak periods) which acts as a bottleneck on the local highway network and causes significant delay throughout the day. Northbound and southbound movements between the M3 and A34 are particularly intensive, with downstream queues on the northbound off-slip of the M3 often resulting in safety concerns during peak periods.

To address this, the Proposed Scheme comprises the development and delivery of a scheme of works for increasing capacity, enhancing journey time reliability and supporting development in line with Local Plans. The Proposed Scheme includes widening of the M3 to from a four lane motorway, a smaller gyratory roundabout, new walking, cycling and horse riding facilities, connector roads from the new free-flow links to the new gyratory roundabout and improved motorway slip roads. Areas for Environmental mitigation areas are incorporated within the Indicative Application Boundary, details for which remain in development and will be reported within the Environmental Statement.

### Location of the Proposed Scheme

The M3 J9 Improvement site is located within the planning authority boundaries of Winchester City Council, Hampshire County Council and the South Downs National Park Authority.

The surrounding area is primarily urban to the west of the M3 and primarily rural to the east. There are large concentrations of residential receptors close to the A34 in the north of the study area (in Headbourne Worthy, Kings Worthy and Abbots Worthy) and close to the M3 to the south of the study area (on the eastern fringe of Winchester).

Immediately west of the Proposed Scheme there is an area of commercial development. This includes Sun Valley Business Park, Tesco, Winnall Industrial Estate and Scylla Industrial Estate. Wykeham Trade Park and Highways England's maintenance depot are located to the north-west of the junction.

### Characteristics of the Proposed Development

The scale and location of the Proposed Scheme would mean that several different aspects of the environment could be potentially affected, either through the construction of the scheme or during operation.

It is therefore proposed that further detailed assessment is required for the following topics to be included within the Environmental Statement:

- Air quality, due to the risk of exceedance of air quality standards and the nature of the Proposed Scheme (peak hour congestion relief)
- Cultural heritage, due to the potential for the Proposed Scheme to impact buried archaeology and affect the setting of nearby heritage assets and historic landscapes
- Landscape and visual impact, as the Indicative Application Boundary incorporates some areas of landscape of high sensitivity as well as there being the potential to affect surrounding sensitive visual receptors
- Biodiversity, due to the potential for areas of sensitive habitat, or for protected species to be affected by the Proposed Scheme
- Geology and soils, due to sensitive receptors being identified at, and adjacent to the Proposed Scheme
- Material assets and waste, due to the potential volume of materials and waste that are likely to be used and generated during construction of the Proposed Scheme
- Noise and vibration, due to there being sensitive receptors surrounding the Proposed Scheme
- Population and health, due to potential impacts to motorised, and non-motorised users, including community and health
- Road drainage and the water environment, due to there being the potential for effects to the water environment in the absence of appropriate and adequate mitigation

- Climate, due to the potential effects on climate change

## Acronyms and abbreviations

Acronyms / abbreviations	Definition
AADT	Annual Average Daily Traffic
AAWT	Annual Average Weekday Traffic
AEP	Annual Exceedance Probability
AMI	Advanced Matrix Indicators
APIS	Air Pollution Information System
AQMA	Air Quality Management Area
AQO	Air Quality Objectives
ARN	Affected Road Network
AVR	Accurate Visual Representations
BGS	British Geological Survey
BMV	Best and most versatile
BNL	Basic Noise Level
BoQ	Bill of Quantities
BPM	Best Practicable Means
CA	Conservation Area
CCTV	Closed-circuit television
CDE	Construction, Demolition, Excavation
CDW	Construction and Demolition Waste
CFMP	Catchment Flood Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CifA	Chartered Institute for Archaeologists
CO <sub>2</sub>	Carbon Dioxide
CPRE	Campaign for the Protection of Rural England
CRTN	Calculation of Road Traffic Noise
DBEIS	Department for Business, Energy & Industrial Services
Defra	Department for Environment Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
DWGSZ	Drinking Water Groundwater Safeguard Zone

EA	Environment Agency
EBC	Eastleigh Borough Council
EcIA	Ecological Impact Assessment
EEA	European Economic Area
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
END	European Noise Directive (Directive 2002/49/EC)
ES	Environmental Statement
EU	European Union
fiEMP	First Iteration Environmental Management Plan
FRA	Flood Risk Assessment
FWRA	Foundation Works Risk Assessment
GHG	Greenhouse Gas
GIR	Ground Investigation Report
HADDMS	Highways Agency Drainage Data Management System
HBIC	Hampshire Biodiversity Information Centre
HCC	Hampshire County Council
HCCILCA	Hampshire County Council Integrated Landscape Character Assessment
HDV	Heavy Duty Vehicle (gross weight greater than 3.5 tonnes)
HER	Historic Environment Record
HEWRAT	Highways England Water Risk Assessment Tool
HGV	Heavy Goods Vehicles
HIA	Hydrological Impact Appraisal
HLC	Historic Landscape Character
HPI	Habitats of Principal Importance
HPG	Historic Park and Garden
HRA	Habitats Regulations Assessment
HSE	Health and Safety Executive
IAB	Indicative Application Boundary
ICE	Institute of Civil Engineers

IEMA	Institute of Environmental Management and Assessment
JSNA	Joint Strategic Needs Assessments
ktCO <sub>2</sub>	Kilotonne of Carbon Dioxide
LAQM	Local Air Quality Management
LED	Light emitting diode
LLFA	Lead Local Flood Authority
LOAEL	Lowest Observed Adverse Effect Level
LSOA	Lower Super Output Areas
MIDAS	Motorway Incident Detection and Automatic Signaling (MIDAS)
MMP	Materials Management Plan
MS4	Message Sign Mark 4
MtCO <sub>2</sub> e	Million tonnes carbon dioxide equivalents
NCA	National Character Area
NE	Natural England
NERC	Natural Environment and Rural Communities
NHBC	National House Building Council
NHLE	National Heritage List for England
NIA	Noise Important Area
NMP	National Mapping Programme
NMU	Non-motorised user
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrous Oxide
NOEL	No Observed Effect Level
NPPF	National Planning Policy Framework
NPSE	Noise Policy Statement for England
NPSNN	National Policy Statement for National Networks
NSIP	Nationally Significant Infrastructure Project
NUTS	Nomenclature of Territorial Units for Statistics
NVC	National Vegetation Classification
ONS	Office for National Statistics
PA 2008	Planning Act 2008



PAQAP	Project Air Quality Action Plan
PCF	Project Control Framework
PCM	Pollution Climate Mapping
PEIR	Preliminary Environmental Information Report
PfSH	Partnership for South Hampshire
RBMP	River Basin Management Plan
RHPG	Register of Parks and Gardens of Special Historic Interest
RPG	Registered Park and Garden
PM <sub>2.5</sub>	Particulate matter smaller than 2.5µm in diameter
PM <sub>10</sub>	Particulate matter smaller than 10µm in diameter
PPG	Planning Practice Guidance
PPV	Peak Particle Velocity
PRA	Preliminary Risk Assessment
PRoW	Public Right of Way
PSSR	Preliminary Sources Study Report
RDWE	Rod Drainage and the Water Environment
RIS	Road Investment Strategy
RoFSW	Risk of Flooding from Surface Water
RVEI	Road Verge of Ecological Importance
SAC	Special Area of Conservation
SDILCA	South Downs Integrated Landscape Character Assessment
SDNP	South Downs National Park
SDNPA	South Downs National Park Authority
SFRA	Strategic Flood Risk Assessment
SHMA	Strategic Housing Market Assessment
siEMP	Second Iteration Environmental Management Plan
SINC	Site of Importance for Nature Conservation
SOAEL	Significant Observed Adverse Effect Level
SPA	Special Protection Area
SPI	Species of Principal Importance
SPZ	Source Protection Zone

SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage System
TPO	Tree Preservation Order
TRA	Traffic Reliability Area
TRL	Transport Research Laboratory
UKCP18	UK Climate Projections 18
VMS	Variable Message Signs
WCC	Winchester City Council
WFD	Water Framework Directive
WHER	Winchester Historic Environment Record
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

# 1 Introduction

## 1.1 Purpose of the report

- 1.1.1 The purpose of this Environmental Impact Assessment (EIA) Scoping Report is to establish the scope of the EIA for the Nationally Significant Infrastructure Project (NSIP) scheme, the M3 Junction 9 Improvement (hereafter referred to as the 'Proposed Scheme').
- 1.1.2 The EIA Scoping Report is set out in accordance with guidance provided in Design Manual for Roads and Bridges (DMRB) LA103 (Highways England, 2020) and the Planning Inspectorate's Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping (June 2020) (Planning Inspectorate, 2020).
- 1.1.3 The Environmental Statement (ES) will be prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (hereafter referred to as the EIA Regulations) and will accompany Highways England's application for development consent.
- 1.1.4 **Table 1-1** outlines the information required to be included in a scoping opinion request in accordance with Regulation 10 (3) of the EIA Regulations, and **Table 1-2** outlines the information required to be included in a scoping opinion request in accordance with the Planning Inspectorate's Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping (Planning Inspectorate, 2020). Both tables outline where each element of information can be found within this EIA Scoping Report.

*Table 1-1: Information required by Regulation 10(3) of the EIA Regulations*

Information required by Regulation 10(3) of the EIA Regulations	Location in this Scoping Report
A plan sufficient to identify the land.	Figure 2.1, Appendix 2.1.
A description of the proposed development including its location and technical capacity.	Section 2.4
An explanation of the likely significant effects of the development on the environment.	Chapters 6-16

*Table 1-2: Information requested by the Planning Inspectorate's Advice Note 7 (2020)*

<b>Information required by Advice Note 7</b>	<b>Location in this Scoping Report</b>
An explanation of the approach to addressing uncertainty where it remains in relation to elements of the proposed development, for example, design parameters.	Section 2.5
Referenced plans presented at an appropriate scale to convey clearly the information and all known features associated with the proposed development.	Figure 2.3, Appendix 2.1
An outline of the reasonable alternatives considered and the reasons for selecting the preferred option.	Section 3
A summary table depicting each of the aspects and matters that are requested to be scoped out allowing for quick identification of issues.	Section 17.3
A detailed description of the aspects and matters proposed to be scoped out of further assessment with justification provided.	Section 6.8 to 15.8
Results of desktop and baseline studies where available and where relevant to the decision to scope in or out aspects or matters.	Section 6.2 to 15.2
Aspects and matters to be scoped in, the report should include details of the methods to be used to assess impacts and to determine significance of effect, for example, criteria for determining sensitivity and magnitude	Section 6.6 to 15.6, Section 6.8 to 15.8
Any avoidance or mitigation measures proposed, how they may be secured and the anticipated residual effects.	Section 6.4 to 15.4
References to any guidance and best practice to be relied upon.	Section 6 to 15
Evidence of agreements reached with consultation bodies.	Section 4
An outline of the structure of the proposed ES.	Section 5.9

## 1.2 Planning history

- 1.2.1 In January 2019, Highways England submitted a Request for a Scoping Opinion to the Planning Inspectorate for the Proposed Scheme (M3 Junction 9 Improvement) (document reference HE551511-JAC-EGN-0\_00\_00-RP-LE-0001IP03), identifying the (at the time of writing) ‘maximum area of works’ within Figure 1-1 Environmental Constraints of that document. The Secretary of State duly adopted a Scoping Opinion in March 2019 (document reference TR010055).
- 1.2.2 Comments within the Scoping Opinion were considered and responded to through a statutory consultation exercise running from 2 July to 27 August 2019, which included a Preliminary Environmental Information Report (PEIR), available for public inspection and download via a dedicated project website (Highways England, 2020) (document reference HE551511-JAC-EGN-0\_00\_00-RP-LE-0004IP03).
- 1.2.3 Feedback from the consultation exercise showed that there was a high level of support for the scheme. However, some concerns were raised including the weaving length for vehicles joining the A34 from J9 and then heading on the A33/Kingsworthy, the future capacity of the scheme and duration of construction impacts. Subsequently, Highways England undertook to amend the design, as consulted upon, to seek to resolve the identified issues.
- 1.2.4 Through the redesign process, it was identified that there were potentially material changes to the Proposed Scheme when compared to the scheme as considered in the original EIA scoping process. DMRB LA103 (Highways England, 2020) states:

*“Scoping shall be repeated where there are material changes:*

- 1. In physical characteristics and/or location of the project;*
- 2. In the environmental assessment assumptions; and*
- 3. In the level of understanding of the current state of the environment (baseline scenario)”.*

- 1.2.5 The Proposed Scheme now comprises elements that were not scoped previously, see further information in **Chapter 2**, such changes comprise:

- An amended and increased Indicative Application Boundary (IAB)
- New or improved bridge structures over the River Itchen system
- New highways configuration and roundabout configuration

- 1.2.6 Highways England has therefore determined that a new scoping exercise is to be undertaken for the Proposed Scheme as now presented. This document constitutes a request for a second Scoping Opinion, which supersedes the scoping process undertaken in 2019.

### 1.3 Overview of the Proposed Scheme

- 1.3.1 M3 Junction 9 is a key transport interchange which connects South Hampshire (facilitating an intensive freight generating industry) and the wider sub-region, with London via the M3 and the Midlands/North via the A34 (which also links to the principal east-west A303 corridor).
- 1.3.2 Significant volumes of traffic use the grade separated, partially signalised gyratory (approximately 6,000 vehicles per hour during the peak periods) which acts as a bottleneck on the local highway network and causes significant delay throughout the day. Northbound and southbound movements between the M3 and A34 are particularly intensive, with downstream queues on the northbound off-slip of the M3 often resulting in safety concerns during peak periods.
- 1.3.3 To address this, the Proposed Scheme comprises the development and delivery of a scheme of works for increasing capacity, enhancing journey time reliability and supporting development in line with Local Plans. The Proposed Scheme includes widening of the M3 to form a four lane motorway, a smaller gyratory roundabout, new walking, cycling and horse riding facilities, connector roads from the new free-flow links to the new gyratory roundabout and improved motorway slip roads. A package of environmental mitigation and enhancement measures is being progressed as the design advances and will be reported within the ES. Consideration will be given to the enhancement of the South Downs National Park (SNDP) where possible.

## 2 The Proposed Scheme

### 2.1 Need for the Proposed Scheme

2.1.1 Hampshire County Council (HCC) identified that infrastructure improvements are necessary to reduce congestion levels and assist with the strategic movement of traffic at a key arterial intersection, to make sure that vehicular delay does not compromise the scale of potential future economic growth in the sub-region. It is believed that the introduction of free-flow movement between the A34 and the M3 is critical to achieving these goals.

2.1.2 To address this, the improvement to M3 Junction 9 was included in the Department for Transport's Road Investment Strategy (RIS). The improvement contributes to national transport objectives by:

- Providing additional capacity
- Enhancing journey time reliability
- Supporting the development of housing and the creation of jobs, as set out in the existing and emerging Local Plans.

2.1.3 The Proposed Scheme is included in the Solent to Midlands Route Strategy (Highways England, 2017), which identifies the M3 Junction 9 Improvement as a major improvement project as part of this route upgrade. Within this, Junction 9 of the M3 is specifically highlighted as being a location where there is a substantial barrier to connectivity in relation to the South Downs National Park (SNDP) and horse riders, pedestrians and cyclists. In addition, there is a lack of provision identified for non-motorised user crossings on the A34.

2.1.4 Additionally, the Proposed Scheme is identified and committed to under RIS 2 within the Road Investment Strategy 2: 2020-2025, Department for Transport (2020).

2.1.5 Collision data (obtained from Hampshire Constabulary for a five year period from March 2011 – February 2016) outlined in the Project Control Framework (PCF) Stage 2 Scheme Assessment Report (Highways England, 2018), identified that during that time a total of 82 accidents occurred, with approximately 50% on or on the approach to the junction roundabout. The remaining 50% of the collisions occur on the M3 slip roads or on the main line of the M3 and the A34.

### 2.2 Proposed Scheme objectives

2.2.1 The main objective of the Proposed Scheme is to introduce free-flow movement between the M3 and A34 at Junction 9. By providing an unconstrained link, vehicles will not be required to manoeuvre through a priority or signal controlled junction. This will reduce congestion and improve



journey time reliability on the M3, A34 and local road network. The Proposed Scheme objectives are:

- Supporting economic growth – unlocked development capacity for job, business and housing creation
- A safe and serviceable network – safety improved as a result of reducing delays and queue lengths
- A more free-flowing network – reduce the amount of congestion and increase journey time reliability
- An improved environment – endeavour to reduce where possible the number of households adversely affected by noise, improve the air quality at sensitive receptors and no net loss in biodiversity
- A more accessible and integrated network – improvements at Junction 9 would also include improvements for walkers, cyclists and horse-riders. The Proposed Scheme would connect the National Cycle Network Route 23 which is severed by the current junction layout.

## 2.3 Proposed Scheme location

### Surrounding area

- 2.3.1 The M3 J9 Improvement site is located within the planning authority boundaries of Winchester City Council (WCC), HCC and the South Downs National Park Authority (SDNPA). The site location is shown in **Figure 2.1, Appendix 2.1**.
- 2.3.2 The surrounding area is primarily urban to the west of the M3 and primarily rural to the east. There are large concentrations of residential receptors close to the A34 in the north of the study area (in Headbourne Worthy, Kings Worthy and Abbots Worthy) and close to the M3 to the south of the study area (on the eastern fringe of Winchester). A small number of isolated farm holdings or rural dwellings lie to the east and south-east of the Proposed Scheme. There are a small number of schools and education facilities, including St Swithun's School north of the B3404 and east of the M3, Winnall primary school and Stepping Stones pre-school to the south-west of the junction.
- 2.3.3 Immediately west of the Proposed Scheme there is an area of commercial development. This includes Sun Valley Business Park, Tesco, Winnall Industrial Estate and Scylla Industrial Estate. Wykeham Trade Park and Highways England's maintenance depot are located to the north-west of the junction.

### Key designations

- 2.3.4 The River Itchen Special Area of Conservation (SAC) is located in part beneath the existing alignment of the A34, the A33 and the M3. The River



Itchen SAC is a European designated site. The site is designated for its riverine habitats and species which it supports including southern damselfly, bullhead, white-clawed crayfish, brook lamprey, Atlantic salmon and otter.

- 2.3.5 The River Itchen is also a designated Site of Special Scientific Interest (SSSI), primarily due to the complex mosaic of habitats found within the riparian zone and the species which occur within them, including otter, water vole, and the white-clawed crayfish. The River Itchen SSSI is of nature conservation value at the national scale and is of high environmental value.
- 2.3.6 In addition, St Catherine's Hill SSSI is located approximately 500 metres to the south of the Proposed Scheme and is designated for diverse chalk grassland habitats. The statutory designated sites are shown on **Figure 2.2, Appendix 2.1**.
- 2.3.7 The South Downs National Park (SDNP) is a nationally important designated area within and adjacent to the Proposed Scheme to the north, east, south and in some areas, the west. The western extent of the SDNP is shown on **Figure 2.2, Appendix 2.1**.
- 2.3.8 Two Groundwater Source Protection Zones (SPZ) lie to the north of the Proposed Scheme, within the IAB. They are classified as Groundwater Source Protection Zone (SPZ) 1 (inner zone) and SPZ 2 (outer zone).
- 2.3.9 There are a number of Scheduled Monuments and Listed Buildings adjacent to the Proposed Scheme. Designated cultural heritage assets are shown on **Figure 2.2, Appendix 2.1**.
- 2.3.10 The sensitivity of this location, across a range of receptors, is particularly noted and the potential significant effects, including impact interactions and cumulative effects, will be reported in each topic chapter in the ES.

## 2.4 Proposed Scheme description

### Overview

- 2.4.1 The existing M3 Junction 9 is a grade separated, partially signalised gyratory roundabout connecting multiple nationally and locally significant routes. The M3 here is joined with the A34 towards Newbury and Salisbury, A272 towards Petersfield and southern Winchester, and Easton Lane towards Winnall and northern Winchester. Approximately 1 kilometre north of the roundabout, the A33 from Basingstoke connects with the A34, and approximately 1 kilometre south of the roundabout the A31 from Alton connects to the A272. An Indicative Land Use plan is shown in **Figure 2.3, Appendix 2.1**.
- 2.4.2 The improvements proposed as part of the Proposed Scheme maintain this existing connectivity, whilst providing enhanced capacity, simplified routing and improved facilities for walkers, cyclists and horse riders. The chosen option for the Preferred Route Announcement was Option 14, see **Section 3** below. This option provides the following modifications:

- Widening of the M3 from a dual two-lane motorway (two-lane motorway and a hard shoulder) to a four-lane motorway (with hardstrips) between the south-facing roundabout slip roads and the new free-flow links
- A new smaller gyratory roundabout arrangement within the footprint of the existing roundabout, incorporating new bridge connections over the M3 with walking, cycling and horse-riding facilities provided on the southern section
- New walking, cycling and horse-riding routes through the junction providing a continuous grade separated route between the SDNP, Winnall and Abbots Worthy
- Connector roads from the new free-flow links to the new gyratory roundabout
- Improved slip roads to/from M3

2.4.3 The M3 J9 Improvement site, as defined by the IAB, is approximately 169.7 hectares. This includes the proposed land required for gantries, signage, a temporary northern (satellite), and temporary central construction compound area, areas for environmental mitigation and areas for drainage requirements. It is important to note that the IAB could be subject to change as the design progresses.

2.4.4 Additional modifications of the existing highway design are proposed to improve the A33 northbound arrangement following feedback from the Public Consultation undertaken in 2019. **Figure 2.3, Appendix 2.1** shows the indicative land uses within the IAB.

### **M3 to A34 Northbound**

2.4.5 To accommodate the proposed smart motorway project (M3 Junction 9 to Junction 14), the existing M3 northbound would be converted to an all-lane running motorway (i.e. with no hard shoulder) with four lanes northbound. South of Junction 9, in the northbound direction, the two nearside lanes would be signed and line marked for the A34 northbound and the two offside lanes for the M3. Access to Junction 9 would be provided via a reconstructed northbound off-slip.

2.4.6 The two proposed northbound A34 lanes would pass under Junction 9 alongside the two M3 lanes, after which they would diverge from the M3 alignment to form the new A34 northbound link with the remaining two offside lanes continuing north as the M3.

2.4.7 After the split, the A34 would continue north, passing over the proposed realigned A33 with M3 northbound on-slip and then descending to tie into the existing A34 northbound carriageway before it crosses the River Itchen.

2.4.8 North of the existing River Itchen crossing, the A33 diverge would be removed to leave the two lanes of the A34 to run continuously.

### **A34 Southbound to M3**

- 2.4.9 The A34 southbound link would leave the existing A34 alignment after it crosses the River Itchen, moving to the east where it would then pass under the M3 & proposed A33 alignment in an underpass with cuttings.
- 2.4.10 Beyond the proposed M3 & A33 underpass, a diverge would split into two lanes with one lane leading to a slip road connecting to the revised Junction 9 gyratory roundabout and the remaining lane of the A34 southbound link road would proceed and join the M3 mainline southbound carriageway and under the revised Junction 9 gyratory roundabout layout.

### **A33 northbound from A34 & southbound from M3**

- 2.4.11 The existing southern extent of the A33 prior to the B3047 junction would be converted to a two lane carriageway northbound & southbound. Utilising the existing A33 carriageway, the A33 would then be realigned after the River Itchen bridge leading directly west to/from a new roundabout linking direct access to the M3 northbound on-slip or southbound towards the new non-circular roundabout (J9) via a new roundabout providing access to the Traffic Officer Service and Highways England's maintenance depot.
- 2.4.12 The existing northbound A34 diverge link towards the A33 would be abandoned, separating the existing linkage between the two A-roads.

### **M3 Junction 9 roundabout**

- 2.4.13 The existing Junction 9 gyratory roundabout would be replaced with a smaller gyratory roundabout. All link roads that access the roundabout would need to be realigned to this new layout. Some would include segregated left turn lanes. Two new longer span gyratory bridges would replace the existing bridges to provide the road corridor width required for the new configuration.

### **Slip roads**

- 2.4.14 The existing M3 northbound on-slip would be realigned to become the A34 northbound on-slip, merging downstream with A34 northbound lanes that diverge from the M3. The existing A34 link connecting to the existing roundabout would be converted to a two-way road connecting to the A33, linking the new non-circular roundabout to a new roundabout providing access to the Traffic Officer Service and Highways England's maintenance depot. Beyond the access roundabout, the carriageway would continue with a dedicated M3 northbound on-slip road accessed off a new roundabout (north of the A34 underpass approach) and with a continuation of the A33 leading northbound to Basingstoke.
- 2.4.15 The existing M3 southbound off-slip would be removed and replaced with a new off-slip located approximately 600 metres upstream. The new southbound M3 off-slip would then merge with the new link between the A34 and roundabout to maintain local access.

2.4.16 The two south-facing slip roads would be realigned to connect to the new roundabout. Both would merge (southbound) and diverge (northbound) directly to the widened M3.

### **Bridge Structures**

2.4.17 The proposed scheme would require a number of new bridges and other structures as outlined below. These structures remain in development and will be considered as the design progresses.

2.4.18 The existing Junction 9 grade separated interchange, consists of a gyratory with two bridges crossing the M3. It is anticipated that these would be replaced by two new longer span bridges crossing the widened M3 alignment, located between the two existing bridges inside the existing gyratory diameter. If so, the existing bridges would need to be demolished. Span and steel and concrete material options will be considered as the design develops.

2.4.19 It is anticipated that the proposed new A34 Northbound alignment would be carried over the new M3 northbound on-slip / A33 link road section that heads north from the gyratory roundabout by a new bridge structure.

2.4.20 It is anticipated that the new southbound A34 alignment is proposed to pass under the new M3 northbound on-slip / A33 link road and then the existing M3 carriageway. The underpass would likely be a single-span structure, most likely concrete structure. The structural form would be led by the construction sequencing with either top-down constructed underpass formed by contiguous piled wall abutments and concrete deck slab, or a reinforced concrete box. The existing M3 carriageway alignment would remain essentially unmodified at this location, minimising disruption during construction where possible.

### *River Itchen crossings*

2.4.21 There are a number of existing crossings of the River Itchen system within the northern half of the IAB (south of Kings Worthy), including the Irrigation Stream Bridge, Barton Carrier East Bridge, Barton Carrier West Bridge, Itchen Bridge and Kings Worthy Bridge (see **Figure 2.3, Appendix 2.1**). Based on current design work (which remains on-going), it is anticipated that strengthening works would be required to the Kings Worthy Bridge only.

2.4.22 Whilst it is not currently anticipated that works would be required to other bridge structures, such works cannot be ruled out at this stage. This will be confirmed through further design work and reported and assessed within the ES. Environmental consideration within this scoping report is cognisant of the potential for other bridge structures to be affected.

### **Retaining walls**

2.4.23 At this early stage of development it is clear that there are a number of ground level differences to resolve across the scheme. Retaining walls will be

required and the wide choice of retaining wall types will be considered when making a decision based upon the particular requirements at each location.

### **Closed-circuit television (CCTV) masts**

2.4.24 New CCTV masts would be required; these are in development but are anticipated to be in line with guidance and design standards.

### **Walking, cycling and horse-riding facilities and associated subways**

2.4.25 The walking, cycling and horse-riding facilities around the junction would be upgraded. Connecting to the existing facility on the western side of Easton Lane, it would descend beneath the western gyratory roundabout via subways underneath the circulatory carriageway before climbing up to cross the M3 on the northern side of the road bridge across the motorway. On the eastern side of the motorway it would descend, and a subway would route beneath the M3 southbound diverge link to connect back to the eastern side of Easton Lane.

2.4.26 A walking and cycling route for the western side of the scheme is also being developed to link the A33 / B3047 Junction to Byway R23. The route runs parallel to the west of the A33 with the route to be constructed within the existing verge then transitioning & utilising the existing A33 carriageway which is to be abandoned as part of the scheme. The existing informal link to the existing Public Right of Way (PRoW) will also be upgraded from its connection to the A33. For the first River Itchen crossing, the route follows the existing A33 and is accommodated on the existing bridge deck abandoned carriageway.

2.4.27 For the second river crossing, the Proposed Scheme includes a new footbridge constructed across the River Itchen with a spiral ramp leading down to the existing footpath link beneath the existing A34 northbound bridge. This route would then utilise the abandoned A34 northbound carriageway leading up to the existing depot junction and towards Byway R23.

2.4.28 New pedestrian/cycle subways would be required to accommodate existing and improved provision of these routes in the area. One would cross under the M3 southbound off-slip adjacent to the new roundabout gyratory, while two other subways would cross under the north and south sides of the gyratory roundabout. These three subways provide a realigned and upgraded route of the existing path from Easton Lane on the west side of the motorway to Easton Lane on the north.

2.4.29 A fourth subway would cross under the western side of the roundabout gyratory. This is to connect the existing pedestrian/cycle route from Kings Worthy into the Easton Lane route.

### **Signage/gantries**

2.4.30 Signage is in development but will be in line with guidance and design standards.



2.4.31 Gantries will be provided at locations as per current guidance and design standards and would likely be portal or cantilever gantries.

2.4.32 All gantry mounted Variable Message Signs (VMS) and signals would be standard types commonly used across the Highways England network on Smart Motorway schemes. These are MS4s (Message Sign Mark 4) and Advanced Matrix Indicators (AMI).

2.4.33 Infrastructure to support the VMS and signals would also be provided. This would include masts for CCTV cameras, Radar Motorway Incident Detection and Automatic Signalling (MIDAS) detectors, cabinets, chambers and a ducted network installed in a trench in the verge.

### **Lighting**

2.4.34 Lighting is currently in development and proposed for Easton Lane only in line with guidance and design standards. It is not currently planned to light any of the junction or slip roads, it is anticipated that a lighting plan will be prepared to inform the ES.

2.4.35 The subways and the underpasses will be provided with lighting due to the length of these facilities, however it is not currently envisaged to light the NMU routes (subject to ongoing design work).

### **Construction activities**

2.4.36 The construction phase of the Proposed Scheme (currently estimated to be in the order of two and a half years) will be programmed and sequenced to reduce disruption to the local surroundings, residents, business, and road users as far as practicable. It is anticipated construction methods would follow standard construction practices and specific mitigation measures would be implemented and tailored to the Proposed Scheme as required.

2.4.37 The Proposed Scheme includes the construction of new slip roads, retaining walls, gantries, safety barriers and new major structures using standard road construction methods. The construction of these assets would re-use excavated materials as fill (where possible) to reduce the number of construction vehicles travelling on the network. Temporary traffic diversions and lane closures will be required during the construction of the Proposed Scheme.

2.4.38 It is anticipated the construction contractor would operate in accordance with relevant best practices, such as the Considerate Constructors Scheme. Where possible the construction contractor would control and limit noise, vibration and dust levels as far as practicable to minimise impact to sensitive receptors. Prior to and during construction activities, the construction contractor would engage regularly with key stakeholders to provide an opportunity to raise issues and discuss matters directly.

2.4.39 For the purpose of the ES, the site preparation and construction phase will include consideration of the demolition of existing infrastructure required to facilitate the proposed development.

### **Drainage**

2.4.40 The highway drainage strategy is in early stages of development, and currently seeks to capture the surface water runoff from the highway, its associated earthworks and structures, and existing lengths of the M3 that would not be altered by the Proposed Scheme. The runoff would be attenuated and flows to outfalls restricted to existing discharge rates. The location of a potential drainage pond is identified in **Figure 2.3, Appendix 2.1**.

### **Utility diversions**

2.4.41 Enabling works, including utilities diversions, will be required to accommodate the Proposed Scheme. Such works would be undertaken by the utilities network operators or their contractors. Elements of the existing utility assets within the IAB may need to be diverted, slewed or protected as part of the construction process during the enabling works and final scheme layout.

### **Areas of search for potential excess spoil management**

2.4.42 It is likely that the construction of the Proposed Scheme will result in the requirement to manage excess spoil (i.e. after soil arisings have been utilised to construct the Proposed Scheme). Accordingly, three areas of search for potential excess spoil management are indicated on **Figure 2.3, Appendix 2.1** (northern, central and southern areas).

2.4.43 Within these areas (at this stage it is not anticipated that all three areas will be required), it is proposed that topsoil would be stripped, separated and stored in bunds at an approximate height of 4m. The final land use of these areas will be confirmed in due course through ongoing design work and relevant consultation; should the land be returned to agricultural use, weed suppressing activities and soil aeration activities may take place. The topsoil removal activity would be anticipated to last for 2 to 3 weeks.

2.4.44 Some lengths of hedgerow would be removed by the requirement to facilitate access through field boundaries to each area via temporary haul roads. It is planned to replant these on completion of the works. Standard earth moving equipment would be utilised in accordance with industry standard best practises. There may be a requirement to install land drainage features which will be defined and considered within the ES.

2.4.45 Each area required would be appropriately fenced and include welfare, weighbridges and wheel washing facilities. Water and sewage connections will be required.

2.4.46 Upon completion of excess spoil deposition at the end of the construction phase, the bunded topsoil would be reinstated and the land returned to agricultural use within a similar duration to the topsoil stripping works.

2.4.47 As design work progresses, further information on the volume of excess spoil as well as further detail on associated works required will be available and reported within the ES. Excess spoil will be managed in accordance with the waste hierarchy.

### **Mitigation requirements**

2.4.48 A comprehensive environmental mitigation design is in development. This is being developed as part of an iterative design process with input from technical environmental disciplines and project engineers, as well as in consultation with relevant stakeholders including the SDNPA, WCC, HCC, Environment Agency and Natural England.

2.4.49 The current proposals include the following environmental mitigation:

- The design seeks to integrate the Proposed Scheme into the surrounding topography, creating specific landscape forms, retaining vegetation wherever practicable and creating and planting new habitats
- Design and provision of an ecologically informed habitat compensation and enhancement package, to include habitats of ecological value which are sensitive to the local area, such as chalk grassland and woodland, with the aim of delivering a net gain to biodiversity.
- Ensure potential impacts to species known to use habitats within and adjacent to the M3 J9 Improvement site including otter, dormouse, and badgers are avoided or minimised through an ecologically informed design process
- Provision of a Biodiversity Mitigation Strategy (through an Environmental Masterplan) which will include measures required during construction to avoid or minimise impacts to know receptors, including designated sites, habitats and species.

2.4.50 The current environmental mitigation and enhancement details are being developed as the design and the EIA progresses. Where necessary, once the assessments have progressed further, other mitigation measures such as for noise, in the form of low noise road surfacing and/or noise barriers would be incorporated into the design.

2.4.51 Mitigation measures for the construction of the Proposed Scheme will be recorded within a Register of Environmental Actions and Commitments, to form part of a first iteration Environmental Management Plan (fiEMP), which will accompany the ES.



## 2.5 The Rochdale Envelope

- 2.5.1 The Planning Inspectorate's Advice Note 9: Using the 'Rochdale Envelope' (Advice Note 9) (Planning Inspectorate, 2018) provides guidance regarding the degree of flexibility that may be considered appropriate within an application for development consent under the PA 2008. The advice note acknowledges that there could be aspects of the Proposed Scheme design that are not yet fixed, and therefore, it could be necessary for the EIA to assess likely worst-case variations to ensure that all foreseeable significant environmental effects of the Proposed Scheme have been assessed.
- 2.5.2 This Scoping Report is based on the emerging preliminary design for the Proposed Scheme. The Proposed Scheme is to be developed further through a reference design stage which will form the basis for the DCO application.
- 2.5.3 Within the reference design there will need to be sufficient flexibility to provide scope for finalising the detailed design and construction methodology. Therefore, when presenting the Proposed Scheme design in the ES and the accompanying assessment, the requirements of Advice Note 9 will be complied with to ensure that the likely significant effects of the Proposed Scheme are assessed on a reasonable worst-case basis.

## 3 Assessment of Alternatives

### 3.1 Consideration of alternatives

3.1.1 In 2013, Hampshire County Council (HCC) commissioned a feasibility study to examine the strategic case for initial options and estimate of the expected performance of potential improvement schemes. The report proposed and assessed nine options and recommended that the option of direct free-flow links from M3 to A34 and remodelling Junction 9 would most likely ease congestion while reducing land take.

3.1.2 The Asset Support Contractor for the area developed three free-flow options as below:

- Option 1 – 70mph (120km/h) speed limit (A34 free-flow link below M3, but could also be considered over M3)
- Option 2 – 50mph (80km/h) speed limit (A34 free-flow link below M3, but could also be considered over M3)
- Option 3 – 40mph (65km/h) speed limit (A34 free-flow link below M3 but could also be considered over M3).

3.1.3 In December 2014, the Department for Transport published the Road Investment Strategy (RIS) for 2015-2020. The RIS sets out the list of schemes that are to be delivered by Highways England over the period covered by the RIS (2015 to 2020).

3.1.4 The RIS identifies improvements to M3 J9 Winnall Interchange as one of the key investments in the Strategic Road Network for the London and South East region.

3.1.5 Highways England developed the abovementioned three options further throughout during Project Control Framework Stages 0 9 HE551511-WSP-GEN-ZZ-RP-ZM-0004) and 1 (HE551511-WSP-GEN-ZZ-RP-ZM-0003). During the strategy, shaping and prioritisation stages, Option 1 (70mph (120km/h) speed limit (A34 free-flow link below M3, but could also be considered over M3) was developed into a further alternative, Option 4. Option 4 made more use of existing infrastructure, such as retaining, rather than demolishing, the Highways England depot, while delivering broadly similar journey time benefits.

3.1.6 Some options were combined for the next stage of option identification. As such, Highways England decided that the options should be renumbered to provide more clarity. As the original options were numbered 1 to 4, it was decided to renumber future options Option 11 to Option 18.

3.1.7 The following options were considered during the strategy, shaping and prioritisation stages but ultimately rejected for further consideration due to land take, visual impact, cost inefficiencies and environmental issues:

- Option 12 – This option provided free-flow links between A34 and M3 with the A34 southbound link passing under the M3 with a 70mph (120km/h) design speed and a two-step relaxation on horizontal geometry. The A34 northbound link has a 70mph (120km/h) design speed
- Option 13 – This option provided free-flow links between A34 and M3 with the A34 southbound link passing over the M3 with a 70mph (120km/h) design speed. The A34 northbound link has a 70mph (120km/h) design speed
- Option 15 – This option provided free-flow links between A34 and M3 with the A34 southbound link passing over the M3 with an 85km/h design speed and a two-step relaxation on horizontal geometry. The A34 northbound link has a 70mph (120km/h) design speed
- Option 17 – This option provided free-flowing links with a 75 metres loop for the A34 southbound link under the M3. The A34 northbound link has a 70mph (120km/h) design speed.

3.1.8 The Proposed Scheme then progressed into the option identification stage. During the early part of the option identification stage, five options were short listed for further consideration:

- Option 11 – A development of Option 1 to include south-facing Junction 9 slip roads, retain Highways England depot and remove sweeping A33 southbound link to retain existing merge. This option provides free-flow links between A34 and M3 with the A34 southbound link passing under the M3 with a 70mph (120km/h) design speed. The A34 northbound link also has a 70mph (120km/h) design speed. Junction 9 would be rebuilt with a dumbbell roundabout layout
- Option 14 – A variant of Option 4 providing free-flow links between A34 and M3 with the A34 southbound link passing under the M3, a 60mph (100km/h) design speed and a three-step relaxation on horizontal geometry. The A34 northbound link has a 70mph (120km/h) design speed. Junction 9 would be rebuilt with a dumbbell roundabout layout
- Option 16A – A variant of Option 4 providing incremental delivery of Option 14. This provides a free-flow for the A34 southbound with a 60mph (100km/h) design speed and a three-step relaxation on horizontal geometry. The northbound A34 would still use the existing A34 through the Junction 9 roundabout. This option is considered to facilitate potential scheme capital costs within the affordable budgets of RIS (2015- 2020). Option 16A was produced as a possible first stage of the incremental delivery of Option 14, which would then theoretically be followed by a second stage to complete the construction of a scheme comparable to Option 14
- Option 16B – A variant of Option 4 providing incremental delivery of Option 14. This provides a free-flow for the A34 northbound, which has a 70mph(120km/h) design speed. The southbound A34 would still use the existing A34 through the Junction 9 roundabout. This option is considered to facilitate potential scheme

capital costs within the affordable budgets of RIS (2015-2020). Option 16B was also produced as a possible first stage of the incremental delivery of Option 14 which would then theoretically be followed by a second stage to complete the construction of a scheme comparable to Option 14

- Option 18 – A variant of Option 1 providing a throughabout (a type of road junction where a major road passes through a roundabout) at M3 Junction 9 (Do-Minimum design) with a 40mph (70km/h) design speed. This option was developed to consider a reduced cost option of converting the current Junction 9 roundabout to a throughabout. This option is considered to facilitate potential scheme capital costs within the affordable budgets of RIS (2015-2020) and has no impact on the South Downs National Park (SDNP).

3.1.9 The Proposed Scheme then progressed into the next stages of design, which included assessing options in more detail, referred to herein as the ‘option selection stage’ and ‘option selection assessment’. An Environmental Assessment Report (WSP, 2018d) was drafted at this stage. Options 11 and 18 were not progressed to an option selection stage. Option 11 was discounted due to its significant adverse environmental effects, high cost and a low benefit-to-cost ratio compared to other options. Option 18 was discounted as it was not compliant with the RIS’s objectives for providing free-flowing links from the A34 to the M3.

3.1.10 Our Investment Decision Committee decided that Option 14 should progress to the option selection assessment because it fully meets the Proposed Scheme objectives and whilst it has similar adverse effects to the other options, it provides walking, cycling and horse riding benefits sooner. In addition, the incremental delivery of Option 14 was progressed in the event of insufficient funds in future to deliver Option 14.

3.1.11 For the incremental delivery it was decided that Option 16B would be built first as it had a lower cost and higher benefit to cost ratio. This would be followed by a variation to Option 16A in order to complete the construction of a scheme comparable to Option 14. The variation to Option 16A was named Option 16C to distinguish from the original Option 16A as it requires additional improvements such as the dumbbell roundabout and the widening of the Option 16B A34 northbound link under Junction 9 from one lane to two lanes and alteration of the diverge from a ghost island diverge for lane drop to a two lane drop.

3.1.12 In early 2018, the preferred Option 14 was taken to an options consultation. This was because there was clear evidence that Option 14 was more efficient and cost effective to build in one phase rather than the two phases of Option 16B followed by 16C. Views were sought on the preferred Option 14.

3.1.13 Feedback from the options consultation highlighted the main concerns with the preferred option were about access from Junction 9 to the A33. These related to safety concerns with the weaving length from the A34 northbound merge, from the Junction 9 link, to the subsequent offside diverge to the A33.

- 3.1.14 The Preferred Route Announcement was made in July 2018 and took this option forward. It highlighted the need for further design development to be carried out to address the A34/A33 merging concerns.
- 3.1.15 To address these concerns, three options were considered for improving the A33 northbound layout. The option taken forward at that stage was described and consulted on within the Preliminary Environmental Information Report (PEIR) submitted in June 2019. This included realigning the existing M3 northbound on-slip to become the A34 northbound on-slip that merges with the A34 northbound two lanes from the M3.
- 3.1.16 As outlined in **Section 1.2** above, further design development work has, and continues to be in progress since the previous 2019 consultation exercise. The ES will provide details of the scheme and a comparison of the environmental effects of the alternatives in accordance with the EIA Regulations.

## 4 Consultation

### 4.1 Consultation to date

4.1.1 A phased consultation process has been adopted for the Proposed Scheme to date. The six main phases of consultation have occurred as follows:

- Non-statutory engagement – 2017 to June 2019 (inclusive)
- Non-statutory (options) consultation – 9 January to 19 February 2018
- Preferred Route Announcement – 24 July 2018
- EIA scoping consultation – January – March 2019
- Consultation on the Statement of Community Consultation (SoCC) – 24 May to 22 June 2019
- Statutory consultation (section 42, section 47 and section 48 of the PA 2008) – 2 July to 27 August 2019.

#### **Non-statutory engagement (2017 to June 2019)**

4.1.2 Highways England has carried out non-statutory engagement with a range of stakeholders (including the local community, local politicians and prescribed consultees such as the Environment Agency, Natural England and relevant local authorities) about the Proposed Scheme from an early stage. The aim of this engagement was to introduce and notify stakeholders about the outline proposals and gain an understanding of local issues relating to the Proposed Scheme and technical advice from prescribed consultees.

4.1.3 As part of this non-statutory technical engagement, a series of workshops were set up with prescribed consultees (including local authorities, the Environment Agency, South Downs National Park Authority, Historic England and Natural England) to gather feedback and discuss the approach to mitigating any potential environmental impacts as the design develops. This helped determine the information to be presented in the PEIR for the statutory consultation exercise.

#### **Non-statutory (options) consultation (January – February 2018)**

4.1.4 Non-statutory consultation took place in early 2018 in advance of the commencement of the statutory consultation period. This informed the Preferred Route Announcement (PRA) as well as subsequent preliminary design work.

4.1.5 The non-statutory (options) consultation was held over a period of 6 weeks, from 9 January 2018 until 19 February 2018. Option 14 was presented at the non-statutory (options) consultation as a preferred option. Details of three other options considered were also presented with an explanation of why



these had been rejected. The purpose of the non-statutory (options) consultation was to seek feedback from prescribed consultees and the local community on the need for improvements to junction 9 and the preferred option, as well as whether consultees agreed with the decisions to eliminate the three other options presented. The responses to this consultation were taken into account in the identification of the preferred option. Responses and concerns from consultees were summarised in the PRA in July 2018.

### **EIA Scoping**

- 4.1.6 In accordance with the EIA Regulations, an EIA Scoping Report (HE551511-JAC-EGN-0\_00\_00-RP-LE-0001) was submitted to the Secretary of State on 28 January 2019, with a request for an EIA Scoping Opinion, in order to determine the required scope of the EIA. A Scoping Opinion (TR010055-000078) was received from the Secretary of State on 8 March 2019.
- 4.1.7 The Scoping Opinion included the Secretary of State's comments on the EIA approach and topic areas, as well as a list of all organisations consulted by the Planning Inspectorate on behalf of the Secretary of State. The Scoping Opinion informed the preparation of the Preliminary Environmental Information Report (PEIR) presented at the statutory consultation in 2019.
- 4.1.8 Further information is provided in **Section 1.2** above.

### **Statutory Consultation**

- 4.1.9 Highways England engaged in a series of consultation activities in accordance with the statutory requirements of the Planning Act 2008 (PA 2008), EIA Regulations and the APFP Regulations. The statutory consultation consisted of:
- Section 47 consultation on the draft SoCC
  - Section 47 consultation with the local community
  - Section 48 publicity (including notification under Regulation 13 of the EIA Regulations)
  - Section 46 notification
  - Section 42 consultation
- 4.1.10 Highways England took the approach of conducting a combined statutory consultation under section 42, section 47 and section 48 of the PA 2008. The main statutory consultation period commenced on 2 July 2019 and closed on 27 August 2019, allowing more than the statutory minimum of 28 days. The aim of the statutory consultation was to seek the views of prescribed consultees and the local community and key stakeholders on all aspects of the Proposed Scheme and preliminary environmental information.

## 4.2 Proposed consultation

- 4.2.1 As outlined in **Chapter 1**, feedback from the statutory consultation exercise in 2019 showed there was a high level of support for the scheme. However, concerns were raised including the weaving length for vehicles joining the A34 from J9 and then heading on the A33/Kingsworthy, the future capacity of the scheme and duration of construction impacts. Highways England undertook to amend the design as consulted on, to seek to resolve the identified issues.
- 4.2.2 Through the redesign process, it was identified that there were potentially material changes to the Proposed Scheme as consulted on in 2019. Highways England has therefore determined that a new scoping exercise is to be undertaken for the Proposed Scheme as now presented. This document constitutes a request for a second Scoping Opinion, which supersedes the scoping process undertaken in 2019.
- 4.2.3 The Planning Inspectorate will consult on this Scoping Report under the EIA Regulations. Views from consultees will be considered and used to inform the Secretary of State's Scoping Opinion to be issued by the Planning Inspectorate.
- 4.2.4 Following adoption of the Scoping Opinion, Highways England intends to conduct a further statutory consultation with prescribed consultees, the local community and stakeholders (in accordance with section 42, section 47 and section 48 of the PA 2008).
- 4.2.5 The purpose of this further consultation will be to seek comments from prescribed consultees and the local community on updates to the Proposed Scheme which is the subject of this scoping report. The consultation will include the provision of environmental information.

## 4.3 Responses to consultation

- 4.3.1 Responses received during consultation will be considered and taken into account in the development of the Proposed Scheme, in accordance with Section 49 of the PA 2008, and presented in the Consultation Report submitted with the Development Consent Order (DCO) application. The Consultation Report will demonstrate how Highways England has complied with the relevant requirements of the PA 2008.



## 5 Environmental Assessment Methodology

### 5.1 Surveys and predictive techniques and methods

#### The Design Manual for Roads and Bridges

- 5.1.1 Guidance published by the Government for the preparation of environmental assessments of proposed road schemes is contained in the Design Manual for Roads and Bridges (DMRB) LA 104 (Highways England, 2020). This sets out both the general process and the methods for assessing individual environmental topics, to which this Scoping Report adheres.
- 5.1.2 DMRB LA104 (Highways England, 2020) advises on the environmental topics to be included in an Environmental Impact Assessment (EIA), and the general methods to be used in the assessment across each of those topics. The topics identified in **Section 6-16** of this Scoping Report are those required by DMRB LA104 and the EIA Regulations.
- 5.1.3 Details of the methods to be used for each individual topic are provided in **Section 6-16** of this Scoping Report. Should any revisions to DMRB be issued between scoping and reporting of the EIA, they will be adopted where appropriate, provided that it is reasonable to do so within the programme and governance for the Proposed Scheme.

#### The National Policy Statement for National Networks

- 5.1.4 Strategic roads have their own policy framework, with relevant policy objectives set out in the National Policy Statement for National Networks (NPSNN) (DfT, 2014). The NPSNN is framed in the context of the wider Government policies on environment, safety, technology, sustainable transport and accessibility. It provides planning guidance for promoters of National Significant Infrastructure Projects (NSIPs) on the road network, and the basis for the examination by the Examining Authority and decisions by the Secretary of State. The Secretary of State will use the NPSNN as the primary basis for making decisions on development consent applications for national networks NSIPs in England. Given the importance of the NPSNN, the approach adopted for the EIA of the Proposed Scheme takes account of this policy document.
- 5.1.5 The surveys, predictive techniques and methods that are specific to each topic are outlined in **Chapters 6-16**.

#### Risk of major accidents and/or disasters

- 5.1.6 The assessment of major accidents and disasters, hereafter referred to as “major events”, as required by the EIA Regulations should cover:
- Vulnerability of the Proposed Scheme to risks of major events

- Any consequential changes in the predicted effects of the Proposed Scheme on environmental factors.

5.1.7 In the absence of a current industry definition of major events in the context of EIA, the following definitions have been used to inform the identification of potential major events related to the Proposed Scheme.

5.1.8 The Control of Major Accidents and Hazards (COMAH) 2015 Regulations define major accidents as follows:

*“Major accident means an occurrence such as a major emission, fire, or explosion ... leading to serious danger to human health or the environment;*

*Serious danger to human health means a risk of death, physical injury or harm to health, e.g.: (a) a substantial number requiring medical attention; (b) some people seriously injured, requiring prolonged treatment”.*

5.1.9 The United Nations Office for Disaster Risk Reduction (UNISDR, 2017) defines disaster as follows:

*“A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts”.*

5.1.10 As such major accidents and disasters are very closely linked. They can be natural or man-made and could include:

- Severe weather, for example, floods, earthquakes, hurricanes, storms, drought, tsunamis, extremes of temperature – hot and cold
- Transport accidents, for example, rail accidents, motorway pileups, plane crash
- Industrial (for example, explosions, pollution and fire)
- Terrorism
- Disease outbreaks

5.1.11 With regards to the Proposed Scheme, the following potential major events have been identified:

- Severe weather: storms, floods
- Transport accidents: road and rail

5.1.12 These were identified based on the site location, nature of the Proposed Scheme, likelihood of occurrence and surrounding land uses. They have also been informed by the PCF Stage 2 EAR (WSP, 2017i), the PCF Stage 2 Safety Plan and the PCF Stage 2 Health and Safety Risk Register.

5.1.13 An assessment of significance will be carried out for the major events identified for the Proposed Scheme.

*Table 5-1: Major events and associated environmental assessment topics*

<b>Major event</b>	<b>Potential environmental impacts</b>	<b>Environmental assessment topic</b>
Storms	Flood High winds causing damage to environmental receptors and structures	Climate Change Road Drainage and the Water Environment
Floods	Flooding	Road Drainage and the Water Environment
Transport accidents – road and rail	Environmental pollution incidents, emissions to air, ground and water	Air Quality Biodiversity Materials Geology and Soils Road Drainage and the Water Environment

### **Heat and Radiation**

5.1.14 Schedule 4 of the EIA Regulations details the requirement for a description of the likely significant effects on the environment resulting from, amongst others, the emission of heat and radiation.

5.1.15 The Proposed Scheme is a major highways improvement project. Due to the scale and nature of the Proposed Scheme, it is not anticipated that there would be any significant sources of heat or radiation either during construction or operation of the road. The consideration of heat and radiation emissions has therefore been scoped out of the assessment and has not been considered further in this Scoping Report.

### **Transboundary effects**

5.1.16 Regulation 32 of the EIA Regulations (Development with significant transboundary effects) applies where an ES is to be provided that, in the opinion of the Secretary of State, shows the development is likely to have significant effects on the environment in another European Economic Area (EEA) State.

5.1.17 When this is the case, the SoS must consult with that EEA state and provide information on the description of the development, together with any available information on its possible significant effects on the environment, and information on the nature of the decision which may be taken.

5.1.18 It is not anticipated that the Proposed Scheme would result in significant transboundary effects due to its location and nature. It is therefore considered

that transboundary effects has been scoped out of the assessment and has not been considered further in this Scoping Report.

### **General assessment assumptions and limitations**

5.1.19 In undertaking this scoping exercise, the following general assumptions have been made:

- This Scoping Report has been prepared based on the environmental baseline information available at the time of writing. Further information will become available as the iterative design and assessment process proceeds and the scope of assessment will be kept under review in light of this
- Detailed construction methodologies are not fully known at present (for example, location of site compounds are indicative, at this stage).

5.1.20 Topic specific assumptions and limitations are set out in the technical chapters, **Chapter 6-16**.

5.1.21 Elements of the design including lighting, signage as well as required mitigation remain on-going. Assessment of these elements will be undertaken in the EIA.

5.1.22 It is considered highly unlikely that the Proposed Scheme would be decommissioned after its design life as the road is likely to have become an integral part of the infrastructure in the area. In the unlikely event of the Proposed Scheme decommissioning, this would be part of the relevant statutory process at that time, including EIA as appropriate. It is not considered that once particular elements of the Proposed Development (e.g. lighting columns) reach the end of their design life, their replacement would result in likely significant effects to the environment. It is therefore proposed that decommissioning of the Proposed Scheme is scoped out of the EIA.

### **Significance criteria**

5.1.23 The significance of effects will be assessed as per DMRB LA 104 (Highways England 2020) (i.e. by taking into account the value/ sensitivity of a receptor and assessing against the magnitude of change to determine the overall significance of effect which could be either adverse or beneficial). **Tables 5-2 to 5-5** demonstrate the overall significance of effects will be assessed using the matrix presented in DMRB LA 104.

*Table 5-2: Environmental value (sensitivity) and descriptions*

<b>Value (sensitivity) of receptor/resource</b>	<b>Typical description</b>
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Table 5-3: Magnitude of Impact

Magnitude of impact (change)		Typical description
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change		No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Table 5-4: Descriptors of significance of effect categories

Significance category	Typical description
Very Large	Effects at this level are material in the decision-making process.
Large	Effects at this level are likely to be material in the decision-making process.
Moderate	Effects at this level can be considered to be material decision-making factors.
Slight	Effects at this level are not material in the decision-making process.
Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Table 5-5: Significance Matrix

	Magnitude of impact (degree of change)					
	Very High	No change	Negligible	Minor	Moderate	Major
Environmental value (sensitivity)	Very High	Neutral	Slight	Moderate or large	Large or very large	Very large
	High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
	Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
	Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight

5.1.24 Not all of the environmental topics will use the above criteria or approach. For example, some topics do not use a matrix-based approach but instead use numerical values to identify potential impacts. Therefore, each environmental topic chapter will use the information provided above, their topic specific guidance as well as their professional judgement to assess the significance of effects. Where an effect could be one of two gradings (for example where a Negligible impact interacts with a Medium sensitivity receptor resulting in a Neutral or Slight effect), professional judgement will be used to determine which effect is applicable and this will be explained in the associated commentary.

5.1.25 Effects determined to be slight or neutral are not deemed to be significant, whilst these will be reported in the ES, they will not be reported in detail and would not require specific mitigation. The exception to this is where the combination of multiple slight effects has the potential to lead to significant (i.e. moderate or above) cumulative effects.

5.1.26 Further details of the topic specific significance criteria that will be used in the ES are discussed in **Sections 6 to 16** of this report.

#### **Duplication of assessment**

5.1.27 Standalone and supporting documents will be co-ordinated with the EIA to minimise duplication of information between the assessments. Examples include:

- Habitats Regulations Assessment
- Flood Risk Assessment
- Water Framework Directive Compliance Assessment
- Arboriculture Impact Assessment

#### **Embedded and Essential Mitigation**

5.1.28 There is a distinction between mitigation that is incorporated or 'embedded' into the design of the development (embedded mitigation) and mitigation that is subsequently identified in order to prevent, reduce or offset any remaining significant adverse effects (essential mitigation). Embedded mitigation may include, for example, incorporating habitat areas into the proposed development design, or incorporation of appropriate drainage attenuation.

5.1.29 Embedded mitigation evolves through the iterative design process and early consideration of the likely significant impacts. The ES will document the embedded mitigation measures which have been incorporated within the design in response to the identification of potentially significant effects. The ES, within each of the topic chapters as appropriate, will also document the essential mitigation that is required to complement the embedded mitigation.



5.1.30 A summary of all mitigation measures and how they are secured, either inherently through the project design, or through the implementation of a suitable DCO requirement, will be set out in the ES.

### Monitoring

5.1.31 The EIA Regulations require “*the monitoring of any significant adverse effects on the environment of proposed development*”. It is important to note that the EIA Regulations only require the monitoring of significant adverse effects. The ES will therefore ensure that it is clear to the reader which, if any, effects are both adverse and significant and may therefore require monitoring.

5.1.32 It is important to note that Regulation 21 (3) of the EIA Regulations states that the Planning Inspectorate should:

*“(b) take steps to ensure that the type of parameters to be monitored and the duration of the monitoring are proportionate to the nature, location and size of the proposed development and the significance of its effects on the environment; and*

*(c) consider, in order to avoid duplication of monitoring, whether any existing monitoring arrangements carried out in accordance with an obligation under the law of any part of the United Kingdom, other than under the Directive, are more appropriate than imposing a monitoring measure.”*

5.1.33 Schedule 4 to the EIA Regulations states that an ES should identify “*any proposed monitoring arrangements*”. The ES will therefore provide a schedule of proposed monitoring to clearly identify the monitoring that is proposed in relation to any significant adverse effects that have been identified. Any such monitoring will be proportionate, as noted above.

### Competent experts

5.1.34 In accordance with Regulation 14 (4)(a) of the Regulations, the ES will be prepared by competent experts, with relevant details set out in the ES.

### Cumulative effects

5.1.35 The assessment of inter-project (effects to a receptor from different developments), and intra-project effects (different effects from the Proposed Scheme to the same receptor) is outlined in **Chapter 16 Cumulative Effects**.

5.1.36 As described in **Chapter 2 The Proposed Scheme**, there may be the requirement to provide new or improved crossings of the River Itchen system to facilitate the Proposed Scheme. Given the sensitivity of this area, it is proposed that the impact interactions and cumulative assessment will report these potential intra-project effects on the River Itchen system as a standalone section. Highways England invites comments on this intended approach.

## Scoped in effects

5.1.37 The effects that are proposed to be scoped into assessments in **Chapters 6-16** below will be reviewed as the scheme design progresses. In accordance with Planning Inspectorate Advice Note Seven *Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping* (2020), in the interests of proportionality, it is intended that the ES will report potentially significant effects only.

## Proposed Structure of the Environmental Statement (ES)

5.1.38 The ES for the Proposed Scheme is likely to comprise three volumes as follows:

- Volume 1: Non-Technical Summary
- Volume 2: Environmental Statement
- Volume 3: Figures and Technical Appendices

5.1.39 The main ES (Volume 2) will be a concise document proportionate to the Proposed Scheme. Technical or supporting documents will, where appropriate, be contained in Volume 3 so that the main ES provides clear and focused information.

5.1.40 It should be recognised that the final structure of the ES may vary as result of decisions made or needs recognised in the course of implementing the work, however the indicative structure of the Environmental Statement is as follows:

- Part 1: Introduction
  - Overview of the report
  - Overview of the Proposed Scheme
  - Legislative and policy framework
  - Competent Expert evidence
- Part 2: The Proposed Scheme
  - Need for the Proposed Scheme
  - Proposed Scheme objectives
  - Proposed Scheme location
  - Baseline scenario
  - Proposed Scheme description  
Construction, operation and long term management
- Part 3: Assessment of Alternatives
  - Assessment methodology
  - Reasonable alternatives studied
  - Justification for chosen option

- Part 4: Environmental assessment methodology
  - Environmental scoping
  - Surveys and predictive techniques and methods
  - General assessment assumptions and limitations
  - Significance criteria
  - Duplication of assessment
  
- Part 5: Technical Assessments (below replicated for each topic)
  - Competent expert evidence
  - Legislative and policy framework
  - Assessment methodology
  - Assessment assumptions and limitations
  - Study area
  - Baseline conditions (including value/sensitivity of resources and receptors)
  - Potential impacts
  - Design, mitigation and enhancement measures
  - Assessment of likely significant effects
  - Monitoring
  
- Part 6: Assessment of Cumulative Effects
  - Cumulative assessment methodology
  - Assessment of combined
  - Assessment of cumulative effects
  
- Part 7: Summary
  
- Part 8: References and Glossary
  
- Part 9: Location and Design Plans

## 6 Air Quality

### 6.1 Study area

6.1.1 The proposed study area for the assessment of construction dust will be determined in accordance with the Design Manual for Roads and Bridges (DMRB) LA 105 Air Quality (Highways England, 2019) criteria and encompass an area of up to 200m from construction activities.

6.1.2 The study area for the air quality assessment of emissions from road traffic (either during construction and operation) will be determined by an assessment of the traffic model data against DMRB LA 105 Air Quality (Highways England, 2019) screening criteria for roads within the traffic reliability area (TRA) of the traffic model.

6.1.3 The screening criteria for defining the affected roads are set out in DMRB LA 105 Air Quality (Highways England, 2019), and identifies the following criteria when comparing the Do-Something scenario (with the Proposed Scheme) and the Do-Minimum scenario (without the Proposed Scheme) in the opening year:

- Annual average daily traffic (AADT)  $\geq 1000$
- Heavy duty vehicle (HDV) AADT  $\geq 200$
- A change in speed band
- A change in carriageway alignment by  $\geq 5\text{m}$

6.1.4 Road links that exceed the criteria will be classed as 'affected' and will define the Affected Road Network (ARN).

6.1.5 A proportionate number of sensitive receptors will be chosen within 200 m of the ARN and include residential properties, schools and hospitals for the assessment of annual mean air quality thresholds. Representative sensitive receptors will be chosen to ensure that the receptors with the highest pollutant concentrations or which are anticipated to experience the highest level of change in pollutant concentrations. Additional sensitive receptors will be chosen to include all sensitive receptors which show an exceedance within the Do-Minimum or Do-Something scenarios.

6.1.6 The Project Control Framework (PCF) Stage 2 Environmental Assessment Report (EAR) (WSP, 2017) has been used by the competent expert for air quality to identify the extents of the anticipated study area to inform this Scoping Report.

6.1.7 The PCF Stage 2 EAR identified that the ARN during operation could potentially include the M3 from Junction 7 in the north to Junction 14 in the south, but this will be dependent on the updated traffic modelling data. The ARN is also likely to include the A34 from the junction with the A303 in the

north to where it joins the M3 at Junction 9. The A33 (Basingstoke Road), running parallel to the M3 and routes within Winchester.

- 6.1.8 The ARN at PCF Stage 2 EAR included Winchester Town Centre Air Quality Management Area (AQMA) and also Eastleigh AQMAs No. 1 (A335) and No. 2 (M3).
- 6.1.9 This will also include all relevant designated habitats within 200m of the ARN which is yet to be identified. Such habitats could include, but are not limited to, the River Itchen Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) and the St Catherine's Hill SSSI.
- 6.1.10 The extent of the study area, including the ARN, local monitoring, AQMAs, sensitive receptors and designated habitats will be presented in a plan within the ES and agreed with statutory bodies.

## 6.2 Baseline conditions

- 6.2.1 Baseline air quality will be assessed with reference to a review of the following data sources:
- Local Air Quality Management (LAQM) published reports, primarily those by Winchester City Council (WCC) and Eastleigh Borough Council (EBC) but expanded depending on extent of the ARN
  - Project-specific nitrogen dioxide (NO<sub>2</sub>) diffusion tube monitoring undertaken by Local Authorities, Highways England, WSP between 2013 and 2018
  - Defra background mapping
  - National modelling undertaken by Defra using the Pollution Climate Mapping (PCM) model
  - Nitrogen deposition background modelling provided by the online Air Pollution Information System (APIS) for designated habitats.

### LAQM reporting

- 6.2.2 As part of their LAQM obligations, local authorities undertake ambient air quality monitoring at various locations within their administrative boundaries. WCC and EBC monitoring locations within the anticipated study area are shown in **Table 6-1, Figure 6.1** and **Figure 6.2, Appendix 6.1**.
- 6.2.3 The majority of these monitoring sites, for both passive and continuous monitoring, are located within or in the vicinity of AQMAs. No exceedances of the air quality thresholds have been monitored at sites within 200m of the Indicative Application Boundary (IAB) for the Proposed Scheme. In 2019, one exceedance of the air quality threshold for annual mean NO<sub>2</sub> occurred within Winchester Town Centre AQMA at the Romsey Road diffusion tube site, which is 2 km from the IAB. St Georges St and Jewry Street monitoring sites

within WCC and Leigh road within EBC have recorded exceedances of the air quality threshold for annual mean NO<sub>2</sub> in the period 2015-2018 but not in 2019 and are all over 1.5 km from the IAB. The closest monitoring to the M3 at Alresford Road has not recorded an exceedance of the air quality threshold for annual mean NO<sub>2</sub> between 2015-2019.

*Table 6-1 Local authority monitoring (2015 -2019) in the anticipated study area of annual mean nitrogen dioxide concentrations ( $\mu\text{g}/\text{m}^3$ )*

*Exceedances of air quality thresholds for Nitrogen Dioxide ( $40 \mu\text{g}/\text{m}^3$ ) are shown in bold.*

Location	Local Authority	X (m)	Y (m)	Type	In AQMA?	2015	2016	2017	2018	2019
<b>Continuous Monitoring</b>										
St George's Street	Winchester	448062	129537	Roadside	YES (Winchester Town Centre)	-	-	38.5	<b>41.0</b>	37.0
Chesil Street	Winchester	448664	129257	Roadside	YES (Winchester Town Centre)	-	-	29.7	30.0	28.0
Romsey Road	Winchester	447544	129543	Roadside	YES (Winchester Town Centre)	-	-	-	-	32.0
Steele Close	Eastleigh	443959	119673	Urban Background	NO	-	29.3	27.0	28.5	26.1
The Point	Eastleigh	445310	119148	Roadside	YES (Eastleigh AQMA No.1 (A335))	-	37.0	33.0	31.0	25.6
<b>Passive (Diffusion Tube) Monitoring</b>										
10 Eastgate St	Winchester	448563	129391	Roadside	YES (Winchester Town Centre)	37.6	36.8	30.9	28.9	27.9
Greyfriars	Winchester	448566	129560	Roadside	YES (Winchester Town Centre)	31.5	30.0	27.5	26.2	24.6
Friarsgate	Winchester	448426	129523	Roadside	YES (Winchester Town Centre)	25.9	26.9	23.9	23.8	22.2

Location	Local Authority	X (m)	Y (m)	Type	In AQMA?	2015	2016	2017	2018	2019
Upper Brook St (Echo)	Winchester	448227	129504	Roadside	YES (Winchester Town Centre)	37.6	37.1	33.0	30.6	27.9
Co-located Roadside Monitor	Winchester	448666	129258	Roadside	YES (Winchester Town Centre)	38.2	37.2	32.1	29.8	28.4
Co-located Roadside Monitor	Winchester	448666	129258	Roadside	YES (Winchester Town Centre)	38.2	38.6	31.7	30.8	28.4
Co-located Roadside Monitor	Winchester	448666	129258	Roadside	YES (Winchester Town Centre)	38.2	37.7	31.9	30.6	29.0
St Georges St Bed	Winchester	448106	129541	Roadside	YES (Winchester Town Centre)	<b>50.2</b>	<b>49.8</b>	<b>46.8</b>	39.5	39.3
St Georges St Lad	Winchester	448163	129512	Roadside	YES (Winchester Town Centre)	<b>52.6</b>	<b>48.9</b>	<b>46.5</b>	<b>41.4</b>	38.5
Jewry St	Winchester	448046	129692	Roadside	YES (Winchester Town Centre)	<b>40.6</b>	<b>41.7</b>	38.7	35.9	31.0
Southgate St DV	Winchester	447918	129413	Roadside	YES (Winchester Town Centre)	37.7	37.0	31.6	28.8	28.3
Sussex St	Winchester	447804	129741	Roadside	YES (Winchester Town Centre)	33.9	37.3	28.0	29.0	29.0
City Road	Winchester	447963	129875	Roadside	YES (Winchester Town Centre)	36.7	33.8	31.6	28.8	28.2
74 Northwalls	Winchester	448297	129789	Roadside	YES (Winchester Town Centre)	30.0	29.7	28.2	25.7	24.1



Location	Local Authority	X (m)	Y (m)	Type	In AQMA?	2015	2016	2017	2018	2019
Wales St	Winchester	448842	129820	Roadside	YES (Winchester Town Centre)	30.5	31.5	29.8	26.1	23.4
Alresford Rd (M3)	Winchester	449563	129439	Other	NO	37.0	38.4	33.0	34.6	30.0
Chesil St	Winchester	448679	129068	Roadside	YES (Winchester Town Centre)	36.4	39.9	37.6	34.7	35.3
Stockbridge Rd	Winchester	447534	130006	Roadside	YES (Winchester Town Centre)	21.2	24.8	23.7	20.0	18.7
Worthy Rd 1	Winchester	448092	130411	Roadside	YES (Winchester Town Centre)	24.2	22.8	20.0	23.3	20.8
Worthy Rd 2	Winchester	448092	130411	Roadside	YES (Winchester Town Centre)	24.2	23.8	22.2	23.8	21.0
Worthy Rd 3	Winchester	448092	130411	Roadside	YES (Winchester Town Centre)	24.2	22.9	20.4	23.7	21.6
St Cross Rd	Winchester	447842	129050	Roadside	YES (Winchester Town Centre)	35.3	33.4	32.5	19.3	20.2
Romsey Road	Winchester	447495	129511	Roadside	YES (Winchester Town Centre)	<b>48.8</b>	<b>56.6</b>	<b>50.8</b>	<b>47.6</b>	<b>46.5</b>
Andover Rd	Winchester	447898	130065	Roadside	YES (Winchester Town Centre)	33.5	32.9	32.4	30.6	26.5
Bus Station	Winchester	448427	129401	Other	YES (Winchester Town Centre)	33.7	30.4	28.0	22.7	21.7
High St, Twyford	Winchester	448063	124371	Roadside	NO	27.7	28.4	24	24.1	21.4
Southdown Road,	Winchester	446680	124644	Other	NO	28.5	29.4	27.1	25.2	22.2

Location	Local Authority	X (m)	Y (m)	Type	In AQMA?	2015	2016	2017	2018	2019
Otterbourne										
Martyr Worthy Rd, Kings Worthy	Winchester	449647	132669	Other	NO	-	-	<b>56.0</b>	<b>40.5</b>	34.6
West St/Broad St, New Alresford	Winchester	458826	132719	Roadside	NO	30.1	33.8	28.9	26.6	27.5
Hambledon Rd, Denmead	Winchester	465917	112046	Roadside	NO	18.4	19.9	17.9	18.1	17.7
Winchester Rd, Wickham	Winchester	457203	111380	Roadside	NO	28.8	30.6	27.5	29.8	26.8
Winchester Rd, Bishops Waltham	Winchester	455176	117476	Roadside	NO	29.6	32.5	29.8	29.6	27.0
Whiteley Lane, Whiteley	Winchester	453645	108261	Other	NO	21.8	22.6	22.8	20.3	18.1
Stepherds Lane, Compton	Winchester	445700	124877	Other	NO	-	-	-	12.3	N/A
(B3047) Abbots Worthy	Winchester	449752	132674	Roadside	NO				20.0	15.4
(B3047) Abbots Worthy	Winchester	449650	132673	Roadside	NO	-	-	-	22.9	19.1
(B3047) Abbots Worthy	Winchester	449623	132675	Roadside	NO	-	-	-	20.7	18.2
Lidl	Winchester	452831	109130	Kerbside	NO	-	-	-	-	24.9

Location	Local Authority	X (m)	Y (m)	Type	In AQMA?	2015	2016	2017	2018	2019
Marjoram Way	Winchester	453285	109429	Kerbside	NO	-	-	-	-	26.2
The Point	Eastleigh	445310	119148	Roadside	YES (Eastleigh No.1 A335)	23.5	-	-	-	-
The Point (A)	Eastleigh	445310	119148	Roadside	YES (Eastleigh No.1 A335)	-	27.9	25.6	26.0	23.0
The Point (B)	Eastleigh	445310	119148	Roadside	YES (Eastleigh No.1 A335)	-	26.7	24.8	25.1	22.3
The Point (C)	Eastleigh	445310	119148	Roadside	YES (Eastleigh No.1 A335)	-	26.7	24.5	25.4	23.5
Leigh Road / Pluto Road	Eastleigh	444864	119174	Roadside	YES (Eastleigh No.1 A335)	30.2	32.4	31.9	32.9	31.6
Oxburgh Close	Eastleigh	444543	120187	Urban Background	NO	19.9	22.0	20.8	20.1	18.6
Hadleigh Gardens	Eastleigh	445347	120367	Urban Background	NO	18.8	20.6	19.2	19.0	17.1
Woodside Avenue	Eastleigh	444483	119443	Roadside	NO	34.1	35.9	34	35	31.5
Steele Close	Eastleigh	443959	119673	Urban Background	NO	26.6	-	-	-	-
Steele Close	Eastleigh	443959	119673	Urban Background	NO	-	25.8	23.3	24.1	22.6
Steele Close	Eastleigh	443959	119673	Urban Background	NO	-	25.2	23.4	25.7	23.0
Steele Close	Eastleigh	443959	119673	Urban Background	NO	-	26.0	22.9	25.4	22.5

Location	Local Authority	X (m)	Y (m)	Type	In AQMA?	2015	2016	2017	2018	2019
Belmont Road	Eastleigh	443778	119303	Urban Background	YES (Eastleigh No.2 M3)	24.7	26.5	23.5	26.0	24.4
Leigh Road / J13	Eastleigh	443842	119526	Roadside	YES (Eastleigh No.1 A335)	38.0	<b>43.6</b>	<b>41.3</b>	<b>41.4</b>	39.0
Medina Close	Eastleigh	444239	120060	Urban Background	YES (Eastleigh No.2 M3)	24.7	27.6	25.5	26.4	24.4
Porteous Crescent	Eastleigh	444656	120775	Urban Background	YES (Eastleigh No.2 M3)	25.5	-	-	-	-
Porteous Crescent	Eastleigh	444656	120775	Urban Background	YES (Eastleigh No.2 M3)	-	27.5	25.7	27.7	24.0
Porteous Crescent	Eastleigh	444656	120775	Urban Background	YES (Eastleigh No.2 M3)	-	30.1	24.9	27.7	-
Nuffield Hospital	Eastleigh	445121	122183	Urban Background	NO	23.7	28.4	22.3	26.0	26.0
Chestnut Close	Eastleigh	443054	118962	Roadside	NO	26.5	29.9	29.4	28.2	28.0
Sparrow Square	Eastleigh	443483	118612	Urban Background	YES (Eastleigh No.2 M3)	26.6	30.4	29.2	28.2	24.3
Dove Dale (A)	Eastleigh	443559	118751	Urban Background	YES (Eastleigh No.2 M3)	31.0	-	-	-	-
Dove Dale (A)	Eastleigh	443559	118751	Urban Background	YES (Eastleigh No.2 M3)	-	33.9	31.5	31.2	25.7
Dove Dale (B)	Eastleigh	443559	118751	Urban Background	YES (Eastleigh No.2 M3)	-	33.3	31	29.8	26.4
Dove Dale (C)	Eastleigh	443559	118751	Urban	YES (Eastleigh No.2 M3)	-	34.8	26.3	-	-

Location	Local Authority	X (m)	Y (m)	Type	In AQMA?	2015	2016	2017	2018	2019
				Background						
Passfield Avenue	Eastleigh	444340	118696	Roadside	NO	-	31.5	27.5	30.0	26.1

### Defra pollution climate mapping

- 6.2.4 The Pollution Climatic Mapping (PCM) model is used by Defra (in combination with monitoring data) for the assessment of compliance with European Union (EU) Air Quality Directive limit values.
- 6.2.5 PCM data for 2020 are available from Defra's UK-Air website (Defra, 2020). The data indicates maximum roadside annual mean NO<sub>2</sub> concentrations in the anticipated study area (on Badger Farm Road to the south-west of Winchester as shown on **Figure 6.1, Appendix 6.1** is 24.0µg/m<sup>3</sup>, which is below the EU limit value. The M3 within 2km of the IAB is not currently identified by Defra as a PCM link.

### Defra Background mapping

- 6.2.6 Background pollutant concentrations for the assessment will be taken from the mapped data provided by Defra on a 1km x 1km grid covering the UK (Defra, 2020a).
- 6.2.7 The Defra background mapped data for Winchester City Council (WCC) have been downloaded and reviewed. Concentrations of Oxides of Nitrogen (NO<sub>x</sub>), NO<sub>2</sub>, Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>) within 200m of the IAB are below the air quality thresholds.

### Designated Habitats

- 6.2.8 There are two designated habitats that are located within the anticipated study area, St Catherine's Hill SSSI and River Itchen SSSI and SAC as shown in **Figure 6.1, Appendix 6.1**. **Table 6-2** presents the APIS predicted highest annual NO<sub>x</sub> background concentration and background nitrogen deposition rate and relevant critical load for the most sensitive habitats across these designated habitats.
- 6.2.9 The predicted background annual average concentrations of NO<sub>x</sub> at the designated habitats are below the critical level (of 30µg/m<sup>3</sup>) at River Itchen SSSI and SAC but above the critical level at St Catherine's Hill SSSI. The predicted background nitrogen deposition rate is below the critical load for the most sensitive habitat within St Catherine's Hill SSSI, but above within River Itchen SSSI and SAC.

Table 6-2 Background NO<sub>x</sub> and nitrogen deposition rates for designated habitats within 2km of the IAB

Site	Sensitive habitat	Critical load (kgN/ha/yr)	Background deposition (kgN/ha/yr)	Critical level (µg/m <sup>3</sup> )	Background NO <sub>x</sub> (µg/m <sup>3</sup> )
St Catherine's Hill SSSI	Sub-Atlantic semi-dry calcareous grassland	25	18.6	30	30.8
River Itchen SSSI, SAC	Broadleaved deciduous woodland	20	28.6	30	21.3

### Project specific air quality monitoring

6.2.10 Project specific air quality monitoring has been undertaken by Highways England and WSP using NO<sub>2</sub> diffusion tubes for the following two time periods:

- August 2013 and September 2014 (Highways England)
- 10 Locations January to June 2016 (Highways England)
- 20 Locations May 2017 and May 2018 (WSP)

6.2.11 A summary of the Highways England diffusion tube locations and the monitored concentrations are presented in **Table 6-3**.

Table 6-3 Monitored NO<sub>2</sub> concentrations (annualised to 2015) used within the verification of the PCF Stage 2 assessment

ID	Location	Local authority	X (m)	Y (m)	Type	In AQMA?	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )
M3J9J13_001_0913	Mount Drive	Eastleigh	444172	119909	Roadside	Eastleigh AQMA No. 2 (M3)	34.1
M3J9J13_003_0913	Porteous Crescent	Eastleigh	444625	120709	Roadside	Eastleigh AQMA No. 2 (M3)	29.2
M3J9J13_004_0913	Harlaxton Close	Eastleigh	444647	120381	Roadside	No	22.4

ID	Location	Local authority	X (m)	Y (m)	Type	In AQMA?	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )
M3J9J13_005_0913	Pantheon Rd	Eastleigh	444946	121559	Roadside	No	31.1
M3J9J13_012_0913	Poles Ln	Winchester	445958	123740	Roadside	No	23.7
M3J9J13_013_0913	Laura Cl	Winchester	446388	124287	Roadside	No	26.6
M3J9J13_014_0913	Tilden Rd	Winchester	446521	124459	Roadside	No	28.9
M3J9J13_015_0913	Shepherds Lane	Winchester	446631	124762	Roadside	No	32.7
M3J9J13_019_0913	Southdowns Way/Fivefields Close	Winchester	449500	128984	Roadside	No	23.5
M3J9J13_020_0913	Alresford Rd	Winchester	449582	129425	Roadside	No	30.6
M3J9J13_020_0913	Alresford Rd	Winchester	449582	129425	Roadside	No	30.6
M3J9J13_021_0913	Spitfire End	Winchester	449561	129596	Roadside	No	21.4
M3J9J13_024_0913	London Rd	Winchester	449008	132219	Roadside	No	33.2
M3J9J13_025_0913	Springvale Rd	Winchester	448770	132714	Roadside	No	21.6
M3J9J13_026_0913	Long Walk	Winchester	449945	131951	Roadside	No	19.8
M3J9J13_029_0913	Kockley Link 40m	Winchester	447816	126687	Roadside	No	27.9

6.2.12 To support the PCF Stage 2 EAR, a further 12-month monitoring survey was undertaken at 20 locations between May 2017 and May 2018 as shown on **Figure 6.1, Appendix 6.1**.

6.2.13 The bias-adjusted annual average data from this survey is provided in **Table 6-4**.



Table 6-4 Monitored NO<sub>2</sub> concentrations (WSP, May 2017 – May 2018, adjusted annual average)

ID	Location	X (m)	Y (m)	Type	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )
M3J9Im_006_0116	Chalk Ridge	449563	129243	Roadside	24.4
M3J9j13_019_0913	Southdowns Way/Fivefields Close	449500	128984	Roadside	21.8
M3J9J13_020_0913	Alresford Rd	449557	129422	Roadside	34.4
M3J9Im_008_0116	Winchester Masonic Centre on Alresford Rd (east side of the bridge over the M3)	449867	129436	Roadside	24.7
M3J9Im_005_0116	Willis Way	449945	131951	Roadside	13.9
M3J9j13_027_0913	Firmstone Rd	449054	129558	Roadside	17.0
M3J9Im_004_0116	Spitfire Lane on the M3 side	449554	129574	Roadside	20.8
M3J9J13_022_0913	Longfield Rd	449524	129909	Roadside	23.7
M3J9Im_010_0116	Fiona Cl by the north-west side of the junction of Fiona Cl and Easton Ln	449014	129959	Roadside	32.5
M3J9J13_024_0913	London Rd	449011	132216	Roadside	33.3
M3J9J13_025_0913	Springvale Rd	448770	132714	Roadside	27.5
M3J9Im_001_0116	Willis Way	448959	132478	Roadside	23.1
M3J9_COLO A_0517	Winchester Chesil Street Monitor	448670	129257	Roadside	30.9
M3J9_COLO B_0517	Winchester Chesil Street Monitor	448670	129257	Roadside	31.5
M3J9_COLO C_0517	Winchester Chesil Street Monitor	448670	129257	Roadside	30.6
M3J9_ECO1_0517	St Catherine's Hill SSSI	448966	127657	Roadside	<b>42.3</b>
M3J9_ECO2_0517	Edge of River Itchen SSSI	449820	132106	Background	15.1

ID	Location	X (m)	Y (m)	Type	Monitored NO <sub>2</sub> (µg/m <sup>3</sup> )
M3J9_ECO3_0517	Edge of River Itchen SSSI	449605	131784	Background	15.1
M3J9_ECO4_0517	Edge of River Itchen SSSI along A34	449342	131775	Roadside	32.0
M3J9_ECO5_0517	Edge of River Itchen SSSI	449162	131872	Roadside	23.1

6.2.14 This monitoring data recorded no exceedances of the annual average air quality threshold for NO<sub>2</sub> except for at the St. Catherine’s Hill SSSI (M3J9\_ECO1\_0517). Whilst the monitoring data relates specifically to NO<sub>2</sub>, exceedances of the critical level for NO<sub>x</sub> (of 30µg/m<sup>3</sup>) are also indicated at monitoring locations (M3J9\_ECO1\_0517 and M3J9\_ECO4\_0517) within the designated habitats.

### 6.3 Potential impacts

#### Construction

- 6.3.1 The construction dust risk potential will be used to inform the selection of the proposed mitigation measures (which will form part of the First Iteration EMP (fiEMP)).
- 6.3.2 Traffic management measures during construction could also lead to changes in traffic flows which could, in turn, result in impacts on local air quality. The extent to which these changes will be included within the air quality assessment will be determined by consideration of the duration of any such changes and whether changes to traffic flows exceed the screening criteria for the ARN as defined by DMRB LA105 (Highways England, 2019).

#### Operational

- 6.3.3 The Proposed Scheme is expected to result in changes to emissions of NO<sub>x</sub>, NO<sub>2</sub> and Particulate Matter (PM<sub>10</sub>) at sensitive receptors in proximity to the ARN as a consequence of changes in traffic flows and speeds.
- 6.3.4 These changes will be primarily dependent on the specific changes to the emissions from road traffic within 200m of the relevant receptors.

### 6.4 Design, mitigation and enhancement measures

- 6.4.1 As described in DMRB LA105 (Highways England, 2019), best practice mitigation will be required to control dust emissions from construction works and plant during the construction phase, considering the sensitivity of relevant human and ecological receptors. These mitigation measures will seek to

suppress the dust generation rate and also mitigate its dispersion and maximise the use of existing vegetation barriers where practicable. These measures will be set out in a the fiEMP which will be submitted to accompany the application for Development Consent.

6.4.2 No scheme specific mitigation or Project Air Quality Action Plans (PAQAP) are considered likely to be required for the operation of the Proposed Scheme, although should there be a requirement, a PAQAP will be produced in accordance with the guidance set out in DMRB LA 105 (Highways England, 2019).

## 6.5 Description of likely significant effects

6.5.1 On the basis of the PCF Stage 2 EAR, the Proposed Scheme is not expected to give rise to significant effects on local air quality.

6.5.2 Subject to updated traffic data and modelling, no significant residual air quality effects are anticipated as a consequence of the Proposed Scheme on local air quality.

6.5.3 Significant effects on human health due to air pollutants will be determined within **Chapter 13 Population and Human Health**.

6.5.4 Significant effects on designated habitats due to air pollutants will be determined within **Chapter 9 Biodiversity**.

## 6.6 Assessment methodology

### Policies and Plans

6.6.1 Planning policies and guidance that are relevant to the Proposed Scheme include:

- National Policy Statement for National Networks (NPSNN) (DfT, 2014): Paragraph 3.8 (Emissions) and Air Quality paragraphs 5.3-5.15 (air quality), and 5.81-5.89 (dust)
- National Planning Policy Framework (NPPF) (2019) Paragraph 8 (Achieving sustainable development), Paragraphs 102 and 103 (Promoting sustainable transport), 170 (Conserving and enhancing the natural environment), 180, 181 and 182 (Conserving and enhancing the natural environment - Ground conditions and pollution), and associated Planning Practice Guidance: Air Quality (2014)
- Winchester District Local Plan Part 1 - Joint Core Strategy (2013): Policy CP13 (High Quality Design); Policy CP16 (Biodiversity); and, Policy DS1 Development Strategy and Principles
- Winchester District Local Plan Part 2 - Development Management and Site Allocations (2017): Policy WIN1 (Winchester Town); Policy DM17 Site Development Principles; and, Policy DM19 Development and Pollution

- Winchester District Draft Local Plan 2018 – 2038 (Emerging)
- South Downs National Park Local Plan 2014-2033 (2019) – Policy SD54: Pollution and Air Quality.

### **Air Quality Regulations**

- 6.6.2 The Air Quality (England) Regulations 2000 and the Air Quality (England) (Amendment) Regulations 2002 define the National Air Quality Objectives (NAQOs). The Air Quality Standards Regulations 2010 (with subsequent amendments most notably in 2016 and for the devolved administrations), transposed the European Union's (EU) Directive on ambient air quality and cleaner air for Europe (2008/50/EC).
- 6.6.3 Directive 2008/50/EC consolidated the previous framework directive on ambient air quality assessment and management and its first three daughter directives. The limit values remained unchanged, but it now allows Member States a time extension for compliance, subject to European Commission (EC) approval.
- 6.6.4 The Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019 amend the AQ Standards Regulations 2010 to reflect the UK's departure from the EU but do not change the numerical values of NAQOs and will come in force following the Transition Period.
- 6.6.5 The relevant air quality thresholds for this assessment are shown in **Table 6-5**.

Table 6-5 Relevant Air Quality Objective

Pollutant	Time Period	Objectives	Source
NO <sub>2</sub>	1-hour mean	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	NAQO and EU limit value
	Annual mean	40 µg/m <sup>3</sup>	NAQO and EU limit value
PM <sub>10</sub>	24-hour mean	50 µg/m <sup>3</sup> not to be exceeded more than 35 times a year	NAQO and EU limit value
	Annual mean	40 µg/m <sup>3</sup>	NAQO and EU limit value
PM <sub>2.5</sub>	Annual mean	25	Stage 1 limit value by 2015 - NAQO and EU limit value
	Annual mean	20	Indicative Stage 2 limit value by 2020 - EU Directive

### Methodology

6.6.6 The assessment will be undertaken in accordance with the DMRB LA105 Air Quality (Highways England 2019). A detailed assessment of the Proposed Scheme will be undertaken in accordance with the criteria presented in table 2.11a and 2.11b of LA105.

### Construction Dust Impacts

6.6.7 A construction dust assessment will be undertaken to determine the construction dust risk potential of the Proposed Scheme to the receiving environment, which informs the appropriate level of mitigation.

6.6.8 All sensitive receptors (human and designated habitats) within 0-50 m, 50-100 m and 100-200 m of all construction activity will be identified on a constraints plan in the ES.

6.6.9 **Table 6-6** and **Table 6-7** below will be followed to determine whether the project has a high or low construction dust risk.

Table 6-6 Construction dust risk potential

Risk	Examples of the Types of Project
Large	large smart motorway projects, bypass and major motorway junction improvements.
Small	junction congestion relief project i.e. small junction improvements, signalling changes. short smart motorway projects.

Table 6-7 Receiving environment sensitivity to construction dust

Construction Dust Risk Potential	Distance from construction activities		
	0-50 m	50 – 100 m	100 – 200 m
Large	High	High	Low
Small	High	Low	Low

6.6.10 This construction dust assessment will then be used to inform the best practice mitigation measures in the fiEMP depending on whether the project has a high or low dust risk potential. These mitigation measures will seek to suppress the dust generation rate and also mitigate its dispersion and maximise the use of existing vegetation barriers where practicable.

### Road Vehicle Emissions Assessment

6.6.11 Where the screening criteria are exceeded, a detailed air quality dispersion modelling assessment of the ARN will be undertaken in accordance with LA 105 (Highways England, 2019), and in line with the requirements of NPSNN.

6.6.12 The local air quality assessment of operational traffic emissions will consider the following scenarios:

- Baseline (2015)
- Projected base year (2015 traffic data with 2026 background concentrations and vehicle emissions to inform the ‘gap analysis’ of uncertainty in future decrease in NOx emission from vehicle exhausts)
- Opening Year (2026) Do-Minimum
- Opening Year (2026) and Do-Something

- 6.6.13 The traffic model will be used to provide predictions of traffic flows, the proportion of HDV and speeds for differing time periods (AM peak, PM peak, inter-peak and overnight) for the ARN for each of these scenarios. This data will be used to calculate emissions of NO<sub>x</sub> and PM from each link of the ARN based on data from Defra's Emission Factor Toolkit (EFT) and in accordance with LA105 (Highways England, 2019).
- 6.6.14 The resultant concentrations of pollutants (NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>) due to the vehicle emissions from the ARN will be predicted at identified sensitive receptor locations using the ADMS-Roads dispersion model.
- 6.6.15 The predicted road contribution of air pollutants will be compared to local air quality monitoring results to derive appropriate verification factors, which are then applied to the modelled concentrations to benchmark the model in accordance with Defra TG16 guidance.
- 6.6.16 The verified modelled pollutant concentrations will then be combined with background pollutant concentrations to determine the overall pollutant concentration at each sensitive receptor.
- 6.6.17 For designated habitats, the annual average NO<sub>x</sub> concentration and resultant nitrogen deposition rate will be determined in accordance with LA105 (Highways England, 2019) and combined with background concentrations and deposition rates.
- 6.6.18 Should changes to road traffic flows during the construction period be predicted to exceed the LA105 (Highways England, 2019) screening criteria, the same modelling methodology would be applied to a construction specific ARN and will be agreed with relevant statutory bodies and detailed in the ES.
- 6.6.19 The assessment of the significance of the effects of road traffic emissions on local air quality, and compliance with the EU Directive will be undertaken in accordance with DMRB LA105 (Highways England, 2019).
- 6.6.20 This compliance risk assessment will involve the identification of any qualifying features, which include areas of public access (i.e. footpaths) and sensitive receptors (i.e. residential properties, schools, hospitals) that are located within 15m of the running lane or kerb (but not within 25m of a junction) of PCM model roads that are encompassed by the ARN. Where such qualifying features are identified, the air quality model will be used to predict annual average NO<sub>2</sub> concentrations for the nearest qualifying feature and at a location 4m from the running lane (in the direction of the qualifying feature) for comparison against the national PCM modelled point. The outcome of this modelling will be used to identify if the Proposed Scheme will affect the reported ability of the zone to comply with the Air Quality Directive.
- 6.6.21 A conclusion of no likely significant air quality effect on air quality will be recorded where the:



- Outcomes of the air quality modelling for sensitive receptors indicate that all concentrations are less than the air quality thresholds and/or
- difference in concentrations is imperceptible, for example less than 1% of the air quality thresholds (0.4 µg/m<sup>3</sup>).

6.6.22 Where changes are greater than 1%, then each sensitive receptor will be assigned to the categories as shown in **Table 6-8** (as shown within DMRB LA 105 Highways England, 2019).

*Table 6-8: Information for judgement of significant air quality effects of a project*

Magnitude of change in annual mean NO <sub>2</sub> or PM <sub>10</sub> (µg/ m <sup>3</sup> )	Total number of receptors with:	
	Worsening of an air quality at sensitive receptor above the air quality thresholds or the creation of a new exceedance	Improvement of an air quality at sensitive receptor above the air quality thresholds or the removal of an existing exceedance
Large (>4)	To be populated upon completion of assessment	To be populated upon completion of assessment
Medium (>2)	To be populated upon completion of assessment	To be populated upon completion of assessment
Small (>0.4)	To be populated upon completion of assessment	To be populated upon completion of assessment
Total Change	Sum of above	Sum of above

6.6.23 **Table 6-9** shows the framework guidance bands on the number of sensitive receptors for each of the magnitude criteria that might result in a significant air quality effect.



Table 6-9: Guideline band for the number of properties informing a judgement of significant air quality effects

Magnitude of change in annual mean NO <sub>2</sub> or PM <sub>10</sub> (µg/m <sup>3</sup> )	Total number of receptors with:	
	Worsening of an air quality objective already above the objective or the creation of a new exceedance	Improvement of an air quality objective already above the objective or the removal of an existing exceedance
Large (>4)	1 to 10	1 to 10
Medium (>2)	10 to 30	10 to 30
Small (>0.4)	30 to 60	30 to 60

6.6.24 The ES chapter will consider the predicted concentrations at PCM links and where exceedances of the EU Limit value are predicted and scheme contributions exceed 0.4µg/m<sup>3</sup> to identify whether the scheme represents a risk of the report date of compliance with the Air Quality Directive.

6.6.25 The assessment of significant effects on designated habitats will be undertaken by the competent expert **Chapter 9 Biodiversity** drawing on the modelled air quality results.

6.6.26 The assessment of significant effects on health will be undertaken by the competent expert in human health **Chapter 12 Population and Human Health** drawing on the modelled air quality results where there is the potential for an impact to health determinators (such as particulate matter and nitrogen dioxide).

#### *Mitigation*

6.6.27 Where the Proposed Scheme is deemed to trigger a significant air quality effect (see **Table 6-8**) or a risk to the reported date of-compliance with the Air Quality Directive, a PAQAP will be produced setting out the measures that are required to mitigate the effects of the Proposed Scheme.

### **6.7 Assessment assumptions and limitations**

6.7.1 As with any computer model that seeks to predict future conditions, there is inherent uncertainty in the predictions made. The dispersion models provide an estimate of concentrations arising from input emissions (based on traffic model data and estimates of pollutant emission rates from traffic under differing conditions) and historical meteorological data. The estimates produced, while appropriately representing the complex factors involved in atmospheric dispersion, are subject to uncertainty and verification of model

prediction against local monitored concentrations of air pollutants is used to mitigate this.

- 6.7.2 In future years, one such uncertainty relates to the projection of vehicle emissions and, in particular, the rate at which emissions of NO<sub>x</sub> from vehicle exhaust will decrease over time. The guidance set out in LA 105 (Highways England, 2019) advises on how to take account of recent trends on roadside pollution concentrations and evidence on future vehicle emissions by consideration of a Projected base year and derivation of a 'gap factor' to uplift modelled NO<sub>2</sub> concentrations to ensure a robust assessment of potential local air quality impacts.

## 6.8 Elements to be scoped in/out

6.8.1 The elements to be scoped into the EIA for air quality are in **Table 6-10**.

*Table 6-10: Elements to be scoped into the EIA for air quality*

Elements scoped in	Justification
Further assessment of direct construction impacts	<p>Given the proximity of sensitive human and ecological receptors to the Proposed Scheme and potential construction haulage routes within the IAB, construction dust impacts will be considered.</p> <p>Best practice mitigation measures would be required to ensure no significant effects. These will be set out in the fiEMP.</p>
The assessment of impacts due to traffic management measures during construction	<p>Where the construction period extends beyond two years, following LA 105 (para 2.60) the impacts of the construction activities on traffic flows will be assessed against the LA105 (Highways England, 2019) screening criteria. Where these criteria are exceeded, the impact of emissions from vehicles on the ARN will be predicted at sensitive receptors as per LA105 (Highways England, 2019).</p>
The assessment of operational traffic on local air quality	<p>The operation of the Proposed Scheme has the potential to change traffic volumes and speeds on the public highway.</p> <p>Whilst there is not considered to be a risk of compliance with the Air Quality Directive, there is potential risk of likely significant effects to occur at human receptors and designated habitat sites within the study area primarily due to emissions of NOx.</p> <p>Concentrations of particulate matter are below the air quality thresholds and considered not at risk of exceeding the standards. However, as modelling will be undertaken for NOx, particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) can be modelled at the same time and it has therefore been scoped into the EIA.</p>

6.8.2 There are no elements to be scoped out for Air Quality at this stage.

## 7 Cultural Heritage

### 7.1 Study area

7.1.1 Cultural heritage covers all aspects of the environment resulting from the interaction between people and places through time. This includes all surviving physical remains of past human activity and the changes that humans have had on the environment. Developments such as the Proposed Scheme have the potential to have a physical (direct) effect on finds or features within the footprint of construction works as well as indirect effects through changes to how heritage assets are experienced in the historic landscape.

7.1.2 For the purposes of this assessment, cultural heritage comprises three sub-topics which are defined as:

- **Archaeological remains:** the material remains of human activity from the earliest periods of human evolution to the present. These could be buried traces of human activities, archaeological deposits, sites which are visible above ground, or moveable artefacts. Archaeological remains can encompass the remains of buildings, structures, earthworks and landscapes, human, animal, or plant remains, or other organic material produced by or affected by human activities
- **Historic buildings:** architectural, designed or other structures with a significant historical value. These could include structures that have no aesthetic appeal or structures not usually thought of as 'buildings', such as milestones or bridges
- **Historic landscapes:** the current landscape, whose character is the consequence of the action and interaction of natural and/ or human factors

7.1.3 The spatial scope of this assessment is defined by a 1km study area around the Indicative Application Boundary (IAB) for designated cultural heritage assets and a 300m study area around the IAB for non-designated cultural heritage assets. These proposed study areas have been used to identify cultural heritage assets that might be impacted upon, directly or indirectly, by the Proposed Scheme and have been used to put the M3 Junction 9 Improvement site into its full archaeological and historic context. It should be noted that as a Zone of Theoretical Visibility (ZTV) has not yet been established, these proposed study areas are based upon industry standards for desk-based assessments (Chartered Institute for Archaeologists (CIfA) 'Standards and Guidance for Historic Environment Desk-based Assessment (as revised 2017). These study areas were presented within the January 2019 Scoping Report (Highways England, 2019) and deemed appropriate within the March 2019 Scoping Opinion. Since this previous agreement, the proposed study areas have been reconfirmed as acceptable for this assessment by the Overseeing Organisation (email received from Highways England principal cultural heritage advisor on 6 August 2020). In paragraph 3.6.1 of DMRB (LA 106) (Highways England, 2020) it is stated that a "*study area should include the settings of any designated or other cultural heritage resource in the*

*footprint of the scheme or within the zone of visual influence or potentially affected by noise*". Therefore, when a ZTV is produced, any cultural heritage assets identified as having inter-visibility with the Proposed Scheme and considered to have the potential to receive significant effects from the Proposed Scheme will be assessed during further detailed assessment regardless of distance from the IAB.

## 7.2 Baseline conditions

7.2.1 A cultural heritage desk-based assessment was prepared by WSP in 2017 as part of Project Control Framework (PCF) Stage 2 which was followed by another desk-based assessment prepared in 2018, a scoping report and a preliminary environmental information report (PEIR) which were carried out by Jacobs as part of PCF Stage 3A. These were based on the previous version of the Proposed Scheme which is currently being amended and redesigned. Due to the redesign of the Proposed Scheme and comments received in the March 2020 Scoping Opinion that highlighted an inadequate consideration of the impacts upon the setting of designated heritage assets (in particular scheduled monuments, and other issues relating to the historic landscape and undesignated heritage assets), a new cultural heritage desk-based assessment is currently being prepared, which will be consulted and agreed upon with relevant statutory bodies and reported within the Environmental Statement (ES). The new desk-based assessment will supersede the previous work.

7.2.2 The forthcoming desk-based assessment will be used to inform the Cultural Heritage baseline for the ES. It will also be used for consultation with relevant stakeholders to discuss further evaluative works, if required, and agree an outline mitigation strategy.

7.2.3 The following sources have been or will be consulted during the data-gathering process:

- The Winchester Historic Environment Record (WHER) for archaeological sites and features, events, findspots, historic buildings, historic landscape character (HLC) and National Mapping Programme (NMP) data (data received August 2020)
- The National Heritage List for England (NHLE) as maintained by Historic England for designated cultural heritage assets (data downloaded August 2020)
- Winchester City Council website for information on Conservation Areas
- The Hampshire Record Office in Winchester for historic maps and manuscripts (visited August 2020)
- A suitable online repository (such as Envirocheck or Groundsure) for Historic Ordnance Survey maps
- The Environment Agency (EA) for LiDAR data

- Other freely available online websites including the Archaeological Data Service, Britain from Above and Heritage Gateway
- Cultural heritage desk-based assessments produced by WSP (2017) and Jacobs (2018)
- A geophysical survey (WSP, 2018) and trial trench evaluation (Wessex Archaeology, 2019)
- Relevant primary and secondary sources including published and unpublished reports relating to previous archaeological investigations and ground investigation works considered relevant to understanding the archaeological potential of the IAB.

7.2.4 Due to the COVID-19 public health crisis (spring and summer 2020) the Historic England Archives in Swindon remains closed to the public and, as of September 2020, is not available to the public to consult historic aerial photographs. Several aerial photographs were viewed for the study areas at the Hampshire Record Offices, but others will, where possible, be viewed online. If the Historic England Archive reopens during the preparation of the cultural heritage desk-based assessment or the ES it will be contacted for a list of available aerial photographs. The archives will then be visited to view any aerial photographs identified within the 300m study area.

7.2.5 In addition to desk-based research the cultural heritage desk-based assessment and ES will also be informed by a site walkover survey. The purpose of the site walkover will be to assess the current character and condition of the IAB, identify possible factors which might have affected the survival and condition of known and potential archaeological remains and identify cultural heritage assets within the IAB not identified through desk-based research. Cultural heritage assets considered sensitive to the Proposed Scheme will be visited, where possible, to assess their heritage interest and sensitivity and attributes of their setting that contribute towards their significance and to ground truth views between cultural heritage assets and the IAB. As of September 2020, an initial site visit has been carried out to clarify the results of the previous setting assessments in the desk-based assessments produced by WSP (2017) and Jacobs (2018). A site walkover of the IAB and a more detailed settings assessment are to be carried out in due course with the results included in the forthcoming desk-based assessment and ES.

7.2.6 A list of designated cultural heritage assets gathered from Historic England's NHLE is presented in **Table 7.1, Appendix 7.2** and a list of archaeological investigations, monuments and findspots is presented in **Table 7.2, Appendix 7.2**. The locations of known cultural heritage assets are marked on **Figures 7.1 to 7.8 in Appendix 7.1**. The data received from WHER has undergone an initial rationalisation but further rationalisation and combining of records may occur during the production of the desk-based assessment or the ES chapter where relevant.



## Archaeological remains

- 7.2.7 Whilst there are no designated archaeological remains (Scheduled Monuments) within the IAB there are 10 within the 1km study area which are of national interest and therefore of high value **Figure 7.1, Appendix 7.1**. These comprise the Roman road east of St Catherine's Hill (NHLE: 1001798), the Anglo-Saxon cemetery in Worthy Park (NHLE: 1001817), the late Iron Age settlement site north of Grace's Farm (NHLE: 1001825), Worthy Down ditch (NHLE: 1001907), the site of St Gertrude's Chapel (NHLE: 1005518), Wolvesey Palace (NHLE: 1005535), the Iron Age field system, banjo enclosure and Romano-British villa, 500m east of Woodham Farm (NHLE: 1013269), the bowl barrow at the east end of Magdalen Hill Down (NHLE: 1015984), St Catherine's Hill hillfort (NHLE: 1016489), the round barrow cemetery on Magdalen Hill Down (NHLE: 1016746) and the City Bridge at the junction of High Street and Bridge Street (NHLE: 1021112).
- 7.2.8 The WHER records archaeological investigations at 54 locations within the 300m study area including 15 within the IAB **Figure 7.2, Appendix 7.1**. The majority of these investigations are associated with survey work, preliminary excavations and rescue excavations and watching briefs carried out during the construction and development of the M3. The remains of Neolithic and Bronze Age funerary monuments, two small early Bronze Age cemeteries, middle and late Bronze Age settlements, 'Celtic' field systems, an early Iron Age settlement and a late Iron Age/ Romano-British settlement have all been found within or in close proximity to the IAB **Figure 7.3, Appendix 7.1**. Further prehistoric features such as ring ditches, field systems, settlements and an assortment of prehistoric finds are recorded within the 300m study area demonstrating that the IAB lies within a landscape that was extensively settled and exploited during the late prehistoric period.
- 7.2.9 During the Romano-British period the main focus of settlement was the Roman town of *Venta Belgarum* (Winchester). The WHER records a number of Romano-British finds and features within the 300m study area **Figure 7.4, Appendix 7.1**, several of which are within the IAB. These include the road between *Calleva Atrebatum* (Silchester) and *Venta Belgram* (Margary 42a), which led to the north gate of the town, and another road that approached the east gate from the small town of *Vindomis* (Neatham); the aqueduct that provided water to the Roman settlement at Winchester which was first identified at Graces Farm during the construction of the M3; and Roman farm buildings and evidence for the reuse of Iron Age stock enclosures identified during excavations at Winnall Down.
- 7.2.10 Archaeological remains dating to the early medieval period have been recorded at several places within the 300m study area **Figure 7.4, Appendix 7.1** including a fifth to sixth century settlement close to Grace's Farm and an enclosure likely to have been associated with a small rural settlement both excavated within the IAB. Four cemeteries dating to the early medieval period have also been recorded within the 300m study area but are outside of the IAB.

- 7.2.11 The villages of Chilcomb, Headbourne Worthy, Kings Worthy and Martyr Worthy are all recorded within the Domesday Survey (1086). The IAB is largely outside of these settlements and was most likely used for pasture or arable cultivation at that time. There are very few other medieval finds or features recorded within the 300m study area, other than the site of St Gertrude's Chapel (Scheduled Monument, NHLE: 1005518) and St Mary Magdalen Leper Hospital and none are recorded within the IAB **Figure 7.5, Appendix 7.1**. During the post-medieval period, river meadows were created along the banks of the River Itchen which still survive in part as networks of banks and ditches **Figures 7.5 and 7.7, Appendix 7.1**. Later in the nineteenth century, the Didcot, Newbury and Southampton Railway was constructed. The line was demolished in the twentieth century and part of the route is now followed by the A34. An examination of historic maps shows that during the post-medieval period there were also a small number of dispersed farmsteads beyond the villages within the 300m study area.
- 7.2.12 The archaeological remains excavated during previous archaeological investigations within the IAB have been removed from the IAB and therefore have no value/ sensitivity. There is however the potential that associated remains and as yet unrecorded archaeological features/ deposits might be present within the IAB. This has in part been demonstrated by a recent geophysical survey (WSP, 2018) and trial trench evaluation (Wessex Archaeology, 2018), carried out in part of the IAB, which identified the remains of a Neolithic/ Bronze Age ring ditch excavated in 1974, along with several discrete features, field boundaries, and a parish boundary. During the evaluation it was noted that there were some areas of disturbance from agricultural activity, previous archaeological investigations and construction work associated with the building of the M3, but it was concluded that this had not substantially diminished the potential for archaeologically significant remains to be present within the IAB. The value/ sensitivity of these particular remains is considered to be low. The potential and value/ sensitivity of any as yet unrecorded archaeological deposits will need to be assessed during further evaluative work (geophysical survey and trial trench evaluation), the scope of which will be discussed and agreed with WCC and Hampshire County Council (HCC) as the scheme design evolves.



## Built heritage

7.2.13 The IAB covers a small part of the Abbots Worthy and Kings Worthy Conservation Areas. In addition, there are a further 136 designated built heritage assets within 1km of the IAB including 133 Listed Buildings and three further Conservation Areas **Figure 7.1, Appendix 7.2**.

7.2.14 The following designated built heritage assets are of high value:

- Five Grade I Listed Buildings (Church of St Mary NHLE: 1095898, City Bridge NHLE: 1167781, Church of St John the Baptist NHLE: 1296158, Church of St Swithun NHLE: 1350461, Church of St Andrew NHLE: 1095907)
- 11 Grade II\* Listed Buildings (Church of St Mary NHLE: 1156360, Dymoke House NHLE: 1095857, Church of St Swithun NHLE: 1350471, 1 Water Lane NHLE: 1095347, 24 and 25 St John's Street NHLE: 1095386, St John's Croft NHLE: 1095387, Peter's Theatre NHLE: 1095502, 42 Chisel Street NHLE: 1271527, 1 Chisel Street NHLE: 1350648, 12 Chisel Street NHLE: 1350651, Worthy Park House NHLE: 1095892)
- The Winchester Conservation Area which contains a significant number of important historical buildings.

7.2.15 The following designated built heritage assets are of medium value:

- 117 Grade II listed buildings, which are mainly located within Conservation Areas
- The Abbots Worthy, Easton, Kings Worthy, Martyr Worthy Conservations Areas which contain a number of designated and non-designated historic buildings that contribute significantly to their historic character.

7.2.16 In addition to the designated built heritage assets there is also likely to be non-designated built heritage assets or locally listed buildings within the study areas. Any non-designated built heritage assets identified during desk-based research or highlighted during consultation with WCC or the South Downs National Park Authority (SDNPA) and considered to have the potential to receive significant effects from the Proposed Scheme will be included within the assessment.

## Historic Landscape

7.2.17 There is one designated historic landscape recorded by Historic England within the 1km study area **Figure 7.1, Appendix 7.1**. This is the Magdalen Hill Cemetery (Grade II Registered Park and Garden (RPG), NHLE: 1000310) and is considered to be of medium value.

7.2.18 Within Kings Worthy and Abbots Worthy there are nine historic park and gardens (HPG) some of which are on the local register **Figure 7.5, Appendix 7.1**. In accordance with **Table 7.1** below these are most likely to be of low value/ sensitivity but could be higher depending upon survival and condition.

The IAB includes a small part of Abbots Worthy House HPG, which is on the local register, and is directly adjacent to Kings Worthy House HPG and Kings Worthy Grove HPG, neither of which are on the local register. These HPGs date to the post-medieval and early twentieth century. Worthy Park HPG which is on the northern side of the Itchen Valley with extensive views across the river valley is likely to have developed originally as a deer park.

7.2.19 The historic landscape character within the IAB is recorded by the Hampshire HLC project as predominately parliamentary enclosure with areas of recent settlement, old settlement, downland and valley floor. The majority of these HLC types are common and are considered to be of low value/ sensitivity although the water meadows situated within the valley floor may be of higher value/ sensitivity depending upon their level of survival and current condition. The valley floor and large parts of the study areas to the east of the M3 are part of the South Downs National Park (SDNP). The SDNPA has a statutory duty under the National Parks and Countryside Act 1949 (as amended in the Environment Act 1995) to “*conserve and enhance the natural beauty, wildlife and cultural heritage*” of the National Park.

### 7.3 Potential impacts

#### Direct impacts

7.3.1 The Proposed Scheme will not result in direct impacts to any Scheduled Monument; all of those identified within 1km study area are located outside of the IAB.

7.3.2 Previous archaeological investigations have demonstrated that the IAB contains archaeological remains dating from the prehistoric period through to the modern period, and whilst the majority of these have already been removed and therefore have no value/ sensitivity, there is the potential that further archaeological deposits could be present beyond the previously investigated areas and those areas that have been previously disturbed by quarrying and landfill. Previously excavated archaeological remains within the IAB were of at least medium value / sensitivity and may have been of high value / sensitivity. It is anticipated that any further archaeological remains present within the IAB could be of a similar value / sensitivity.

7.3.3 The construction of the Proposed Scheme is likely to involve significant intrusive construction related works across the IAB. Intrusive works within the IAB are likely to involve:

- Geotechnical and ground investigation works
- The removal of hardstanding, buried underground obstacles and potentially contaminated ground within the footprint of the existing carriageways
- The removal of topsoil, subsoil and the grading of existing ground levels within the footprint of the Proposed Scheme. This is likely to occur in the areas of permanent works as well as the areas of temporary works such as the working

easement, construction access and compounds. The removal of topsoil, subsoil and grading of the spoil storage/ deposition areas is also anticipated

- The excavation for new subways
- The excavation of trenches and pits for new gantries, new and diverted utility services, and soakaways or other drainage features
- The excavation and drilling for piles for any new bridge crossings or the widening of existing bridges.
- Landscaping and planting.

7.3.4 The depth and location of these groundworks will be determined during PCF Stage 3B detailed design, which is currently underway and will be reported within the ES. Any of the intrusive works listed above could potentially have a direct adverse effect resulting in the damage or destruction of archaeological remains within the IAB.

7.3.5 The IAB does not contain any designated or undesignated historic buildings and as such the Proposed Scheme will not have a direct adverse impact upon any historic building. A small part of the Abbots Worthy and Kings Worthy Conservation Areas are located within the IAB and any proposals within these areas have the potential to have an adverse impact upon the special character and appearance of these Conservation Areas.

7.3.6 The groundworks listed above also have the potential to directly impact upon the historic landscape character within the IAB and the Abbots Worthy House HPG which is partly within the IAB.

### **Indirect impacts**

7.3.7 There is the potential that archaeological, geoarchaeological and palaeoenvironmental remains adjacent to the IAB, could be indirectly affected for example by dewatering and changes to the hydrological regime as a result of the Proposed Scheme.

7.3.8 There are a number of designated archaeological remains (Scheduled Monuments), designated and undesignated built heritage assets and historic landscapes within the 1km study area which could receive impacts upon their setting and value / sensitivity as a result of the Proposed Scheme. Potential indirect impacts (positive or negative) that could arise from the Proposed Scheme include:

- The introduction of construction related activities and new roads with associated infrastructure in key views from, towards, through and across cultural heritage assets particularly if there is a substantial change to the skyline
- The alteration to the historic landscape (i.e. setting) of cultural heritage assets, for example, new lengths of road causing a physical division between previously

related heritage assets causing a loss of the identifiable relationship or where there are substantial changes to key features of an assets setting

- The loss of land historically associated with cultural heritage assets
- An increase in dust, noise, light, pollution, movement and vibration within the setting of cultural heritage assets.

7.3.9 A ZTV is to be produced during further detailed assessment and will be used to assess inter-visibility between the Proposed Scheme and cultural heritage assets and will be used to inform the assessment of indirect impacts upon cultural heritage assets for the ES.

## 7.4 Design, mitigation and enhancement measures

7.4.1 The Ancient Monuments and Archaeological Areas Act (1979) draws a distinction between archaeological remains of national importance and remains considered to be of lesser significance. There are no Scheduled Monuments within the IAB and, as such, there will be no direct physical harm to any Scheduled Monument. The National Policy Statement for National Networks (NPS NN) (2014) and National Planning Policy Framework (NPPF) (2019) draw a distinction between designated heritage assets and non-designated heritage assets and clarify that non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies of designated heritage assets. Therefore, the absence of designation does not necessarily indicate a lower significance. Previous archaeological work has demonstrated that the IAB has the potential to contain non-designated archaeological remains of at least medium value / sensitivity (and possibly high value / sensitivity Further evaluative work is required to ascertain the potential for, and value / sensitivity of archaeological remains within the IAB. The ES will fully and clearly set out the value / sensitivity of archaeological remains.

7.4.2 An archaeological evaluation comprising a phased programme of geophysical survey and targeted trial trenching is proposed, where viable, in the parts of the IAB not previously investigated. This is proposed to establish the presence or absence of archaeological remains which might be damaged or removed by the Proposed Scheme. The results of the evaluation will then be used to clarify the nature, extent and significance of archaeological deposits and inform a suitable mitigation strategy. Additionally, an archaeological watching brief to monitor any new ground investigations and geotechnical work should be carried out where practicable to further inform the archaeological potential of the IAB and the extent of previous ground disturbance, particularly in the floodplain of the River Itchen where deep waterlogged deposits are anticipated. Where a watching brief is not safe or practicable or the works are not archaeologically visible (e.g. boreholing), the logs should be provided for review by the scheme archaeologists. The results of the archaeological evaluation and observations from any ground

investigation works will be used to devise a suitable programme of archaeological mitigation. The scope of evaluative work and any subsequent mitigation will be discussed and agreed in consultation with WCC, HCC, SDNPA and, if necessary due to significance, Historic England.

- 7.4.3 The Historic England science advisor will be consulted should a change in hydrology that could result in the dewatering of archaeological remains be identified during further detailed assessment.
- 7.4.4 Historic England (2017) guidelines for mitigation of the impact of a development on the setting of a cultural heritage asset suggest that, in the first instance, impacts are best mitigated either by relocation of the development or changes to its design. Where relocation of the development is not possible, good design may reduce or remove harm and could provide enhancement. Where some harm to the value / sensitivity cannot be adjusted, mitigation through design in the form of screening (for example using cuttings, bunds and vegetation) may reduce harm.
- 7.4.5 Detailed design of the Proposed Scheme is still ongoing. It is proposed that, as details become available and if significant adverse impacts are identified, consultation be carried out with the WCC Conservation Officer, the SDNPA, Historic England and the Hampshire Garden Trust, to discuss potential impacts and possible mitigation. In particular it will be important to discuss the direct impacts upon the Kings Worthy and Abbots Worthy Conservation Area and the Abbots Worthy HPG as and when details of proposals in these areas becomes available. The scheme archaeologists are embedded in the design team in order to advise on opportunities for reduction of impact and mitigation of harm while design is still ongoing.

## 7.5 Description of likely significant effects

### Archaeology

- 7.5.1 It is unlikely that there will be residual effects upon buried archaeological remains within the IAB following construction of the Proposed Scheme. Any remains within the impact zone will be removed during the construction phase (of temporary and permanent scheme elements) following suitable archaeological mitigation which will preserve by record / archive any archaeological remains within the footprint of the Proposed Scheme. However, there is the potential that the Proposed Scheme could result in changes to local hydrological regimes see **Chapter 14 Road Drainage and the Water Environment** which could result in residual effects upon archaeological remains through dewatering which requires further consideration.
- 7.5.2 There could be residual effects to the setting of Scheduled Monuments, particularly those in close proximity to the Proposed Scheme or with views across it, where impacts could not be designed out and no appropriate mitigation could be implemented. Further assessment on the effects on views

from Scheduled Monuments will be made once a ZTV has been produced following further design work.

### **Built heritage**

7.5.3 There is the potential for direct adverse effects upon the Kings Worthy and Abbots Worthy Conservation Areas and Abbots Worthy House HPG as parts of these cultural heritage assets are located within the IAB. The effect to the Kings Worthy and Abbots Worthy Conservation Areas and the Abbots Worthy Historic Park and Garden will be fully justified and explained within the ES following further design work.

7.5.4 The Proposed Scheme is largely on the same alignment and immediately adjacent to existing roads and the overall setting of historic buildings within the 1km study area is unlikely to be greatly modified. There is the potential for indirect (setting) impacts to historic buildings during the construction of the Proposed Scheme, through an increase in noise, vibration, dust and visual intrusion. Further assessment on the effects on views from historic buildings and conservation areas will be made once a ZTV has been produced.

### **Historic landscape**

7.5.5 There is the potential for significant effects upon the historic landscape character, particularly in the temporary compound areas and the 'areas of search for potential excess spoil management' as outlined in **Chapter 2**. The design of these elements is still ongoing and as such the significance of the effect is unknown and will require further assessment.

## **7.6 Assessment methodology**

### **Legislation, Policy and Plans**

7.6.1 Legislation, planning policy and guidance that are relevant to the Proposed Scheme include:

- National Policy Statement for National Networks (NPS NN) (2014): Historic Environment, paragraphs 5.120 to 5.142
- National Parks and Countryside Act 1949 (as amended in the Environment Act 1995)
- Historic Buildings and Ancient Monuments Act 1953
- Ancient Monuments and Archaeological Areas Act 1979
- Hedgerow Regulations 1997 (amended 2003)
- National Planning Policy Framework (NPPF) (2019): Paragraphs 189 (Conserving and enhancing the historic environment) and 193, 194, 195, 196, 197, 199, 200



and 201 (Conserving and enhancing the historic environment – Considering potential impacts)

- Planning Practice Guidance (PPG) (2019): ‘Historic Environment’
- Winchester District Local Plan Part 1 – Joint Core Strategy (2013): Policy CP20 (Heritage and Landscape Character)
- Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (amended 2020)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (2017): Policy DM25 (Historic Parks and Gardens), DM26 (Archaeology) and DM29 (Heritage Assets)
- South Downs National Park Local Plan Policy SD12 (Historic Environment) and SD13 (Listed Buildings)
- Winchester District Draft Local Plan 2018 – 2038 (Emerging).

### Standards and guidance

7.6.2 The assessment will be carried out in accordance with all relevant standards and guidance. These will include:

- Design Manual for Roads and Bridges (DMRB) Cultural Heritage Assessment (LA 106)
- Chartered Institute for Archaeologists (CIfA) ‘Standards and Guidance for Historic Environment Desk-based Assessment (as revised 2017)
- DEFRA The Hedgerow Regulations: A Guide to the Law and Good Practice (1997)
- Historic England’s ‘Managing Significance in Decision-Taking in the Historic Environment (2015)
- Historic England’s ‘The Setting of Heritage Assets (Historic Environment Good Practice Advice in Planning Note 3 (Second Edition) 2017
- Historic England’s ‘Statements of Heritage Significance: Analysing Significance in Heritage Assets (2019).

7.6.3 The Proposed Scheme could result in significant effects on cultural heritage assets. Paragraphs 5.126 and 5.127 of the NPS NN set out the required content of assessment. It should include an assessment of any likely significant heritage impacts and describe these in the ES.

7.6.4 The significance of any cultural heritage assets affected by the Proposed Scheme should be described including any contribution made by their setting.

The NPS NN is clear that the detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment Record (HER) should have been consulted and the heritage assets assessed.

7.6.5 In accordance with NPS NN paragraph 5.127, a cultural heritage desk-based assessment is currently being prepared for the IAB. The desk-based assessment will be used, in conjunction with the results of the proposed archaeological evaluation, to provide a baseline assessment for the cultural heritage chapter in the ES.

#### **Value (sensitivity) of resource**

7.6.6 The NPPF defines significance (for heritage policy) as *“the value of a heritage asset to this and future generations because of its heritage interest. This significance could be related to archaeological, architectural and artistic or historic elements, and could also derive from the setting of the site”*.

7.6.7 Heritage interests are defined in Planning Policy Guidance (2019) as:

- **Archaeological interest:** There will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point
- **Architectural and artistic interest:** These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically architectural interest is an interest in the art or science of design, construction and craftsmanship and decoration of building and structures of all types. Artistic interest is an interest in other human creative skill like sculpture
- **Historic Interest:** An interest in past lives and events (including prehistoric). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity

7.6.8 For heritage purposes the term 'significance' is often used to define the value / sensitivity of cultural heritage assets whilst in EIA terms significance relates to the effect upon a receptor (see Table 3.7 and 3.8.1 in DMRB (LA 104) (Highways England, 2020). To avoid confusion and in accordance with DMRB (LA 106) (Highways England, 2020), which defers to DMRB (LA 104) (Highways England, 2020), the term 'value' has been used in this report to grade cultural heritage assets

7.6.9 An assessment of the value of cultural heritage assets within the proposed study areas will be undertaken on a 5-point scale of Very High, High, Medium, Low, Negligible. In some cases, the value / sensitivity may be unknown if it cannot be determined and further assessment to gauge the value / sensitivity



will be undertaken. Assessment of value / sensitivity will be based mainly upon existing designations but will allow for professional judgement where features are found which do not have any formal national or local designation. The assessment of the setting of cultural heritage assets, including its contribution to their historic legibility and capacity for change, will be undertaken based on the guidance contained in Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Second Edition) (Historic England 2017). The criteria used to assess the value of cultural heritage assets is presented in **Table 7-1**. This is derived from Table 3.2N in DMRB (LA 104) (Highways England, 2020) and incorporates more detailed descriptions used in the previous version of DMRB (HA208/07) (Highways Agency, 2007) specific to cultural heritage. Whilst the revised version of DMRB supersedes the previous version, the criteria tables used in the former version provide a greater level of detail specific to cultural heritage and have therefore been adopted in this assessment. The greater descriptive clarity retained from the superseded version of the DMRB guidance, is not considered to materially alter the assessment process.

*Table 7-1 Criteria for grading the value (or sensitivity) of cultural heritage assets*

<b>Value (sensitivity) of receptor/resource</b>	<b>Typical description of Historic landscapes</b>	<b>Archaeological assets</b>	<b>Historic buildings</b>
Very High (International)	World heritage sites inscribed for their historic landscape qualities  Historic landscapes of international value, whether designated or not  Extremely well-preserved historic landscapes with exceptional coherence, time depth or other critical factor(s)	World heritage sites  Archaeological sites of acknowledged internal importance  Assets that can contribute significantly to acknowledged international research objectives	Structures inscribed as being of universal importance as world heritage sites  Other buildings recognised as internationally important
High (National)	Designated historic landscapes of outstanding interest  Undesignated landscapes of outstanding interesting	Scheduled monuments (including proposed sites)  Undesignated archaeological remains of	Scheduled monuments with standing remains  Grade I and II* listed buildings  Other listed buildings that can

	<p>Undesignated landscapes of high quality and importance and of demonstrable national value.</p> <p>Well preserved historic landscapes exhibiting considerable coherence, time-depth or other critical factors</p>	<p>schedulable quality and importance</p> <p>Assets that can contribute significantly to acknowledge national research objectives</p>	<p>be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade</p> <p>Conservation areas containing very important buildings</p> <p>Undesignated structures of clear national importance</p>
<p>Medium (National/ regional)</p>	<p>Designated special historic landscapes.</p> <p>Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value.</p> <p>Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factors.</p>	<p>Archaeological remains that contribute towards regional research objectives</p>	<p>Grade II listed buildings</p> <p>Historic unlisted buildings that can be shown to have exceptional qualities in their fabric or historical associations.</p> <p>Conservation areas containing buildings that contribute significantly to the historic character.</p> <p>Historic townscape or built-up areas with important historic integrity in their buildings or built settings (e.g. including street furniture and other structures).</p>
<p>Low (Regional/ local)</p>	<p>Robust undesignated historic landscapes.</p> <p>Historic landscapes with importance to local interest groups.</p> <p>Historic landscapes whose value is limited by poor preservation</p>	<p>Archaeological remains of local importance.</p> <p>Archaeological remains compromised by poor preservation and/or poor survival</p>	<p>'Locally listed' buildings.</p> <p>Historic unlisted buildings of modest quality in their fabric or historical association.</p>

	and/or poor survival of contextual associations.	of contextual associations. Archaeological remains of limited value, but with potential to contribute to local research objectives	Historic townscape or built-up areas of limited historic integrity in their buildings or built settings (e.g. including street furniture and other structures).
Negligible (local)	Landscapes with little or no significant historical interest	Assets with very little or no surviving archaeological interest	Buildings with some hidden (i.e. inaccessible) potential for historic significance

### Magnitude

7.6.10 Magnitude of impact is the degree of change that would be experienced by a cultural heritage asset and its setting during the construction and operation of the Proposed Scheme, as compared with a 'do nothing' scenario. Magnitude of impact is assessed without reference to the value of the cultural heritage asset and could include physical impacts upon the cultural heritage asset or impacts on its setting. Effects may be temporary or permanent, direct or indirect and may be adverse, beneficial or may result in no change.

7.6.11 The magnitude of impact has been assessed using a five-point scale of, Major, Moderate, Minor, Negligible and No Change. The assessment has been based on professional judgement and follows criteria provided in DMRB (LA 104). Factors in the assessment of the magnitude of impact for all cultural heritage assets are presented in **Table 7-2**.

Table 7-2 Magnitude of impact and typical descriptions

Magnitude of impact (change)		Typical description
Major	Adverse	<p>Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit</p> <p>Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting.</p> <p>Change to key historic building elements, such that the resource is totally altered. Comprehensive changes to the setting.</p>
	Beneficial	<p>Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.</p>
Moderate	Adverse	<p>Changes to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or access; resulting in moderate changes to historic landscape character.</p> <p>Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset.</p> <p>Change to many key historic building elements, such that the resource is significantly modified. Changes to the setting of an historic building, such that it is significantly modified.</p>
	Beneficial	<p>Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.</p>
Minor	Adverse	<p>Changes to few key historic landscape elements, parcels or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access: resulting in limited changes to historic landscape character.</p> <p>Changes to key archaeological materials, such that the asset is slightly altered. Slight changes to setting.</p>

		Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that it is noticeably changed.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.  Very minor changes to archaeological materials or setting.  Slight changes to historic buildings elements or setting that hardly affect it.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change		No loss or alteration of characteristics, features or elements; no observable impact in either direction.

### Determination of significance of effect

7.6.12 For all three sub-topics the significance of effect has been determined as a combination of the assessment of the value of the cultural heritage asset and the magnitude of impact. This is achieved using professional judgement informed by the matrix illustrated below in **Table 7-3**. Five levels of significance (Very Large, Large, Moderate, Slight or Neutral) are defined which apply equally to adverse and beneficial impacts. Where two significances of impacts are given in the table (for example neutral or slight) professional judgement will be used and fully explained within the text to suggest the most likely significance of impact in addition to the worst-case scenario.

7.6.13 A significance of effect of Moderate or above is taken to be significant in EIA terms.

Table 7-3 Significance of effect matrix

		Magnitude of impact (degree of change)				
		No change	Negligible	Minor	Moderate	Major
Environmental value (sensitivity)	Very High	Neutral	Slight	Moderate or large	Large or very large	Very large
	High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
	Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
	Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight

## 7.7 Assessment assumptions and limitations

7.7.1 Until completion of further investigative fieldwork (geophysical survey and trial trenching) the level of impact to buried archaeology and earthworks can only be assessed for the known resource. The impact upon as yet unrecorded archaeological remains identified during further evaluative work will be assessed upon the completion of non-intrusive and intrusive archaeological survey to be carried out in due course. The scope, methodology and results of any archaeological investigations carried out to inform the impact assessment will be detailed in the ES.

## 7.8 Elements to be scoped in/out

7.8.1 The elements to be scoped into the EIA for cultural are presented in **Table 7-4**.

Table 7-4: Elements to be scoped into the EIA for cultural heritage

Elements scoped in	Justification
Archaeological remains	<p>Intrusive groundworks have the potential to damage or destroy buried archaeological remains and had a direct adverse impact.</p> <p>There is the potential that the setting of Scheduled Monuments, particularly those adjacent to or with views across the IAB, could be affected by the Proposed Scheme though the intrusion of noise, dust and visual intrusion.</p>
Historic buildings	<p>There is the potential for the Proposed Scheme to directly impact upon the Kings Worthy and Abbots Worthy Conservation Area.</p> <p>There is also the potential for the construction or operation of the Proposed Scheme to impact upon the setting of historic buildings, designated and non-designated, and other Conservation Areas within the study area through the intrusion of noise, dust and visual intrusion</p>
Historic landscapes	<p>The Proposed Scheme has the potential to directly impact upon Abbots Worthy House HPG and impact upon the setting of other historic park and gardens within the study area though the intrusion of noise, dust and visual intrusion.</p> <p>There is also the potential for the construction and operation of the Proposed Scheme to have an impact upon the historic landscape though the intrusion of noise, dust and visual intrusion</p>

7.8.2 There are no elements to be scoped out for cultural heritage.



## 8 Landscape and Visual

### 8.1 Study area

- 8.1.1 The M3 Junction 9 Improvement will be considered in relation to the surrounding area, including the settlements of Abbots Worthy and Kings Worthy beyond the River Itchen Valley to the north, the South Downs National Park (SDNP) to the east, St Catherine's Hill to the south and the city of Winchester and the River Itchen to the west. This gives a proposed study area for consideration of landscape and townscape effects of 3km north and 3km south and 2km east and 2km west extending out from the boundary of the Indicative Application Boundary (IAB). This will allow general issues of effects on the 'setting' of the SDNP and the townscape of Winchester to be considered and provide a thorough baseline understanding of the relationship between the existing M3 motorway, the River Itchen valley and the surrounding topography.
- 8.1.2 The proposed visual study area has been focused on a 2km radius from the IAB as this is where anticipated effects are likely to be greatest.
- 8.1.3 These proposed study areas are based on information presented in paragraph 5.3.12, page 47 of the Preliminary Environmental Information Report (PEIR) (Jacobs, June 2019). Further consultation on study areas will be undertaken with Statutory Consultees as required, and fully explained and justified within the Environmental Statement (ES).
- 8.1.4 The study area will be refined using Zone of Theoretical Visibility (ZTV) modelling; that is modelling which maps areas of land within which a development would be theoretically visible, based on 'bare earth' terrain. The ES will define the detailed ZTV methodology used as part of the assessment process. The ZTV will enable consideration of intervisibility between the Proposed Scheme and the surrounding landscape / townscape, for example in longer distance views from St. Catherine's Hill and visual receptors likely to experience views from this location. The ZTV will also help to inform potential environmental mitigation options.
- 8.1.5 The proposed study area includes parts of the city of Winchester and therefore the landscape and visual assessment to be presented within the ES will also consider potential effects resulting from the Proposed Scheme on the city in terms of its townscape setting. For the purposes of assessment, the term *landscape* should however, be deemed to include *townscape*.
- 8.1.6 The above approach to identifying the study area is based on the guidance in paragraph 3.13.1 of the Design Manual for Roads and Bridges (DMRB) LA 104 Environmental assessment and monitoring (Highways England, 2020), which states that:



*“The study area for an assessment should reflect the project and the surrounding environment over which effects are reasonably be thought to occur, taking into account cumulative effects.”*

## 8.2 Baseline conditions

- 8.2.1 The existing highways estate comprising Highways England’s land ownership, which includes the M3 corridor, the A34/Winchester Bypass and the A272/Spitfire Link, has resulted in severance between Winchester (including the River Itchen) to the north and west and the open downland (Winnall Down and Easton Down) to the east.
- 8.2.2 This highways estate has altered the local landscape creating a fragmented and complicated landscape pattern where roads and associated infrastructure including bridges, cuttings, slips and signage form manmade landscape elements. The width of the corridor is approximately 120m at its narrowest point at the southern extent of the area of the Proposed Scheme. It increases to approximately 400m around the Junction 9 roundabout and approximately 500m at its widest point at the northern extent of the area of the Proposed Scheme encompassing Easton Down and the River Itchen floodplain.
- 8.2.3 Landscape to the east, south-east and north-west of the existing road corridor is largely one of open undulating farmland containing large rectangular fields intersected by access tracks and bounded by hedgerows. There are regular clumps of mature trees, copses, hedgerow trees and hedgerows alongside lanes, tracks and field boundaries.

### Landscape receptors and value

- 8.2.4 The key landscape elements and receptors have been described below in **Table 8-1**. The value (sensitivity) of receptors is based on descriptions set out in as set out in Table 3.2N in the DMRB LA104 Environmental assessment and monitoring (Highways England, 2020).

Table 8-1 Baseline description of key landscape elements and receptors

Landscape receptor	Description
Topography	<p>At a local level the existing Junction 9 roundabout and highways infrastructure to the south including slip roads and the A272/Spitfire Link are lower than the surrounding land. There is a 10m, almost vertical, cut under the B3404 at the southern end of the area of the Proposed Scheme, which is the most notable engineered landform. The existing highways infrastructure of the A34/Winchester Bypass is slightly elevated to cross the River Itchen floodplain in the north-western extents of the area of the Proposed Scheme. To the north of Junction 9 the M3 rises gradually at an even gradient to pass over Easton Down. This is achieved by embankments through a small combe or hollow near the Highways England depot and then cuttings on the higher ground.</p> <p>There are numerous ditches, water bodies, streams and rivers in the study area. The largest watercourse is the River Itchen and its tributaries, which run across a wide, flat floodplain and fall within the IAB between the A33 and M3 corridors. Topography is a key characteristic of the undulating hills in the nationally designated SDNP. It is also important to the wider distinctive landscape of the River Itchen valley. It is therefore considered to be of medium to high value depending on location relative to the SDNP and its setting.</p>
Land use of the site and surrounding area	<p>Much of the area of the Proposed Scheme is occupied by the highway corridor of the M3, including embankments, cuttings, bridges, slip roads, and accompanying infrastructure such as signage, fencing, embankment planting, traffic lights and occasional lighting. The south-western length of the area of the Proposed Scheme also contains built elements, including two-storey office and construction blocks, and areas of car parking around the Highways England depot. The central and northern sections of the area of the Proposed Scheme contain areas of open farmland contrasting with a more intimate rural landscape of scattered tree and wetland where the Proposed Scheme area crosses the River Itchen floodplain.</p> <p>The landscape to the east, south-east and north-west of the area of the IAB is largely one of open farmland containing large rectangular fields intersected by access tracks and bounded by hedgerows. There are regular clumps of mature</p>

	<p>trees, copses, hedgerow trees and hedgerows alongside lanes, tracks and field boundaries.</p> <p>To the south-west and west of the area of the IAB is the built form of Winchester, with retail parks and industrial estates adjacent to the M3 corridor. This area retains a small-scale and intimate landscape through which the River Itchen passes. To the north-west, north and north-east of the Proposed Scheme are the villages of Kings Worthy, Abbots Worthy and Easton. The M3 forms a prominent feature within the landscape to the north-east of the Proposed Scheme.</p> <p>Land use in the study area varies from relatively prosaic infrastructure and urban development of low to moderate value (sensitivity) to more high value (sensitivity) land within the SDNP associated with recreational and tourist usage.</p>
Vegetation	<p>Trees, hedgerows and wooded areas associated with highway planting are located on embankments and roundabouts of the existing M3 corridor, as well as in the adjoining landscape along with lengths of semi-improved grassland and scrub. The surrounding landscape contains numerous copses, blocks of trees, hedgerow trees and hedgerows alongside lanes, tracks and field boundaries. The area of the IAB contains fields of both arable and pastoral farmland, typically bounded by hedgerows, along with a more enclosed landscape to the north of lowland fen wetland and scattered trees around the River Itchen.</p> <p>The ES will report on an arboricultural survey to BS 5837: 2012 - Trees in relation to design, demolition and construction will describe and evaluate the existing arboricultural resource within the vicinity of the Proposed Scheme.</p> <p>Statutory designations relating to trees include two separate Tree Preservation Orders (TPOs) and the Kings Worthy Conservation Area, which is located at the northern end of the study area.</p> <p>Vegetation is a key characteristic of the nationally designated SDNP and is fundamental to the distinctive landscape of the River Itchen valley. It is an important part of the green infrastructure of the area and it is therefore considered to be of high value (sensitivity).</p>
	<p>There are no parks and gardens listed on the Register of Parks and Gardens of Special Historic Interest (RHPG) which are located within 500m of the Proposed Scheme. The nearest RHPG is the Grade II Magdalen Hill Cemetery approximately 1.4km to the south east of the existing M3</p>

Heritage statutory designations	<p>Junction 9 on the south side of Alresford Road and approximately 550m south of the proposed secondary deposition site. There are four Conservation Areas (CA) within the landscape study area: Kings Worthy CA, Abbots Worthy CA, Easton CA and Winchester CA.</p> <p>Other heritage assets such as Listed Buildings and historic landscape characterisation are assessed in Chapter 7 – Cultural Heritage. The assessment of cultural heritage effects is guided by the DMRB LA106 Cultural heritage assessment (Highways England, 2020).</p>
Landscape statutory designations	<p>The SDNP covers around 117ha of the area of the IAB, principally around its northern and eastern lengths. The SDNP incorporates the more intimate local landscape of the River Itchen to the north-west, the north-east of the area of the IAB and also covers the downland to the east.</p> <p>Consideration will be given to both the direct and indirect effects upon this designated landscape, including effects upon its special qualities and representative views. Special qualities of the SDNP are set out defined by the South Downs National Park Authority (SDNPA); those special qualities which have the potential to be affected by the Proposed Scheme are as follows:</p> <p>Diverse, inspirational landscapes and breath-taking views. This is in part a function of the downland topography.</p> <p>Tranquil and unspoilt places. The SDNP is a nationally designated landscape resource of high value (sensitivity).</p>
	<p>The main long-distance footpath likely to be located within the ZTV is the St Swithun's Way long-distance path - a 34 mile long-distance walk from Winchester to Farnham following lengths of the original route of the Pilgrim's Way.</p> <p>The Itchen Way long distance footpath - a 32 mile long-distance footpath following the River Itchen in Hampshire from its source near Hinton Ampner House to its mouth at Woolston – is anticipated to be largely outside the ZTV, but a length passes directly through the area of the IAB and would therefore be directly affected.</p> <p>Part of Sustrans Regional Route 23 would fall within the ZTV. This is an 80-mile route with a mixture of off and on road cycling from Reading to Southampton via Basingstoke, Alresford, Winchester and Eastleigh. The route crosses the area of the Proposed Scheme at the M3 Junction 9</p>

<p>Public rights of way (PRoW)</p>	<p>roundabout in a north-east to south-west direction along Easton Lane underpass.</p> <p>A number of footpaths, cycle paths and bridleways cross the area of the IAB or are located adjacent to it, with many others connecting these to the wider countryside. The footpaths, cycle paths and bridleways connect the urban and rural areas, with bridges and underpasses allowing access across the M3 and A31, although railways and highways typically sever many connections east west. Where paths are located on elevated ground or across open fields, their users could have clear views of lengths of the area of the IAB.</p> <p>PRoW are important recreational resources and are of medium to high value (sensitivity) depending on location i.e. within SDNP and whether the route is a long distance walk or national trail.</p>
<p>Perceptual aspects</p>	<p>Noise, lighting, vehicle movement and the presence of infrastructure, all associated with the urban fringe of Winchester and the transport routes including the M3, A34/Winchester bypass and A272/Spitfire Link all erode tranquility in the area.</p> <p>Paragraph 5.43 of Strategic Policy SD7: Relative Tranquility of the South Downs Local Plan (adopted 2019) defines tranquility as:</p> <p><i>“Tranquility is considered to be a state of calm, quietude and is associated with a feeling of peace. It relates to quality of life, and there is good scientific evidence that it also helps to promote health and well-being. It is a perceptual quality of the landscape and is influenced by things that people can both see and hear in the landscape around them.”</i></p> <p>Built development and transport corridors have also affected the pattern and texture of the landscape over time.</p> <p>Tranquility and a sense of remoteness are important aspects of the nationally designated SDNP and the River Itchen valley and are of high value (sensitivity). The SDNP became an International Dark Skies Reserve in 2016, although the darkest areas are not in the immediate vicinity of Winchester and the M3 corridor where the night-time baseline condition is of a lit road and lighting from moving vehicles. The international status of the SDNP Dark Skies Reserve affords the receptor a very high value (sensitivity).</p>
<p>Landscape character</p>	<p>At a national level the area of the Proposed Scheme falls within both the Hampshire Downs and South Downs National</p>

	<p>Character Areas (NCAs) and these will be used to provide an overall landscape character context.</p> <p>As part of the area of the IAB is located within the SDNP, the South Downs Integrated Landscape Character Assessment (SDILCA – 2005, updated 2011) (SDNPA, 2011) will also be examined and used to inform the landscape assessment as part of the ES.</p> <p>Within the SDILCA, the area of the Proposed Scheme falls into the following two landscape character areas:</p> <p>Landscape Type A: Open Downland sub-area A5: East Winchester Open Downs, whose key sensitivities with the potential to be affected by the Proposed Scheme are remoteness, tranquility, and open, undeveloped skylines.</p> <p>Landscape Type E: Chalk Valley Systems sub-area E4: Itchen Valley, whose key relevant sensitivities are panoramic views from St Catherine’s Hill.</p> <p>SDILCA states (para E4.14): <i>‘ensure that any future traffic regulation and road upgrades associated with the M3, A34 and A31 are integrated into the rural valley landscape and ensure any signage is sensitively detailed’.</i></p> <p>Hampshire County Council (HCC) has produced an Integrated Landscape Character Assessment (HCCILCA, Hampshire County Council, 2012), within which the area of the IAB falls, in part, within Character Area 3c: Itchen Valley. The only key characteristics of Character Area 3c with the potential to be affected by the Proposed Scheme is that it provides a setting to Winchester. The Proposed Scheme lies adjacent to townscape character areas 8a Winnall Trading Estate and 6b Winnall indicated in the HCCILCA, which includes the Winchester Townscape Assessment (2010).</p> <p>The IAB also falls within the Winchester District Landscape Character Assessment (Winchester City Council, 2004) landscape character areas 9. Upper Itchen Valley and 12 East Winchester Downs and these will also be examined.</p> <p>The landscape character areas of the nationally designated SDNP and locally important landscape of the River Itchen valley are of high value (sensitivity).</p>
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8.2.5 **Table 8-1** provides an overview of receptor descriptions, which will be detailed further within the Preliminary Environmental Information Report (PEIR).



- 8.2.6 Landscape character is an expression of the landscape elements such as topography, land use and vegetation and landscape character areas, which will be considered as the key landscape receptors as part of the assessment process.
- 8.2.7 The SDNP is a statutory landscape designation of national importance with a high intrinsic sensitivity as set out in Table 3.2N in the DMRB LA104 Environmental assessment and monitoring (Highways England, 2020). However, for the purposes of the landscape assessment process the SDNP as a landscape receptor will be treated as very high sensitivity in line with Table 3.22 DMRB LA107 Landscape and visual effects (Highways England, 2020) as the Proposed Scheme falls largely within the boundary of the SDNP.
- 8.2.8 The list of landscape receptors will be agreed with the relevant Statutory Consultees as requested in the previous Scoping Opinion.

#### **Extent of visibility, visual receptors and value**

- 8.2.9 Visual receptors generally comprise users of public rights of way, public open spaces, public realm or other outdoor recreational facilities, and also travellers in vehicles who may be visiting, living or working within the study area, and their views at particular places.
- 8.2.10 Proposed view locations based on those identified in Appendix 2 of the PEIR (Jacobs, June 2019) are set out in **Table 8-2**. Further consultation with Statutory Consultees regarding these view locations will take place and view locations updated as necessary following these planned consultations. Initial contact has been made with the SDNPA Infrastructure and Environment Strategy Lead, HCC Landscape Architect and WCC Principal Landscape Architect in September 2020 to progress consultation on the Proposed Scheme.
- 8.2.11 Visual receptors within the study area include people occupying residential properties and users of PRoW (notably Sustrans 23, St. Swithun's Way and the Itchen Way Recreational Paths).
- 8.2.12 The overall visibility of the area of the Proposed Scheme is limited by the presence of built form, cuttings and the screening provided by the vegetated landscape surrounding the highways estate. The areas with visual receptors affected would generally be confined to two main locations, as described below:
- The east-facing slopes of the River Itchen valley and parts of the valley floor to the west between Abbots Barton and Headbourne Worthy/School Lane – in terms of specific receptors this includes a short length of the B3047 Worthy Road, the fringes of a recent residential development, St Swithun's Way, and the PRoW on elevated ground alongside the railway.
  - The elevated downland to the south and east, specifically west and north facing slopes of Easton Down, Winnall Down and Magdalen Down – this includes a short

section of the Sustrans 23 route, residential receptors along Easton Lane, parts of the B3404, St Swithun's School and Leigh House Hospital.

8.2.13 Views are a key characteristic of the nationally designated SDNP and fundamental to the recreational amenity of PRow within the study area. These are therefore highly valued.

### 8.3 Potential impacts

8.3.1 The following section describes aspects of the Proposed Scheme which could have an impact on the surrounding landscape and visual receptors. Potential landscape impacts which could have significant effects include removal of, or damage to, landscape elements and on landscape character.

8.3.2 Potential visual impacts which could have significant effects include changes to views and visual amenity currently experienced by visual receptors as a consequence of the construction or operation of the Proposed Scheme.

8.3.3 Key impacts predicted to arise include:

- The introduction of new highway infrastructure and traffic
- Loss of vegetation cover and green infrastructure
- Changes to local landscape character
- Changes impacting people's visual amenity and the composition of their views
- Changes in tranquillity
- Changes to the night-time environment due to lighting

### 8.4 Design, mitigation and enhancement measures

#### Potential mitigation

8.4.1 The principal objective of landscape mitigation is to integrate the Proposed Scheme into the local landscape to minimise adverse landscape and visual impacts. Development of the landscape mitigation will be an iterative process, working closely with the engineering design team and Statutory Consultees, responding to the findings of ongoing assessment and scheme design requirements. It will ultimately form part of an over-arching environmental design for the Proposed Scheme in line with DMRB, LD117 Landscape design (Highways England, 2020) and DMRB, LD119 Roadside environmental mitigation and enhancement (Highways England, 2020) and in consultation with Statutory Consultees.

8.4.2 Landscape mitigation would seek to address both construction effects and operational effects.



## Construction mitigation

- 8.4.3 Mitigation of effects on the landscape and visual resource during construction is integral to the 'Considerate Constructors Scheme, which could be adopted as part of the Proposed Scheme. This includes measures such as: tidy site management to reduce visual clutter associated with the works and carefully controlling construction lighting in accordance with best practice to minimise light spill and nuisance caused by glare.
- 8.4.4 An element of vegetation removal as part of the construction of the Proposed Scheme would be unavoidable. The existing vegetation is, however, a valued landscape and green infrastructure resource and provides important screening to the existing highway corridor in the study area and as much of it would be retained as practicable. The vegetation between the M3 and the A34 for example, currently screens views of the highways from receptors to the west and the retention of this vegetation, where reasonably practicable, will be a key design objective.
- 8.4.5 A tree survey will be conducted to determine the arboricultural constraints relevant to the Proposed Scheme. This survey will be based upon the BS5837:2012 methodology and will enable an assessment (Arboricultural Impact Assessment, as per SDNP policy SD11) to be made as to which trees are retainable within and adjacent to the IAB. Trees will be surveyed as individuals, groups and woodlands where appropriate. Part of the survey scope will be to identify notable trees due to quality, age, third party status and designation and to determine where retention is possible and where tree protection is likely to be required. Further arboricultural input will be required at later stages of the programme when a tree protection strategy will be produced, (in line with BS5837:2012 and SDNP policy SD11) in the form of a generic arboricultural method statement and Preliminary Tree Protection Plan. Any design developments will also need to be considered in terms of a change in impacts to trees.
- 8.4.6 Advanced planting and earthworks as mitigation to screen views of construction activities for particular receptors could be considered where there is the potential for impacts on sensitive visual receptors.

## Mitigation for operation

- 8.4.7 During the preliminary and detailed design, landscape mitigation and enhancement measures will follow the guidance in the Highways England publication The Road to Good Design (Highways England, 2018) together with DMRB, LD117 Landscape design (Highways England, 2020).
- 8.4.8 Earthworks will be designed, where possible, to help integration into the gently undulating topography of the study area. Any proposed embankments and cuttings would be graded to respect existing local landforms and reduce disruption to major topographical features. The use of false cuttings and land-raising with a return to chalk grassland, sensitively graded to seamlessly

marry in with the existing adjacent downland, will be considered on the eastern side of the M3 corridor. This would provide screening to the Proposed Scheme at the sensitive interface with the SDNP.

- 8.4.9 New planting could be carried out to replace the vegetation resource and green infrastructure removed as a consequence of the Proposed Scheme. Planting would also be carefully located to screen the new highway and its associated traffic and infrastructure in views experienced by visual receptors from key view locations.
- 8.4.10 The design of new planting would comprise native species of local provenance where practicable and reflect the character of the local landscape. Consideration could also be given to reinforcing the visually open character of the chalk downland by creating breaks in the roadside planting or leaving the chalk unplanted and exposed on the steepest embankments or cuttings.
- 8.4.11 Opportunities for landscape enhancement or improvement through the management of any retained areas of vegetation will also be explored.
- 8.4.12 The planting design (particularly that proposed within the SDNP) will be agreed with key stakeholders, including the SDNPA and local residents during the consultation process. The planting design will also be agreed with the project ecologists who will advise on the ecological requirements, particularly in relation to sensitive habitats such as chalk grassland.
- 8.4.13 Design proposals will reflect local design characteristics and use materials commonplace in the local area.

### **Monitoring**

- 8.4.14 Long term monitoring of proposed landscape mitigation would entail the following measures:
- Monitoring of mature trees within the highway boundary would take place following construction and a fifteen-year woodland management plan drawn up. Thinning, coppicing and replanting of newly planted woodlands would be carried out particularly when densely planted smaller nursery stock is used. This would maintain a structurally diverse and species rich woodland
  - Monitoring of new structural planting, particularly along the boundaries of the Proposed Scheme, to encourage successful establishment and ensure it provides the necessary degree of visual screening, where appropriate. Failed stock would be re-planted over this long-term monitoring period to ensure continued landscape function
  - Monitoring of proposed chalk grassland would be undertaken to ensure successful establishment and long-term habitat functionality in line with appropriate ecology recommendations

- A First Iteration Environmental Management Plan' (fiEMP) which will be submitted to accompany the application for development consent.

## 8.5 Description of likely significant effects

### Landscape receptors

- 8.5.1 There would be major earthworks and the introduction of new large-scale highway infrastructure including carriageways, bridges, gantries, signage and lighting. Landscape vegetation and topography patterns would be affected, and tranquillity eroded. It is anticipated that without embedded mitigation there would be some significant effects on landscape character, including that of a localised part of the SDNP. Proposed mitigation measures are outlined under section 8.4 Design, mitigation and enhancement measures.
- 8.5.2 Landscape effects during the construction stage would generally be more adverse than during operation, due to the extended works area involved and the use of machinery including cranes. However, these effects would be temporary as the landscape recovers / replacement planting becomes effective post completion.

### Visual receptors

- 8.5.3 There would inevitably be some significant residual effects on views experienced by some users of local transport corridors, local residents and users of PRow in the area.

## 8.6 Assessment methodology

### Policies and plans

- 8.6.1 Planning policies and guidance that are relevant to the Proposed Scheme include:
- National Policy Statement for National Networks (NPS NN) (DfT, 2014): Landscape and Visual Impacts paragraphs 5.81-5.89 (Artificial Light) 5.143 to 5.161 (Landscape and Visual Impacts including Tranquillity) and 5.188 (Tranquillity)
  - National Planning Policy Framework (NPPF) (2019): Paragraph 8 (Achieving sustainable development), 124, 127 and 130 (Achieving well-designed places), 170 and 172 (Conserving and enhancing the natural environment) and 180 (Conserving and enhancing the natural environment: Ground conditions and pollution) and the associated Planning Practice Guidance: Natural Environment (2016), Noise (2014) and Light pollution (2014)
  - Winchester District Local Plan Review (Adopted 2006) – Saved Policies: Policy DP.3 (General design criteria); Policy DP.4 (Landscape and the built environment); Policy DP.10 (Pollution generating development); and, Policy DP.11 (Unneighbourly uses)

- Winchester District Local Plan Part 1 – Joint Core Strategy (2013): Policy DS1 (Development Strategy and Principles); Policy MTRA4 (Development in the Countryside); Policy CP13 (High Quality Design); Policy CP15 (Green Infrastructure); Policy CP19 (South Downs National Park); and, Policy CP20 (Heritage and Landscape Character)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (2017): Policy WIN1 (Winchester Town); Policy WIN3 (Winchester Town– Views & Roofscape); Policy DM10 (Essential Facilities & Services in the Countryside); Policy DM15 (Local Distinctiveness); Policy DM16 (Site Design Criteria); Policy DM17 (Site Development Principles); Policy DM19 (Development and Pollution); Policy DM23 (Rural Character); Policy DM24 (Special Trees, Important Hedgerows and Ancient Woodlands); Policy DM25 (Historic Parks and Gardens); and, Policy DM29 Heritage Assets
- South Downs Local Plan (adopted 2019) – Core Policy SD1 (Sustainable Development); Core Policy SD3 (Major Development); Strategic Policy SD4 (Landscape Character); Strategic Policy SD5 (Design); Strategic Policy SD6 (Safeguarding Views); Strategic Policy SD7 (Relative Tranquillity); Strategic Policy SD 8 (Dark Night Skies); Development Management Policy SD11 (Trees, Woodland and Hedgerows); Development Management Policy SD21 (Public Realm, Highway Design and Public Art); Strategic Policy SD42 (Infrastructure); Strategic Policy SD45 (Green Infrastructure); and, Development Management Policy SD54 (Pollution and Air Quality)
- Winchester District Draft Local Plan 2018 – 2038 (Emerging)
- South Downs National Park Viewshed Study Report (SDNPA, 2015)
- 2020-2025 South Downs Partnership Management Plan (2020) - Outcome 1: Landscape & Natural Beauty.

8.6.2 Local community level plans such as Village Design Statements, Parish Plans and Neighbourhood Development Plans will also be reviewed in relation to the potential landscape and visual effects of the Proposed Scheme.

### **Methodology**

8.6.3 The assessment will be undertaken using the following guidance:

- Design Manual for Roads and Bridges (DMRB), LA107, Landscape and visual effects, Revision 2, February 2020
- Design Manual for Roads and Bridges (DMRB), LA104, Environmental assessment and monitoring, Revision 1, August 2020
- Design Manual for Roads and Bridges (DMRB), LD117, Landscape design, Revision 0, March 2020

- Design Manual for Roads and Bridges (DMRB), LD119, Roadside environmental mitigation and enhancement, Revision 0, March 2020 Guidelines for Landscape and Visual Impact Assessment (3rd Edition) published jointly by The Landscape Institute and Institute of Environmental Management and Assessment (Landscape Institute, 2013).
- 8.6.4 Landscape and visual effects are related but distinct topics, so are considered and assessed separately. Effects on the landscape arise from a development causing direct changes to the physical elements of the landscape, affecting its features, character and quality, and more widely, from indirect effects of the development on the character and quality of the surrounding landscape and townscape. Visual effects arise where a development changes the character and quality of the views that people (visual receptors) may enjoy.

8.6.5 The landscape assessment will follow the following process:

- Baseline; identification of landscape character areas, characteristics, features and elements. Establish the key landscape receptors to be assessed (normally landscape character areas and landscape designations)
- Assessment of the sensitivity of landscape receptors with reference to the value that is attached to them by society and their susceptibility, that is their capacity to accommodate change arising from the Proposed Scheme
- Assessment of the magnitude of impacts on landscape receptors with reference to the Proposed Scheme design, including bridges, approach roads, cuttings and embankments, drainage, signage, lighting, scale of change, nature of change etc.
- Development of mitigation to reduce potential adverse landscape effects and contribute to the green infrastructure in the local area as part of an over-arching environmental design for the Proposed Scheme
- Evaluation of the significance of landscape effects, as a function of landscape sensitivity and magnitude of landscape impact
- Reporting of residual landscape effects for each landscape receptor

8.6.6 The key landscape elements and receptors to be considered are described in **Table 8-1** above, with landscape character areas and the SDNP considered as the primary landscape receptors to be assessed. The relevant landscape character areas include the following:

- SDILCA Landscape Character Area A5: East Winchester Open Downs
- SDILCA Landscape Character Area E4: Itchen Valley

8.6.7 The landscape character areas identified in the HCC Integrated Landscape Character Assessment and Winchester District Landscape Character Assessment will also be examined, although these overlap in part with those of the SDILCA and care will be taken to avoid 'double counting'.

8.6.8 A local landscape characterisation study identifying smaller subtypes of landscape character could also be undertaken where it is considered that a finer grained approach will assist in understanding landscape effects, particularly in relation to the SDNP and the townscape of Winchester.

8.6.9 The visual assessment will follow the following process:

- Baseline; identification of visual receptors (people) and their sensitivity to change based on the importance attached to the views they currently experience and the activity in which they are engaged in
- Assessment of the magnitude of visual impacts, that is the degree of change to the views currently experienced, with reference to scheme design, including



bridges, approach roads, cuttings and embankments, drainage, signage, lighting, scale of change, nature of change etc

- Development of mitigation to reduce potential adverse visual effects as part of an over-arching environmental design for the Proposed Scheme
- Evaluation of the significance of visual effects, as a function of the sensitivity of the visual receptor and magnitude of visual impact
- Reporting of residual visual effects for each visual receptor

8.6.10 The representative view locations to be assessed in the Environmental Impact Assessment (EIA) in relation to the Proposed Scheme include those outlined in **Table 8-2** below. These have been discussed and agreed with SDNPA, Winchester City Council (WCC) and HCC. The approximate locations of the representative view locations are shown in **Figure 8.1, Appendix 8.1**.

*Table 8-2 Assessment view locations scoped in for further assessment*

View location name and number	Approximate distance from Indicative Application Boundary	Reason for selection
1. Easton Lane / Sustrans 23	175m to the east	Residents at White Hill Cottage and Winnall Cottage Farm. Also represents recreational users of the Sustrans route within the SDNP.
2. Church Green	357m to the north	Residential Receptors in the Kings Worthy Conservation Area to the north.
3. Itchen Valley St Swithun's Way	420m to the west	Recreational receptors using the St Swithun's Way Long Distance Route (LDR) on the valley floor. Representative view location in SDNP viewshed analysis. Also represents views from Site of St Gertrude's Chapel Scheduled Monument.
4. Abbots Barton	650m to the west	Residential receptors within new housing development on the far side of the River Itchen Valley to the west
5. Turnpike Down	520m to the south west	Residential receptors on the north-facing hillside to the south-west
6. B3404/M3 road bridge	550m to the south	Road users in an elevated area to the south.

7. PRoW adjacent to railway near Well House Lane	1km to the west	Recreational receptors on elevated ground on the far side of the River Itchen Valley to the west – local use
8. PRoW on crown of Magdalen Hill	1 km to the south east	Road users on an elevated area of ground to the south-east, and recreational receptors using PRoW on Magdalen Hill, within the SDNP.
9. St Catherine’s Hill	2.6km to the south	Recreational receptors. Representative view location in the SDNP viewshed analysis.
10. Whiteshute Lane/Bushfield Camp	3.8km to the south- east	Recreational and residential receptors. Distant view location.
11. Itchen Way north of Easton Down	1.6km to the north- east	Recreational receptors using the Itchen Way LDR
12. Local Winchester townscape – Winnall Manor Road	280m to the west	Town receptors in Winchester, local to the Proposed Scheme.
13. Long Walk	800m to the east	Road users in an elevated area to the east in SDNP.
14. Itchen Way	20m to the north	Recreational receptors using the Itchen Way LDR
15. Down Farm Lane	1.4km to the north- west	Road users in an elevated area to the north-west.
16. St Swithun’s School	280m to the south	Receptors at the school and associated playing fields.
17. Winchester Cathedral	1.6km to the south-west	Receptors (tourists) experiencing historic panoramic views from the cathedral tower while on walking tours of the cathedral.
18. Ridgeway	4km to the south- west	Townscape receptors in elevated area of Winchester

8.6.11 The representative view locations offer potentially important views, which are experienced by various visual receptors. ZTV modelling carried out as part of the EIA will be examined and validated by fieldwork to ensure that any key view locations from which the Proposed Scheme could be visible are included in the assessment.

8.6.12 Intervisibility between much of the town of Winchester and the Proposed Scheme would be limited due to screening by built development. Overlooking views from the tower of Winchester Cathedral which can be experienced by visitors to the cathedral as part of guided tours will, however, be verified in



terms of potential visibility of the Proposed Scheme. *The SDNP Viewshed Study Report (SDNPA, 2015)* will also be referred to.

8.6.13 The assessment will use the following scenarios based on paragraph 2.6, page 12 of the DMRB, LA107, Landscape and visual effects (Highways England, 2020):

- During the construction period, assuming a maximum visibility or maximum perceived change situation (i.e. with construction activity at its peak for any given view), and noting how long that period would be likely to last
- A winter's day in the year that the Proposed Scheme would open to traffic or be fully operational (i.e. with noise and visual screens and mounds in place but before any planted mitigation takes effect). This is usually a reflection of the operationally non-fully mitigated and maximum visibility scenario. A night-time scenario for a winter's day in year that the Proposed Scheme would open will also be considered
- A summer's day in the fifteenth year after opening (i.e. when any planting mitigation measures can be assumed to be substantially effective). This is usually a reflection of the near fully mitigated scenario under normal conditions. A night-time scenario for a summer's day in the fifteenth year after the Proposed Scheme has opened will also be considered.

8.6.14 The landscape assessment will be described in the ES using relevant landscape character assessments and associated studies, as a means of assessing landscape and take account of any relevant local policies. Broader issues of effects on the 'setting' of the SDNP and the townscape of Winchester will be assessed.

8.6.15 The assessment of landscape effects will include an examination of impacts on perceptual qualities of the landscape resulting from the Proposed Scheme such as impacts on tranquillity and sense of remoteness which are important aspects of the SDNP. As part of this process changes in noise and lighting levels resulting from the Proposed Scheme will be considered. Reference will be made to the SDNP Authority Tranquillity Study (SDNPA, 2017) and web-based Campaign for the Protection of Rural England (CPRE) tranquillity mapping.

8.6.16 There will also be an assessment of the effects on the night-time environment and the SDNP's dark skies in relation to the SDNP's International Dark Skies Reserve status, resulting from the Proposed Scheme. This will include a visual appraisal of the existing night-time light sources, sky glow and direct glare within the study area. Exterior lighting environmental zones will be identified in accordance with those set out in the Guidance Notes for the Reduction of Obtrusive Light GN01:2011 (Institution of Lighting Professionals, 2011). A judgement will then be made on the effects on these zones which would result from the Proposed Scheme. Reference will also be made to the SDNP Dark

Skies Technical Advice Note 2018 (SDNPA, 2018) and web-based CPRE light pollution mapping.

8.6.17 The landscape and visual assessment will also address ID 4.3.2, page 18 of the Planning Inspectorate, (2019), Scoping Opinion: Proposed M3 Junction 9 Improvement scheme through identifying potential impacts on land use in relation to tourism from the perspective of changes to views and landscape elements experienced by visitors as a result of the Proposed Scheme.

**Chapter 13 Population and Health** will address specific socio-economic functions of land use and any impacts as a result of the Proposed Scheme.

8.6.18 A detailed programme of landscape fieldwork will be carried out as part of the assessment and a detailed photographic record taken recording landscape features and views. Night- time fieldwork will also be undertaken as part of the dark skies assessment. Photography will be carried out in accordance with Landscape Institute Technical Guidance Note 06/19 'Visual Representation of development proposals' (LI, 2019 replaces TGN 01/11).

8.6.19 Receptor sensitivity, magnitude of impact and evaluation of the significance of landscape and visual effects arising from the Proposed Scheme will be categorised using typical criteria tables from DMRB LA107 Landscape and visual effects (Highways England, 2020) and DMRB 104 Environmental assessment and monitoring (Highways England, 2020) as indicated in **Table 8-3 to Table 8-8** below.

*Table 8-3 Landscape sensitivity and typical descriptors*

Sensitivity	Landscape – typical criteria descriptors
Very High	Landscapes of very high international/national importance and rarity or value with no or very limited ability to accommodate change without substantial loss/gain (i.e. national parks, internationally acclaimed landscapes - UNESCO World Heritage Sites).
High	Landscapes of high national importance containing distinctive features/elements with limited ability to accommodate change without incurring substantial loss/gain (i.e. designated areas, areas of strong sense of place - registered parks and gardens, country parks).
Medium	Landscapes of local or regional recognition of importance able to accommodate some change (i.e features worthy of conservation, some sense of place or value through use/perception).
Low	Local landscape areas or receptors of low to medium importance with ability to accommodate change (i.e. non-

	designated or designated areas of local recognition or areas of little sense of place).
Negligible	Landscapes of very low importance and rarity able to accommodate change.

Source: DMRB LA107 Landscape and visual effects (Highways England, 2020)

Table 8-4 Visual sensitivity and typical descriptors

<b>Sensitivity</b>	<b>Visual – typical criteria descriptors</b>
Very High	1) Static views from and of major tourist attractions; 2) Views from and of very important national/international landscapes, cultural/historical sites (e.g. National Parks, UNESCO World Heritage sites); 3) Receptors engaged in specific activities for enjoyment of dark skies.
High	1) Views by users of nationally important PRoW / recreational trails (e.g. national trails, long distance footpaths); 2) Views by users of public open spaces for enjoyment of the countryside (e.g. country parks); 3) Static views from dense residential areas, longer transient views from designated public open space, recreational areas; 4) Views from and of rare designated landscapes of national importance.
Medium	1) Static views from less populated residential areas, schools and other institutional buildings and their outdoor areas; 2) Views by outdoor workers; 3) Transient views from local/regional areas such as public open space, scenic roads, railways or waterways, users of local/regional designated tourist routes of moderate importance; 4) Views from and of landscapes of regional importance.
Low	1) Views by users of main roads or passengers in public transport on main arterial routes; 2) Views by indoor workers; 3) Views by users of recreational/formal sports facilities where the landscape is secondary to enjoyment of the sport; 4) Views by users of local public open spaces of limited importance with limited variety or distinctiveness.
Negligible	1) Quick transient views such as from fast moving vehicles; 1) Views from industrial area, land awaiting re-development; 2) Views from landscapes of no importance with no variety or distinctiveness.

Source: DMRB LA107 Landscape and visual effects (Highways England, 2020)

Table 8-5 Magnitude and nature of landscape impact and typical descriptors

Magnitude of impact	Typical criteria descriptors
Major Adverse	Total loss or large-scale damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, conspicuous features or elements (i.e road infrastructure).
Moderate Adverse	Partial loss or noticeable damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, noticeable features or elements (i.e. road infrastructure).
Minor Adverse	Slight loss or damage to existing landscape character of one (maybe more) key features and elements; and/or addition of new uncharacteristic features and elements.
Negligible Adverse	Very minor loss, damage or alteration to existing landscape character of one or more features and elements.
No Change	No noticeable alteration or improvement, temporary or permanent, of landscape character of existing features and elements.
Negligible Beneficial	Very minor noticeable improvement of character by the restoration of one or more existing features and elements.
Minor Beneficial	Slight improvement of landscape character by the restoration of one (maybe more) key existing features and elements; and/or the addition of new characteristic features.
Moderate Beneficial	Partial or noticeable improvement of landscape character by restoration of existing features or elements; or addition of new characteristic features or elements or removal of noticeable features or elements.
Major beneficial	Large scale improvement of landscape character to features and elements; and/or addition of new distinctive features or elements, or removal of conspicuous road infrastructure elements.

Source: DMRB LA107 Landscape and visual effects (Highways England, 2020)

*Table 8-6 Magnitude and nature of visual impact and typical descriptors*

<b>Magnitude of impact</b>	<b>Typical criteria descriptors</b>
Major	The project, or a part of it, would become the dominant feature or focal point of the view
Moderate	The project, or a part of it, would form a noticeable feature or element of the view readily apparent to the receptor
Minor	The project, or a part of it, would be perceptible but not alter the overall balance of features and elements comprising the existing view
Negligible	Only a small part of the project would be discernible, or be at such a distance that it would form a barely noticeable feature or element of the view
No Change	No part of the project, or work or activity associated with it, is discernible

Source: DMRB LA107 Landscape and visual effects (Highways England, 2020)

*Table 8-7 Significance categories and typical descriptions*

<b>Significance category</b>	<b>Typical criteria descriptors</b>
Very large	Effects at this level are material in the decision-making process.
Large	Effects at this level are likely to be material in the decision-making process.
Moderate	Effects at this level can be considered to be material decision-making factors.
Slight	Effects at this level are not material in the decision-making process.
Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Source: DMRB LA104 Environmental assessment and monitoring (Highways England, August 2020)

Table 8-8 Significance matrix (can be beneficial or adverse)

Landscape/visual receptor sensitivity	Magnitude of Impact				
	No Change	Negligible	Minor	Moderate	Major
<b>Very high</b>	Neutral	Slight	Moderate or large	Large or very large	Very large
<b>High</b>	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
<b>Moderate</b>	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
<b>Low</b>	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
<b>Negligible</b>	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight

Source: DMRB LA104 Environmental assessment and monitoring (Highways England, 2020)

8.6.20 Where an effect could be one of two gradings (for example where a Negligible impact interacts with a Medium sensitivity receptor resulting in a Neutral or Slight effect), professional judgement will be used to determine which effect is applicable and this will be explained in the associated commentary.

8.6.21 The significant adverse landscape and visual effects remaining after mitigation at the design year (15 years after opening), (the residual effects) will be summarised at the end of the assessment.

8.6.22 The landscape and visual effects that fall within the categories of moderate or greater are deemed to be significant in EIA terms. This is in line with guidance set out as a note to paragraph 3.27, page 23 of the DMRB LA107 Landscape and visual effects (Highways England, 2020).

8.6.23 Visualisations will be used during the EIA so that they become an integral part of the iterative design process and will inform the visual impact assessment. Preliminary 3D modelling showing the relationship between existing and proposed built form and vegetation from key viewpoints will help determine how planting or changes to the engineering design can avoid, reduce or offset significant visual effects. Accurate Visual Representations (AVRs) will show effects during construction, at year one winter and at year 15 summer for several of the most important view locations, which will be determined during the assessment process and in consultation with Statutory Consultees. The worst case scenario will be considered in the ES where design detail may not be available to ensure a robust assessment addressing comments identified under ID 4.3.4, page 18 of the Planning Inspectorate (2019), Scoping Opinion for M3 Junction 9 Improvement Project.



## 8.7 Assessment assumptions and limitations

- 8.7.1 Detailed design of the mitigation will be an outcome of the iterative design and assessment process. The detailed design of elements of the project, including heights of embankments and extent of cuttings, will be available during the EIA process, informing detailed mitigation.
- 8.7.2 During EIA scoping stage, it has not been possible to determine the full extents of vegetation removal. However, it is assumed that there would be a working area or corridor of approximately 5m to 20m width beyond the extent of earthworks and that this area would be cleared of all existing vegetation. Detailed tree constraints surveys will be undertaken prior to clearance of existing vegetation in line with BS5837:2012 to determine baseline tree conditions and assist in avoiding impacts on good quality trees where reasonably practicable.
- 8.7.3 However, despite the assumptions and limitations noted this will not prevent a detailed and robust assessment of the impact of the Proposed Scheme in terms of landscape and visual effects.

## 8.8 Elements to be scoped in/out

- 8.8.1 The elements to be scoped into the EIA for landscape and visual effects are in **Table 8-9**.

*Table 8-9: Elements to be scoped into the EIA for landscape and visual effects*

Elements scoped in	Justification
Landscape character areas	Potential effects on the landscape character areas identified in the SDILCA, Hampshire County Council Integrated Landscape Character Assessment and Winchester District Landscape Character Assessment. Character areas identified as part of the local characterization study will also be scoped in as appropriate to provide a more refined local scale assessment. This will include an assessment of the SDNP, its setting and its tranquility.
Setting of Winchester	Potential effects on the setting of Winchester town will be scoped in although it is envisaged that these would be limited by the lack of intervisibility between much of the town and the Proposed Scheme due to screening by built development.
Views from Winchester Cathedral	Overlooking views from the tower of Winchester Cathedral, which can be experienced by visitors to the cathedral as part of guided tours will be verified in terms of potential visibility of the Proposed Scheme.

Visual receptors	Other visual receptors scoped in include those using the viewpoints outlined in <b>Table 8-2</b> above.
	Views from Church Green (Kings Worthy Conservation Area) and St Catherine's Hill, as identified in the SDNP Viewshed Study Report will be re-examined.
SDNP International Dark Skies Reserve	Effects on the night time environment and the SDNP's dark skies will be scoped in.

8.8.2 There are no elements to be scoped out for landscape and visual effects at this stage.



## 9 Biodiversity

### 9.1 Study area

9.1.1 The proposed study areas that are being used to inform the assessment of impacts to biodiversity features are set out below. Due to differing zones of influence (Zol) over which ecological features may be subject to impacts and subsequent effects, both during construction and operation, a range of study areas are being used. Selection of the study areas has been informed by the Guidelines for Ecological Impact Assessment in the UK and Ireland (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018).

9.1.2 For the desk study the following search radii from the maximum extent of the Indicative Application Boundary (IAB) are proposed to be used:

- 2km radius for protected species records (excluding bats)
- 5km radius for bats
- 2km radius for statutory and non-statutory designated sites
- 2km radius for notable habitats
- 10km radius for European designated sites, extended to 30km for Special Areas of Conservation (SAC) designated for bats.

9.1.3 The survey area used to collect habitat data comprised all land within the IAB, extended up to 250m where appropriate. This survey area has also been used for all species surveys with the exception of great crested newts and entomological walkover surveys which used survey areas of up to 500m and 100m from the IAB extent respectively.

9.1.4 Due to potential operational effects from exhaust emissions from vehicles, the study area for designated sites has been extended to include all areas within 200m of the affected road network (ARN) as defined in LA 105 (Highways England, 2019).

### Consultation

9.1.5 A range of organisations (including Natural England (NE), South Downs National Park Authority (SDNPA), and Local Planning Authorities) have been consulted on biodiversity issues throughout the development of the M3 J9 Improvement scheme.

9.1.6 Highways England is continuing this consultation during 2020 and 2021 to agree the scope of baseline data collection, valuation of receptors, and assessment methodology, and to ensure all comments are satisfactorily addressed prior to the submission for Development Consent.

## 9.2 Baseline conditions

9.2.1 Existing baseline information has been derived from the following ecological survey and assessment work, some of which are internal documents used from previous stages of the development design:

- M3 Junction 9 Improvement Scheme: Ecological Desk Study, June 2016 (WSP, 2016)
- M3 Junction 9 Improvement Scheme: Phase 1 Habitat Survey Report, November 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Botanical Survey Report, November 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Badger Survey Report, November 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Bat Activity Survey Report, November 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Preliminary Bat Roost Assessment, January 2018 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Hazel Dormouse Survey Report, January 2018 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Otter Survey Report, October 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Water Vole Survey Report, November 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Breeding Bird Community Walkover Survey Report, September 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Reptile Survey Report, November 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Great Crested Newt Survey Report, November 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Terrestrial Entomological Walkover Survey Report, August 2017 (WSP, 2017)
- M3 Junction 9 Improvement Scheme: Wintering Bird Community Survey Report, June 2018 (WSP, 2018)
- M3 Junction 9 Improvement Scheme: Habitat Verification Survey and Orchid Survey (Jacobs, 2020)

- M3 Junction 9 Improvement Scheme: Aquatic Ecology Survey Report (Jacobs, 2020)
- M3 Junction 9 Improvement Scheme: Terrestrial Invertebrate Survey and Southern Damselfly Habitat Assessment (Jacobs, 2020).

9.2.2 Due to the age of the some of the survey data contained in the above reports, a review of all baseline data has been undertaken with regard to CIEEM's *Advice Note of the Lifespan of Ecological Reports & Surveys* (2019). Habitat survey data from 2020 (Jacobs, 2020) indicates there have been no substantive changes in habitats within the IAB since 2017, and therefore for some species and species groups the data is considered to be sufficient and robust to inform the assessment process (see **Table 9-1**). For other species or species groups, additional surveys are also underway to update or augment the existing baseline data. This includes the following surveys (as yet unpublished):

- updated desk study during 2020 and 2021
- updated bat activity surveys 2020 (static automated surveys in August and September)
- bat roost surveys of River Itchen road bridges (2020 and 2021)
- bat trapping surveys August and September 2020 (to identify species of *Myotis* bat species using northern areas of the M3 J9 Improvement site)
- update water vole surveys during 2020 and 2021
- update badger surveys winter 2020 and 2021

9.2.3 In addition, Preliminary Ecological Appraisal of additional land parcels which have recently been added to the IAB, is being undertaken during 2020, with any required further detailed ecological survey work being undertaken during 2020 and 2021.

9.2.4 The ES will include justification of the approach used for all data collection methods for all habitats and species (including urban areas) used to inform the assessment process.

9.2.5 Assessment of the nature conservation importance of all biodiversity receptors will be informed by the on-going survey work and will be provided and justified in ES. The methodology for valuation will follow that in the Ecological Impact Assessment (EclA) Guidelines (CIEEM, 2018) and is provided in **Section 9.6** below.

9.2.6 The following is a summary of the baseline information gathered to date.

## European Designated Sites

- 9.2.7 There is one European designated site, the River Itchen SAC, which passes under the existing A34 and A33, and lies partially within the M3 J9 Improvement site (albeit below the carriageway).
- 9.2.8 The River Itchen SAC is designated for its riverine habitats and species which it supports including southern damselfly *Coenagrion mercurial*, bullhead *Cottus gobio*, white-clawed crayfish *Austropotamobius pallipes*, brook lamprey *Lampetra planeri*, Atlantic salmon *Salmo salar*, and otter *Lutra*.
- 9.2.9 Mottisfont Bats SAC lies approximately 16km to the west of the IAB. This SAC is designated as the woodland supports an important population of the rare barbastelle bat *Barbastella barbastellus*.
- 9.2.10 European designated sites within 2km of the IAB can be viewed on **Figure 9.1, Appendix 9.1**. A plan showing non-statutory designated sites will be prepared and included within the ES.

## Other Statutory Designated Sites

- 9.2.11 The River Itchen Site of Special Scientific Interest (SSSI) is partially within the M3 J9 Improvement site. This SSSI is designated due to the complex mosaic of riparian habitats it supports including the chalk stream and associated fen meadow, flood pasture and swamp habitats which support species such as otter, water vole *Arvicola amphibius*, and white-clawed crayfish. Unlike the SAC, the SSSI designation also includes some of the habitats adjacent to the river channel.
- 9.2.12 St Catherine's Hill SSSI is located approximately 500m south of the IAB. This SSSI is designated for chalk grassland and associated habitats.
- 9.2.13 Cheesefoot Head SSSI is located approximately 2km east of the IAB. This SSSI is designated for chalk grassland and a colony of the Duke of Burgundy *Hamearis lucina* butterfly.
- 9.2.14 There are no further statutory designated sites within a 2km study area surrounding the M3 J9 Improvement site.
- 9.2.15 Other statutory designated sites within 2km of the IAB can be viewed on **Figure 9.1, Appendix 9.1**.

## Non-statutory Designated Sites

- 9.2.16 There are seven Sites of Importance for Nature Conservation (SINC) and one SINC that is also a Road Verge of Ecological Importance (RVEI) within a 2km radius of the M3 J9 Improvement site.
- 9.2.17 Easton Down SINC lies partially within the M3 J9 Improvement site. This SINC has been designated due to the presence of grasslands which have become

impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery. Grassland within this designated site has been subject to detailed assessment during the botanical surveys undertaken in 2017 as part of the M3 J9 Improvement surveys.

9.2.18 All other non-statutory designated sites fall outside the M3 J9 Improvement site. Four of these sites (The Old Rectory Meadow Easton SINC, Magdalen Down North SINC, Magdalen Down South SINC and Deacon Hill SINC) contain important grassland communities.

9.2.19 One of the seven sites, A31 Petersfield Road, Chilcomb SINC RVEI supports a rare and notable moth species and one of the sites, River Itchen Meadow Easton SINC, is designated for important water meadow habitat.

9.2.20 The desk study recorded the presence of Easton Lane RVEI within the extent of the M3 J9 Improvement site. However, subsequent correspondence from Hampshire Biodiversity Information Centre (HBIC) confirms that the RVEI was designated in error and has been formally de-notified.

### **Habitats**

9.2.21 A Phase 1 habitat survey of the M3 J9 Improvement site was undertaken in 2017, followed up with detailed botanical surveys in 2017 of some areas using the National Vegetation Classification (NVC) methodology. The habitat surveys have been updated in 2020, along with specific survey to map previously identified populations of orchid species within and around the IAB.

9.2.22 No parcels of ancient woodland have been identified within the M3 J9 Improvement site. A number have been identified with 2km with the closest at a distance of 475m north-west of the IAB (the northern (satellite) construction compound).

9.2.23 To the east of the M3, the landscape is dominated by arable farmland, with associated hedgerows and small areas of woodland. The central area between the A34/A33 and the M3 contains a variety of habitats, including grazed semi-improved pastures and several small woodlands of various types. The River Itchen is a chalk river passing north-east to south-west through the north of the M3 J9 Improvement site and characterised by a number of interconnected channels associated with the historic water meadow management of the surrounding grasslands.

9.2.24 The south-western part of the study area is characterised by urban development, including industrial and commercial premises. Also of relevance to the habitats within the study area is the route of a historic railway line passing close to the A34 and is evidenced by cuttings and embankments, largely vegetated with semi natural broadleaved woodland.

9.2.25 Of the habitats recorded during surveys in 2020 the following were considered to comprise Habitats of Principal Importance (HPI) for the conservation of biodiversity (as identified under the Natural Environment and Rural Communities (NERC) Act (2006)):

- Arable field margins
- hedgerows
- lowland calcareous grassland
- lowland fen
- lowland meadows
- lowland mixed deciduous woodland
- reedbed
- rivers
- wet woodland

9.2.26 Seven species of orchid have been recorded: bee orchid, broad-leaved helleborine, chalk fragrant orchid, pyramidal orchid, southern marsh orchid, twayblade, and white helleborine. White helleborine is a Species of Principal Importance for the conservation of biodiversity. The other species have no legal or conservation status.

### **Species**

9.2.27 A summary of the baseline information for species and species groups is provided in **Table 9.1** below.

Table 9-1. Summary of the baseline information for species and species groups, along with further work proposed to update baseline.

Receptor	Status of survey	Summary of baseline data
Badgers	Badger survey 2017, 2018 and 2019.  Being updated during 2020 & 2021.	<div style="background-color: black; width: 100%; height: 1.2em; margin-bottom: 5px;"></div> Due to the mobility of badgers, update surveys are being undertaken during 2020 and 2021 which will be reported in the ES.
Bats	Bat activity surveys- May and October 2017 (being updated August & September 2020)  Preliminary Bat Roost Assessment - May and November 2017  Bat Tree Climbing Survey February 2019  Bat roost emergence surveys 2020  Bat Trapping surveys August & September 2020	The desk study has identified a number of bat records, however none of the records were within the M3 J9 Improvement site. The following seven bat species were recorded within the 5km search radius: Daubenton’s bat <i>Myotis daubentonii</i> , Natterer’s bat <i>Myotis nattereri</i> , noctule bat <i>Nyctalus noctula</i> , brown long-eared bat <i>Plecotus auritus</i> , common pipistrelle <i>Pipistrellus pipistrellus</i> , soprano pipistrelle <i>Pipistrellus pygmaeus</i> and serotine <i>Eptesicus serotinus</i> .  The use of the M3 J9 Improvement site by foraging and commuting bats is likely to be limited by the presence of the highway infrastructure which will displace bats due to reduced foraging resource and other effects from lighting and disturbance. However marginal habitats such as woodland, hedgerows and grassland will provide suitable resources, and the activity surveys have established that habitats within the M3 J9 Improvement site are used by a range of species, including some rarer species. In particular, high level of activity from <i>Myotis</i> species bats was noted. This group, cannot easily be identified to species level based on call parameters but includes some rare species. Further survey work is underway to try to identify the species of <i>Myotis</i> bats. In addition, greater horseshoe bat <i>Rhinolophus ferrumequinum</i> have been detected.



Receptor	Status of survey	Summary of baseline data
		<p>Trees and structures with potential to support roosting bats occur within the M3 J9 Improvement site. Initial results from bat roost surveys in 2020 show that one of the A34 road bridges over the River Itchen is likely to contain a soprano pipistrelle and Daubenton's bat roost. Further surveys in 2021 will be undertaken to fully establish the status of this roost. No other bat roosts have currently been identified within the M3 J9 Improvement site.</p> <p>Further surveys for bat roosts and bat activity are being undertaken during 2020 and 2021 which will be reported in the ES.</p>
Hazel dormouse	Nest tube survey - May and November 2017	<p>The desk study identified multiple records of dormouse within the study area. Dormouse presence has been confirmed in suitable habitat throughout the extent of the M3 J9 Improvement site during survey in 2017. Due to the absence of significant changes to habitats, and the sedentary nature of this species, the existing survey data is considered sufficient to inform the assessment which will be reported in the ES.</p>
Otter	Otter surveys - June and August 2017, updated June 2020	<p>The desk study identified 18 otter records within a 2km search radius, including locations within the M3 J9 Improvement site.</p> <p>Otter presence has been confirmed on the River Itchen and associated habitats within and adjacent to the M3 J9 Improvement site during surveys in 2017 and 2020. The existing survey data is considered sufficient and robust to inform the assessment which will be reported in the ES.</p>



Receptor	Status of survey	Summary of baseline data
Water vole	Water vole surveys undertaken in June and August 2017. Being updated during 2020 & 2021	The desk study identified 357 water vole records within a 2km radius of the M3 J9 Improvement site. One of these records fell within the M3 J9 Improvement site and a large number of the records were located along the River Itchen immediately west.  Currently no evidence of water voles has been recorded during survey within the extent of the M3 J9 Improvement site, however presence has been confirmed in adjacent habitats. Surveys are being updated during 2020 and 2021 which will be reported in the ES.
Other notable mammals	No specific survey undertaken	The desk study identified records of hedgehog, brown hare, harvest mouse and polecat within a 2km search radius of the M3 J9 Improvement site.  The Phase 1 habitat survey completed in 2017 and updated in 2020 confirmed the presence of suitable habitat for these species within the extent of the M3 J9 Improvement site. The existing survey data is considered sufficient and robust to inform the assessment which will be reported in the ES.
Breeding bird	Breeding bird survey - June and July 2017 and April and May 2019.	The desk study highlighted a number of notable bird species records within a 2km radius of the M3 J9 Improvement site. Some of these species are associated with wetland habitat, and others associated with grassland and more urban habitats. Notable species include: kingfisher <i>Alcedo atthis</i> , bittern <i>Botaurus stellaris</i> , black redstart <i>Carduelis flammea</i> and hen harrier <i>Circus cyaneus</i> .  Four breeding bird survey visits were completed, two during June and July 2017 and two during April and May 2019. These surveys established that the habitats within and surrounding the M3 J9 Improvement site support a breeding bird community likely to include at least two declining farmland Species of Principal Importance (SPI) as listed under the NERC Act (2006), skylark <i>Alauda arvensis</i> and yellowhammer <i>Emberiza citrinella</i> . Due to the intensively farmed

Receptor	Status of survey	Summary of baseline data
		<p>nature of the arable habitats, and the limited number of registrations of these species, it is likely that only small populations are present within or adjacent to the M3 J9 Improvement site. [REDACTED]</p> <p>The existing survey data is considered sufficient and robust to inform the assessment which will be reported in the ES.</p>
Wintering birds	Wintering bird surveys undertaken between October 2017 and March 2018.	<p>The desk study retrieved records of bird species which could use habitats within the M3 J9 Improvement site during winter such as lapwing <i>Vanellus vanellus</i>, redwing <i>Turdus iliacus</i> and starling <i>Sturnus vulgaris</i>. [REDACTED]</p> <p>The existing survey data is considered sufficient and robust to inform the assessment which will be reported in the ES.</p>

Receptor	Status of survey	Summary of baseline data
Reptiles	Reptile survey within suitable habitat - June and September 2017.	<p>The desk study identified records of two species of reptiles within a 2km radius, slow worm <i>Anguis fragilis</i> and common lizard <i>Zootoca vivipara</i>, located 0.9km and 0.8km from the M3 J9 Improvement site respectively.</p> <p>Two species of reptile have been recorded within the M3 J9 Improvement site during the 2017 surveys; slow worm and common lizard. Reptile populations varied from 'exceptional' to 'low' within the M3 J9 Improvement site.</p> <p>The existing survey data is considered sufficient and robust to inform the assessment which will be reported in the ES.</p>
Amphibians including great crested newt	<p>Habitat Suitability Index (HSI) assessment – 2017 and 2019</p> <p>Environmental DNA (eDNA) – 2017 and 2019</p> <p>Preliminary Ecological Appraisal during 2020 to identify waterbodies within 500m of the new IAB.</p>	<p>The desk study did not identify any amphibian records within 2km of the extent of the M3 J9 Improvement site.</p> <p>None of the waterbodies within 500m of the M3 J9 Improvement site which were sampled for great crested newt eDNA in 2017 and 2019 tested positive for the presence of eDNA and no inhibition or degradation was identified within any of the samples. No significant limitations to the surveys were noted. As such, great crested newt are considered to be absent from the M3 J9 Improvement site, however due to recent increases in the IAB further Preliminary Ecological Appraisal is being undertaken which will identify any new waterbodies which may be present within 500m of the new IAB. Where necessary further detailed survey work will be undertaken in 2021.</p> <p>Common toad <i>Bufo bufo</i> and common frog <i>Rana temporaria</i> have been incidentally recorded on several occasions, associated with the flood meadow habitats adjacent to the River Itchen.</p> <p>The existing survey data is being updated during 2020 and 2021 which will be reported in the ES.</p>

Receptor	Status of survey	Summary of baseline data
Freshwater fish	No survey undertaken to date.	<p>The desk study did not identify any records of notable fish species.</p> <p>The River Itchen is known to support notable species including bullhead, Atlantic salmon and brook lamprey. Brook lamprey and bullhead are widely known to be present throughout the River Itchen catchment where optimal habitats are present. Salmon will utilise optimal habitats within the main stem of the River and adjacent tributaries where water quality and barriers to migration allow. Salmon have been reported in the River Itchen around the existing road crossings and are expected to move through this reach during migration periods to upstream spawning areas. It is likely that the River Itchen supports a diverse fish community as fish are classified at High quality under the Water Framework Directive, indicating a community demonstrating no, or very minor, deviation from reference condition.</p> <p>The existing desk study data is considered sufficient and robust to inform the assessment which will be reported in the ES.</p>
Terrestrial invertebrates	Walkover survey - June 2017. Detailed invertebrate survey 2020.	<p>The desk study identified 167 notable invertebrate species records within a 2km search radius. The majority of these records are from the Lepidoptera family, (butterflies and moths). Three of the records fell within 1km grid squares that overlap with the M3 J9 Improvement site, including the small heath butterfly <i>Coenonympha pamphillus</i>, the silver wash fritillary <i>Argynnis paphia</i> and the stag beetle <i>Lucanus cervus</i>.</p> <p>The 2017 walkover survey identified areas of high potential for important invertebrate assemblages. Further surveys during 2020 have identified twelve notable species largely associated with the flower rich grasslands within the site.</p>

Receptor	Status of survey	Summary of baseline data
Aquatic invertebrates	Habitat assessment for southern damselfly and white-clawed crayfish – 2020	<p>Although the desk study did not detail any notable aquatic invertebrates, it is likely that the River Itchen supports a diverse aquatic invertebrate community as aquatic invertebrates are classified at High quality under the Water Framework Directive, indicating a community demonstrating no, or very minor, deviation from reference condition.</p> <p>Southern damselfly and white-clawed crayfish form part of the qualifying features of the River Itchen SAC. However, the absence of records for these species in the area (which can be considered well studied particularly in light of the nearby Wildlife Trust nature reserve) is taken as an indication that these species are absent from the extent of the M3 J9 Improvement site. Surveys undertaken in 2020 have confirmed that habitats within and adjacent to the M3 J9 Improvement site are sub-optimal for southern damselfly and unlikely to support a southern damselfly population.</p>

### 9.3 Potential impacts

9.3.1 The potential impacts anticipated as having the potential to arise without mitigation during construction and operation, are listed below.

#### Construction

- Direct and indirect impacts to designated areas (including European sites, SSSIs and non-statutory designated sites) through loss or damage to habitats, changes to hydrology, disturbance of qualifying species, or impacts to habitats and species which provide a supporting function
- Disruption of ground water flows which lead to aquatic habitats
- Permanent and temporary habitat loss within the M3 J9 Improvement site
- Damage or disturbance to habitats from construction activities
- Displacement, species loss and isolation through fragmentation
- Direct mortality during site clearance and construction
- Disturbance of wildlife from construction activities including visual, noise, vibration and lighting
- Degradation through air borne and water borne pollution (water quality and sediment loading)
- Pollution caused by use of hazardous materials and incidental release of dust, chemicals, fuels or waste materials.

#### Operation

- Change in surface or groundwater flows which lead to aquatic habitats
- Direct mortality during operational use
- Habitat fragmentation disrupting species movement and dispersal
- Direct disturbance from operational use visual, noise, vibration and lighting
- Degradation of designated sites and habitats through air borne and water borne pollution (water quality and sediment loading).

### 9.4 Design, mitigation and enhancement measures

9.4.1 A hierarchical approach to mitigation is being adopted through the design process which seeks to avoid adverse impacts in the first instance through an iterative approach to design, e.g. informing alignment to avoid sensitive receptors where possible. In areas where avoidance is not possible, measures will be proposed to prevent or reduce potentially significant negative effects.

Measures to compensate negative effects may also be required, e.g. habitat creation to offset impacts associated with habitat loss and fragmentation where these cannot be avoided.

9.4.2 Where appropriate, recommendations have been made below with respect to design, mitigation and enhancement measures. It is important to note that these should be treated as preliminary and revisited and developed as designs evolve and more survey data emerge. A preliminary summary of mitigation measures is provided below.

9.4.3 Full details of all embedded or essential mitigation measures, along with the mechanism for delivery, will be provided within the Environmental Statement (ES).

9.4.4 Design measures will be developed in accordance with LD 118 Biodiversity Design (Highways England, 2020), LD 117 Landscape design (Highways England, 2020). Measures will be set out within an Environmental Masterplan (or similar) submitted with the DCO application. Full details would be developed at detailed design stage, to be secured through Development Consent Order (DCO) requirement. Design measures will include:

- Design and provision of an ecologically informed habitat compensation and enhancement package, to include habitats of ecological value which are sensitive to the local area, including chalk grassland and woodland, with the aim of delivering a net gain for biodiversity. Stakeholders including SDNPA will be fully consulted on the design of the habitat compensation and enhancement package to ensure it is sensitive to the surrounding landscape and habitats
- Design to ensure ground water flows to the River Itchen are not disrupted, or if this is not possible appropriate and robust mitigation measures should be employed
- Drainage designs to ensure there is no reasonable likelihood of operation phase pollution entering the River Itchen and associated habitats. Sustainable Drainage Systems (SuDS) to be designed in consultation with an ecologist to include measures beneficial to fauna such as amphibians and water vole
- Lighting design is currently in development and proposed for Easton Lane only in line with guidance and design standards. It is not currently planned to light any of the junction or slip roads. The subways and the underpasses will be provided with lighting due to the length of these facilities. Where lighting is necessary it will be sensitively designed to avoid or minimise illumination of all habitats adjacent to the road. The River Itchen and associated habitats are considered particularly sensitive to the effects of lighting. The lighting strategy will have regard to Guidance Note 08/18 Bats and Artificial Lighting in the UK, Bats and the Built Environment series BCT/ILP (2018) be developed in consultation with an ecologist



- Ensure potential impacts to species known to use habitats within and adjacent to the M3 J9 Improvement site including otter, dormouse, and badgers are avoided or minimised through an ecologically informed design process.

#### 9.4.5 Construction phase mitigation measures to include:

- Provision of a first iteration Environmental Management Plan (fiEMP) in accordance with LD 120 Environmental management plans (Highways England, 2020) (with full EMP anticipated to be secured through Development Consent Order (DCO) requirement) to include a pollution prevention strategy to avoid accidental pollution events, with particular regard to the River Itchen
- The fiEMP will also include mitigation strategies for known important ecological receptors, which will include measures required during construction to avoid or minimise impacts
- Habitat clearance where possible carefully programmed to avoid sensitive periods for fauna such as breeding birds, dormice, roosting bats and badgers
- Where required, obtain Natural England Protected Species Mitigation Licences for species such as hazel dormouse and badger, including appropriate mitigation strategies and mitigation measures.

### 9.5 Description of likely significant effects

- 9.5.1 Construction and operation of the M3 J9 Improvement has the potential to result in significant effects to designated sites, protected and notable habitats and species.
- 9.5.2 The most recent Stage 1 Habitats Regulations Assessment (HRA) undertaken in 2020 has concluded there is potential for likely significant effects to the River Itchen SAC through disturbance during construction, water quality and hydrology (note the HRA did not consider the potential new or improved crossings over the River Itchen SAC, however an assessment of likely significant effects from construction and operation of such features will be included in an updated HRA).
- 9.5.3 The Stage 1 HRA concluded no likely significant effects to Mottisfont Bats SAC as a result of the M3 J9 Improvement scheme.
- 9.5.4 There is potential for significant effects to the River Itchen SSSI through various pathways, including direct habitat loss, disruption to groundwater flows, pollution from water and air and disturbance.
- 9.5.5 There is potential for significant effects to the Easton Down SINC through various pathways, including habitat loss and disturbance, and pollution from water and air.
- 9.5.6 Habitats of ecological value within the M3 J9 Improvement site are largely those associated with the SAC/SSSI and would not be directly affected, other



than through isolated habitat loss and disturbance associated with the potential new or improved crossings over the River Itchen.

- 9.5.7 There is potential for significant effect to a number of protected and notable species from construction and operation of the M3 Junction 9 Improvement scheme including badgers, bats, dormice, birds and reptiles through habitat loss, disturbance and direct mortality.
- 9.5.8 Where potentially significant effects are identified these will be addressed using the mitigation hierarchy with the aim of reducing them to a level considered to be not significant. Where there would still be a significant effect after mitigation this will be reported as a significant residual effect.
- 9.5.9 Residual effects on biodiversity will continue to be assessed and suitable compensation measures provided.

## 9.6 Assessment methodology

### Policies and Plans

- 9.6.1 Planning policies and guidance that are relevant to the Proposed Scheme include:
- National Policy Statement for National Networks (NPS NN) (DfT, 2014): Paragraphs 4.22 to 4.25 (Habitats Regulations Assessment); Paragraphs 5.20 to 5.38 (Biodiversity and Ecological Conservation); Paragraphs 5.81-5.89 (Dust, odour, artificial light, smoke and steam); and, 5.192 (Noise and vibration).
  - National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2019): Paragraph 8 (Achieving sustainable development); Paragraphs 91 (Promoting health and safe communities); 102 (Promoting sustainable transport); 170 and 172 (Conserving and enhancing the natural environment); 175, 176 and 177 (Conserving and enhancing the natural environment – Habitats and biodiversity); 180 (Conserving and enhancing the natural environment: Ground conditions and pollution); and, associated Planning Practice Guidance: Air Quality (2019), Natural Environment (2019), Noise (2019) Light pollution (2019)
  - Winchester District Draft Local Plan 2018 – 2038 (Emerging)
  - South Downs Local Plan 2014 - 33 (2019)

### Methodology

- 9.6.2 The assessment of effects to biodiversity receptors will follow the standard industry approach as set out in Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018) which is endorsed in DMRB LA108 Biodiversity (Highways England, 2020).

- 9.6.3 The baseline conditions within the M3 Junction 9 Improvement Site are well defined following surveys undertaken between 2017 and 2020 and upon completion of all remaining survey work, will allow an importance level to be attributed to each ecological feature in accordance with CIEEM's geographic framework.
- 9.6.4 In order to determine the likelihood of a significant ecological effect, it will be necessary to identify whether an ecological feature is sufficiently important for a significant effect upon it to be material in decision-making. This assessment will follow CIEEM best practice guidance (CIEEM, 2018) and will value the importance of ecological features with reference to a geographical framework. The geographical framework will assign a level of importance to ecological features:
- International
  - National (England)
  - Regional (southern England)
  - County (Hampshire)
  - Local
  - Less than local
- 9.6.5 Ecological features of 'Local' level importance or above will be classified as being 'Important' ecological features. Identified 'Important' ecological features will be considered in full within the ES, ensuring the assessment focuses only on those impacts which are potentially environmentally significant.
- 9.6.6 Where protected or controlled species are present within or adjacent to the M3 Junction 9 Improvement Site, which are not considered 'Important' ecological features, measures will be included in the mitigation package to ensure legal compliance.
- 9.6.7 A logical and transparent assessment of impacts and associated effects on each 'Important' ecological feature will be presented for construction and operation of the Proposed Scheme. In each case the level of impact and the significance of the effect will be expressed in accordance with the criteria provided in DMRB LA108 Biodiversity (Highways England, 2020), see **Table 9-2 and Table 9-3** below.

Table 9-2 Level of impact and typical descriptions (taken from DMRB LA108 (Standard for Highways, 2020))

Level of impact (change)		Typical description
Major	Adverse	1) Permanent/irreversible damage to a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact negatively affects the integrity or key characteristics of the resource.
	Beneficial	1) Permanent addition of, improvement to, or restoration of a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact positively affects the integrity or key characteristics of the resource.
Moderate	Adverse	1) Temporary/reversible damage to a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact negatively affects the integrity or key characteristics of the resource.
	Beneficial	1) Temporary addition of, improvement to, or restoration of a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact positively affects the integrity or key characteristics of the resource.
Minor	Adverse	1) Permanent/irreversible damage to a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
	Beneficial	1) Permanent addition of, improvement to, or restoration of a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
Negligible	Adverse	1) Temporary/reversible damage to a biodiversity resource; and

		2) the extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
	Beneficial	1) Temporary addition of, improvement to, or restoration of a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
No Change		No observable impact, either positive or negative.

Table 9-3 Significance matrix (taken from DMRB LA108 (Standard for Highways, 2020))

	Level of impact					
	No change	Negligible	Minor	Moderate	Major	
International or European importance	Neutral	Slight	Moderate or large	Large or very large	Very large	
UK or national importance	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large	
Regional importance	Neutral	Neutral or slight	Slight	Moderate	Moderate or large	
County or equivalent authority importance	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate	
Local importance	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight	

- 9.6.8 The assessment will also conclude with the residual effects on biodiversity resources in accordance with CIEEM's Guidelines for Ecological Impact Assessment for the UK and Ireland CIEEM (CIEEM, 2018), stating whether effects are significant or not significant at the relevant geographical level of importance.
- 9.6.9 Potential significant effects on 'Important' ecological features will be identified along with the mitigation and/ or management measures required to prevent, reduce or off-set any significant adverse effects. Significant beneficial environmental effects will also be highlighted. The ES will set out the significance of any residual ecological effects and clarify whether these are adverse or beneficial.
- 9.6.10 The ES will also present the results of a Biodiversity Net Gain metric calculation which will assess the predicted habitat losses and gains from the M3 J9 Improvement, with the aim of demonstrating a net gain in biodiversity from the M3 J9 Improvement. Defra's Biodiversity Metric will be used for this process, which will be provided to consultees for comment during the assessment process.
- 9.6.11 Assessment of impacts to designated sites from exhaust emissions from vehicles will be undertaken in line with DMRB LA 105 Air Quality (Highways England, 2019). Further details of the air quality modelling which will be used to inform assessments can be found in **Chapter 6 Air Quality**.
- 9.6.12 With respect to River Itchen SAC further information is required with respect to design and groundwater conditions which will inform the HRA assessment which will progress to Stage 2 and accompany submission of the ES. NE will be consulted with respect to the present findings of the HRA at the earliest opportunity.
- 9.6.13 The HRA will be undertaken in accordance with LA 115 Habitats Regulations assessment and *Advice note ten: Habitats Regulations Assessment relevant to nationally significant infrastructure* (The Planning Inspectorate, 2017).

## 9.7 Assessment assumptions and limitations

- 9.7.1 A number of limitations to the collection of baseline data were identified in the previous M3 J9 Improvement EIA Scoping Report (Highways England, 2019). These related to:
- Surveys being undertaken outside the optimum survey window, or at night using traffic management
  - Lack of access to some areas
  - Technical malfunctions and stolen equipment
- 9.7.2 Whilst it was considered that these did not present a significant limitation to the assessment process, the affected surveys are currently being updated and

augmented during 2020 and 2021 (see **Section 9.3**), and will be used to inform assessments within the ES. This will address the previously identified limitations and ensure baseline data is sufficiently robust for the assessment stage.

## 9.8 Elements to be scoped in/out

9.8.1 The elements to be scoped into the EIA for biodiversity are in **Table 9-3**.

*Table 9-3: Elements to be scoped into the EIA for biodiversity*

Elements scoped in	Justification
European designated sites	Potential for significant effects cannot be scoped out at current stage of design
Nationally designated sites	Potential for significant effects cannot be scoped out at current stage of design
Non-statutory designated sites	Potential for significant effects cannot be scoped out at current stage of design
Priority and notable habitats	Potential for significant effects cannot be scoped out at current stage of design
Non-priority or notable habitats	Whilst unlikely to be considered an 'Important Ecological Feature' these habitats may provide a supporting function to other biodiversity receptors
Badger, bats, hazel dormice, otter, water voles, other notable mammal species, birds, reptiles, amphibians, fish, invertebrates.	Potential for significant effects cannot be scoped out at current stage of design

There are no elements to be scoped out for Biodiversity.

## 10 Geology and Soils

### 10.1 Study area

10.1.1 The proposed study area for the geology and soils assessment for the M3 Junction 9 Improvement comprises the maximum physical extent of the Indicative Application Boundary (IAB) plus a buffer zone of 250m. This distance is referenced in Guidance for the Safe Development of Housing on Land Affected by Contamination (NHBC 2008) and is typical at the hazard identification stage of an assessment.

10.1.2 The potential for features outside of this buffer zone to be impacted or to constrain the Proposed Scheme will be based on professional judgement and included in the assessment, with justification provided within the Environmental Statement (ES). It is noted that LA 109 (Geology and Soils) of the Design Manual for Roads and Bridges (DMRB) (Highways England, 2019) does not specify a minimum study area distance for the assessment of impacts to geology and soils but supports the derivation of a project specific study area.

### 10.2 Baseline conditions

10.2.1 The baseline conditions within the proposed study area have been assessed with reference to the following main sources of information (some of which are documents used from previous stages of the development design):

- British Geological Society (BGS) 1:50,000 Series Geological Map Sheet No. 299 'Winchester' (Solid and Drift ed.), 2002 (BGS 2020)
- BGS online Geology of Britain viewer (BGS 2020)
- BGS web-hosted Onshore Geindex (British Geological Society 2020)
- MAGIC map - geographic information about the natural environment (Defra, 2020)
- Environment Agency (EA) Catchment Data Explorer (EA, 2020)
- Project Control Framework (PCF) Stage 2 – Preliminary Sources Study Report (HE551511-WSP-HGT-ZZ-RP-CE-0001) (WSP, September 2017)
- M3 Junction 9 Scoping Opinion (TR010055-000078-M3J9) (The Planning Inspectorate (PINS), March 2019)
- Preliminary Environmental Information Report (PEIR) (GFD19\_0101\_M3 Junction 9) (Jacobs, June 2019)
- PCF Stage 2 - Environmental Assessment Report (Appendix A drawings) (Appendix B Technical Appendices) (HE551511-WSP-EGN-ZZ-RP-LE-0003) (WSP, June 2018)



- Environmental Constraints (HE551511-JAC-EGN-0\_00\_00-DR-GI-0001) (Jacobs, January 2019)
- Draft Ground Investigation Report (HE551511-JAC-HGT-0\_00\_00-RP-GE-0001) (Jacobs, March 2020)
- Factual Ground Investigation Report (HE551511-HEX-EGT-ZZ-RP-CE-0001) (Soils Limited, August 2019, amended July 2020)
- PCF Stage 2 – Preliminary Sources Study Report (HE551511-WSP-HGT-ZZ-RP-CE-0001) (WSP, September 2017)
- Development Consent Order (DCO) Application - Consultation Report (HE551511-JAC-GEN-0\_00\_00-RP-ZH-0014) (Highways England (HE) May 2020).

### **Geology & Ground Conditions**

10.2.2 The anticipated ground conditions within the IAB have been determined through review of the published geological mapping, and also site specific intrusive information contained within both the Factual Ground Investigation Report and the Ground Investigation Report.

#### *Published Geology*

10.2.3 The published BGS geological mapping indicates that the majority of the M3 J9 Improvement site is underlain by solid geology comprising the Seaford Chalk formation, with the overlying Newhaven Chalk only present in the area to the east of the M3, in the northern part of the proposed study area. The Seaford Chalk formation is underlain by the Lewes Nodular Chalk formation, and in the southern extent of the IAB, the Lewes Nodular Chalk is indicated to outcrop at the ground surface.

10.2.4 Along the route of the River Itchen, which traverses the northern part of the M3 J9 Improvement site, the solid geology is overlain by superficial deposits comprising Alluvium. There are also smaller transects of superficial deposits, comprising Head, overlying the solid geology, located to the north and to the south of the existing junction, and in the northern parts of the IAB, including the location of the satellite construction compound.

10.2.5 In the area to the east of the M3 and to the south of the River Itchen, the geological mapping also indicates there may be an area of Clay with Flints and Head deposits overlying the Newhaven Chalk Formation (which overlies the Seaford Chalk Formation where present).

10.2.6 In addition to the published geology described above, it is anticipated that made ground is also present within the IAB, associated with the construction of the M3, A34, A33 and other infrastructure. It is anticipated that this made ground material will predominantly comprise reworked natural strata, and the

overlying road carriageway construction (to be confirmed by intrusive ground investigation, see 10.2.9).

10.2.7 Extracts of the published geological mapping will be included within an appendix to the ES.

#### *Published Information*

10.2.8 A review of the available information has identified records for three historical landfills within the proposed study area. These are located beneath the existing M3 J9 roundabout (Spitfire Link), on the western side of the A34 at the northern tip of Wykeham Industrial Estate (land between Old Newbury Railway and A33) and between the A34/A33 and M3 carriageways, south of the River Itchen (land adjacent to Winchester Bypass). Details of whether landfilling activities were ever commenced, or the extent to which they may have already been removed as part of earlier development works is not currently known.

10.2.9 Therefore, further assessment of the historical landfills will be undertaken, in consultation with the EA and both Winchester City Council (WCC) and Hampshire County Council (HCC), and used to inform the ES.

10.2.10 There are additional historical landfills identified outside of the proposed study area but due to their distance from the M3 J9 Improvement site, they are not considered to have the potential to result in a likely significant effect and are therefore not considered further within this Scoping Report.

#### *Site Specific Ground Condition Information*

10.2.11 A geotechnical and geo-environmental ground investigation was undertaken across parts of the M3 J9 Improvement site between March 2019 and June 2019. The interim information from the investigation (available at the time of writing) generally confirms the anticipated/published ground conditions.

10.2.12 Further supplementary ground condition assessment is proposed to be undertaken for specific additional areas within the IAB, and the combined results of the site specific ground investigation and additional assessment will be used to determine ground conditions and baseline conditions across the full extent of the M3 J9 Improvement site for the ES.

#### *Land Stability/Geological Hazards*

10.2.13 Chalk can be affected by both natural erosion features and man made cavities, and a number of chalk pits (see 10.2.24) and natural features (solution pipes) have been identified within the proposed study area. The March 2019 Scoping Opinion identified the requirement for due consideration of the potential for cavities (including from dissolution) to be present in the Chalk to be undertaken. Therefore, it is proposed to undertake a Cavity Occurrence Assessment based on the records contained within the Stantec natural cavities and mining databases, and this will inform the ES.

10.2.14 Based on the anticipated ground conditions, it is considered that there is a moderate risk of compressible ground being present in parts of the IAB, associated with the Alluvium and any non engineered made ground. The 2019 PEIR (based on an Envirocheck Report) indicated a worst-case low risk of landslide and running sand potential, and a very low risk of shrinking/swelling clay or collapsible ground. A preliminary land stability risk assessment will be undertaken to inform further assessment and reported in the ES.

#### *Minerals*

10.2.15 In accordance with DMRB guidance LA 109 Geology and Soils (Highways England, 2019), the effects of the Proposed Scheme on minerals as a resource are detailed in **Chapter 11 Material Assets and Waste**. There is therefore no further commentary in this chapter regarding minerals.

#### *Hydrogeology*

10.2.16 The Chalk is designated as a Principal Aquifer, and the overlying superficial deposits are designated as Secondary Aquifers, the Alluvium as a Secondary A Aquifer, and the Head as a Secondary (undifferentiated) Aquifer.

10.2.17 These designations reflect the importance of the aquifers in terms of groundwater as a resource (drinking water supply) but also their role in supporting surface water flows and wetland ecosystems.

10.2.18 The Defra MAGIC map indicates that there are two sets of groundwater Source Protection Zones (SPZs) within the proposed study area, associated with two groundwater abstraction sites.

10.2.19 Parts of the M3 J9 Improvement site are also covered by a Drinking Water Groundwater Safeguard Zone (DWGSZ), associated with Zone 1 and 2 of the SPZ. The groundwater body associated with the DWGSZ is the River Itchen Chalk and this is indicated (EA Catchment Data Explorer) to be in poor environmental condition.

10.2.20 Groundwater monitoring wells were installed across the M3 J9 Improvement site during the ground investigation completed in 2019 and groundwater monitoring is being undertaken. This data will be used as part of the assessment of the baseline groundwater quality in the ES, including assessing impacts to the SPZs within the proposed study area.

#### *Hydrology*

10.2.21 The River Itchen flows from north-east to south-west through the proposed study area and below the M3, and A34/A33. The flood plain of the river spreads out between the A33 and M3 carriageways in the north part of the M3 J9 Improvement site, and there are several cross cutting and interlinked channels forming the river. In addition, Nun's Walk stream is present adjacent and flowing parallel to the River Itchen.

### *Historical Land Use*

- 10.2.22 The historical land use (relevant to the potential for contamination) has previously been determined and presented in the PEIR and Preliminary Sources Study Report (PSSR), based on historical Ordnance Survey maps obtained as part of an Envirocheck Report. The historical land use has been re-reviewed using old-maps.co.uk (2020) and a summary is presented below.
- 10.2.23 A review of the available information indicates that the area of the current M3 J9 roundabout remained undeveloped until the early 1980's when this part of the M3 is shown to have been constructed.
- 10.2.24 From the late 1800's, there are several chalk pits indicated to be present within the proposed study area, the closest located on the south side of the River Itchen flood plain between the A34 and M3 carriageways. One of these chalk pits remained evident on the historical maps until the late 1980s.
- 10.2.25 The Didcot, Newbury and Southampton railway line is indicated to have been constructed in the late 1890's 200m to the west of the IAB, along the eastern bank of the River Itchen. The railway line remained until the 1960's when it was dismantled. Also at this time, the Vulcan Iron Works was developed on the eastern side of the railway line, north of the River Itchen, within the proposed study area. By the early 1960's this is no longer indicated to be 'Vulcan Iron Works', instead shown as 'Works'.
- 10.2.26 In the early 1900's, Winnall Gas Works was developed approximately 100m to the west of the IAB, within the current Wykeham Industrial Estate. The gas works had been extended by the 1930's and included tanks and a gasometer which remained until at least the late 1970s, although the main part of the gas works was redeveloped earlier.
- 10.2.27 By the early 1950's the Winchester by-pass (within the IAB) had been constructed adjacent to the gas works, and in the 1960's there appears to have been some modification to some of the channels in the River Itchen flood plain, to the east of the Winchester by-pass.
- 10.2.28 Between the early 1960's and early 1970's, the gas works and surrounding land, now the Wykeham Industrial Estate, are shown to have been developed for a variety of industrial uses including saw mills, rubber moulding works and engineering works. Other potentially contaminative activities within the industrial estate include an abattoir and garage.
- 10.2.29 A review of the available information indicates that the northern part of the proposed study area comprised predominantly open fields from the early 1870's, and also the development of Kings Worthy. The Didcot, Newbury and Southampton railway line had been constructed by the late 1890's within the west part of the proposed study area. There was a general expansion of Kings Worthy between the late 1800's and present day and some general

industrial use (works, saw mills and including the Vulcan Iron Works discussed above).

10.2.30 There is no previous development indicated in the area of the proposed satellite construction compound.

10.2.31 Contrary to the 'published information' outlined above, a review of the available historical mapping has not specifically identified the presence of infilled workings/landfills within the proposed study area.

#### *Current Land Use*

10.2.32 The majority of the M3 J9 Improvement site comprises the carriageways of the M3, A33 and A34. In the area to the east of the M3, the land use both within the IAB and the proposed study area is predominantly agricultural.

10.2.33 In the areas to the west of the A34, the land use within the IAB is predominantly highway land or undeveloped land adjacent to the highway. However, in the wider proposed study area, the land use is varied including flood plain, residential and mixed use industrial.

10.2.34 In the northern part of the M3 J9 Improvement site, the predominant current land use outside of the IAB is mixed, comprising residential, agricultural and flood plain.

#### *Agricultural Land Classification*

10.2.35 An Agricultural Land Classification (ALC) survey was undertaken in 2017 to identify the ALC baseline of the M3 J9 Improvement site. The survey identified that the site was a mix of Grade 3a (best and most versatile (BMV)), Grade 3b as well as land not classed as agricultural.

10.2.36 In accordance with DMRB guidance LA 109 Geology and Soils (Highways England, 2019), as the Proposed Scheme is likely to affect land classified as BMV, further consideration will be given within the ES.

10.2.37 It is noted that the IAB has been amended since the time of the initial 2017 survey work. An update ALC survey is proposed to be undertaken to identify the ALC baseline for the new IAB which will inform ongoing assessment work. Assessments will also consider the proportion of identified ALC types within the region.

### **Potential Contaminative Land Uses and Contamination Sources**

10.2.38 **Table 10-1** summarises the potential contaminative land uses and contamination sources based on the current and historical land uses.

Table 10-1: Potential Contaminative Land Uses and Contamination Sources

Land Use	Potential Contaminants of Concern
Motorway/'A' Road	Metals and metalloids, chloride, polycyclic aromatic hydrocarbons (PAHs), oil/fuel hydrocarbons, sulphates, asbestos.
Historical Landfill	Metals and metalloids, PAHs), oil/fuel hydrocarbons, sulphates, asbestos, landfill gas, leachate, acids, ammonia.
Historical Railway Line	Metals and metalloids, PAHs, oil/fuel hydrocarbons, lubricating oils, creosotes, sulphates, asbestos.
Agricultural Land	Hydrocarbons and lubricating oils associated with machinery and nitrates from fertilisers. Potential pesticides and herbicides. Asbestos (e.g. on farm tracks due to possible use of demolition rubble for surfacing).
Gas Works	Metals and metalloids, inorganic compounds, asbestos, coal tars, PAHs, oil/fuel hydrocarbons, acids, alkalis,
Iron Works	Metals and metalloids, inorganic compounds, asbestos, Polychlorinated Biphenyls (PCBs)
Mixed Industrial Use	Metals and organo-metals, PAHs, oil/fuel hydrocarbons, sulphates, asbestos.

### Identification of Sensitive Receptors

10.2.39 **Table 10-2** below summarises sensitive receptors which could be affected by the M3 J9 Improvement during the construction and operation phases. The sensitivity of each has been determined according to the descriptors given in **Table 10-2**. It is possible that further sensitive receptors or potentially different categories of a receptor may be identified following review of additional data during preparation of the ES. This table will be revised according to available information.



Table 10-2: Identified Receptors and Sensitivity

Receptor	Comment	Sensitivity
Geology and Geomorphology	<p>The Proposed Scheme area does not lie within an area where nationally important geological or geomorphological features have been recorded (geological Site of Special Scientific Interests (SSSI)) and there are no regionally important geological sites within the area.</p>	Negligible
Soils	<p>An Agricultural Land Classification survey was previously undertaken in 2017 for the M3 Junction 9 Improvement site as it was known at the time. This covered a more limited area than covered by the IAB as shown in <b>Figure 2.1, Appendix 2.1</b>. The survey identified that within land to the immediate east of the motorway, and between the M3 and A34 diverge, agricultural land was classed as 3a (best and most versatile), or either 3b or 'non-agricultural', (not best and most versatile). As the previous study area incorporated fields in a similar area to those affected by the IAB, it is considered likely that remaining land not yet surveyed would be of the same classification.</p> <p>In accordance with DMRB LA109 Geology and Soils (Highways England, 2019), agricultural land classified as grade 1 or 2 is 'Very High' sensitivity, grade 3a is 'High', grade 3b is 'Medium', grade 4 or 5 is 'Low' and soils that are previously developed land formerly in 'hard uses' with little potential to return to agriculture are 'Negligible'.</p>	High, Medium and Negligible

Groundwater	Aquifers beneath the Proposed Scheme area are classified as Principal and Secondary A aquifers. Also, parts of the proposed study area in the north are covered by both Zones 1 and 2 groundwater SPZs. Two abstraction points for potable drinking supply are also located in the north of the Scheme area.	Very High
Surface Water	The River Itchen flows across the north and along the west of the Proposed Scheme area with several associated water courses. The River Itchen is designated a SSSI and a Special Area of Conservation (SAC). Nun's Walk Stream flows in a channel approximately parallel to the River Itchen and is classified by the EA as a Main River.	Very High
Environmentally Sensitive Sites	The nearest environmentally sensitive area is the River Itchen SSSI and SAC and flows through the proposed study area.  The Proposed Scheme area also lies partly within the South Downs National Park.	Very High
Built Environment	Mixed use surrounding the M3 J9 Improvement site. including residential, school and commercial properties and agricultural land.	Medium
Human Health – Construction/maintenance Workers	The Proposed Scheme is considered likely to include extensive earthworks which could expose construction workers to any potential contamination in the soil material.  There is also potential for historical landfills within the proposed study area and therefore there is potential for landfill gas, which could accumulate within confined spaces.	Medium



Human Health - End Users	The Proposed Scheme is for improvements to highways and therefore lower sensitivity with no exposure to any potential contamination associated with the geology and soils.	Low
Human Health - Neighbours	Mixed use surrounding the site including residential, school and commercial.	Medium

### 10.3 Potential impacts

#### Construction

##### *Land Contamination*

10.3.1 Potential impacts of the M3 J9 Improvement during construction comprise:

- Mobilisation of potential existing contamination during construction and excavation, affecting controlled waters, and including SPZs
- Creation of pathways for potential existing contamination during foundation works, affecting controlled waters
- Exposure of construction workers and neighbours to potential contamination
- Introduction of new potential contaminants to the environment during construction as a result of uncontrolled activities / incidents.

##### *Land Instability*

10.3.2 The natural strata present within the proposed study area are such that there is the potential for naturally occurring geological hazards and other land stability constraints to be present. Potential impacts of the M3 J9 Improvement during construction comprise:

- Ground movement / landslips as a result of excavation activities
- Loss of ground support as a result of changing environmental conditions during construction triggering a collapse of infilled materials to solutions features.

##### *Agricultural Land*

10.3.3 There is potential for the Proposed Scheme to affect BMV agricultural land temporarily during the construction phase, via the temporary works in the areas of search for potential excess spoil management (see **Chapter 2** for further details).

## Operation

### *Land Contamination*

10.3.4 Potential impacts of the M3 J9 Improvement during operation comprise:

- Chemical attack and decay of buried concrete structures from potential existing contamination
- Exposure of maintenance workers to hazardous ground gas in confined spaces
- Introduction of new potential contaminants to the environment.

10.3.5 Potential impacts on groundwater associated with drainage and surface water discharge proposals are considered within **Chapter 14 - Road Drainage and the Water Environment**.

10.3.6 Waste and management of materials, including re-use and importation, will be considered in **Chapter 11 – Material Assets and Waste**. Potential impacts on minerals will be considered in **Chapter 11 – Material Assets and Waste**.

### *Land Instability*

10.3.7 The natural strata present within the proposed study area are such that there is the potential for naturally occurring geological hazards and other land stability constraints to be present. Potential impacts of the M3 J9 Improvement during operation comprise:

- Ground movement / landslips / rock falls as a result of excavated slopes or embankments
- Loss of ground support as a result of changing hydrogeological conditions during operation triggering a collapse of infilled materials to solutions features.

### *Agricultural Land*

10.3.8 There is potential for the Proposed Scheme to affect BMV agricultural land, however it is envisaged that agricultural grade soil will be stripped, appropriately stored and retained, then reinstated for permanent use. It is therefore envisaged that there would be a temporary loss of agricultural land during the construction phase.

## 10.4 Design, mitigation and enhancement measures

10.4.1 The ES will describe both the embedded mitigation that will be provided as part of the design of the Proposed Scheme, together with any essential mitigation or enhancement considered to be required.

10.4.2 It is recognised that the Proposed Development would provide embedded mitigation measures including a first iteration Environmental Management

Plan (fiEMP) to be submitted as part of the application for Development Consent that will include requirements for working within best practice guidelines, preventing the release of contamination and therefore negating any effects from such releases / construction activities on the environment.

- 10.4.3 Furthermore, construction methods such as appropriate piling techniques (if required) to minimise the risk of mixing of aquifer bodies through the creation of new pathways would form part of the embedded mitigation. This includes the provision of a Foundation Works Risk Assessment (FWRA) which would be undertaken once the proposed foundation solutions are known, in accordance with EA guidance 'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination' (EA, 2001).
- 10.4.4 In relation to the potential for exposure of construction workers to ground gas, the fiEMP will include protocols for working in confined spaces, in accordance with Health and Safety Executive (HSE) Approved Code of Practice 'Safe work in confined spaces'.
- 10.4.5 The fiEMP would include details of the protocol to be followed in the event of previously undiscovered contamination being encountered during enabling works and/or construction.
- 10.4.6 In relation to ground instability, the potential impacts will be mitigated through appropriate ground investigation leading to design of appropriate cutting and embankment slopes, and remedial works if required to provide carriageway construction enhancement, such as treatment of solution features, use of geogrids or other risk based solutions.
- 10.4.7 The excavation and re-use of materials would be undertaken in accordance with a Materials Management Plan (MMP). An outline MMP will be prepared as part of the application for Development Consent.

## 10.5 Description of likely significant effects

- 10.5.1 Identification of likely significant effects comprises consideration of receptor/feature sensitivity and the probability of an adverse effect associated with either the construction or operation of the Proposed Scheme being realised.
- 10.5.2 Following implementation of mitigation measures (outlined above) it is considered that impacts identified in **Section 10.3** above would be unlikely to result in a significant effect. However, further measures could be required following completion of the ground investigation report and additional assessments. The exception is to agricultural land, as there is limited ability to mitigate identified impacts where BMV land is to be affected.

## 10.6 Assessment methodology

### Policies and Plans

10.6.1 Planning policies and guidance that are relevant to the Proposed Scheme include the following, which will be used to guide and inform assessments:

- National Policy Statement for National Networks (NPS NN) ((DfT, 2014): Paragraphs 5.116 to 5.119 (Land Stability) and 5.168 (Agricultural Land, and Contamination)
- The National Planning Policy Framework (NPPF) (2019): Paragraph 8 (Achieving sustainable development), paragraphs 170 (Conserving and enhancing the natural environment), 178 (Conserving and enhancing the natural environment) and 179 (Conserving and enhancing the natural environment – Ground conditions and pollution); and the associated Planning Practice Guidance for NPPF, Land Affected by Contamination, June 2014 (updated July 2019); Land Stability, March 2014 (updated July 2019); Natural Environment, January 2016 (updated July 2019)
- Winchester District Local Plan Part 1: Joint Core Strategy (2013) Policy DP.3 (General Design Criteria); Policy DP.10 (Pollution Generating Development); and, Policy DP.13 (Contaminated Land)
- Winchester District Local Plan - Part 2 Development Management and Site Allocations (2017): Policy DM.17 (Site Development Principles); Policy DM19 (Development and Pollution); and, Policy DM21 (Contaminated Land)
- South Downs Local Plan (2019): Core Policy SD2 (Ecosystems Services); Strategic Policy SD9 (Biodiversity and Geodiversity); Development Management Policy SD54 (Pollution and Air Quality); and, Development Management Policy SD55 (Contaminated Land)
- Winchester District Draft Local Plan 2018 – 2038 (Emerging)

### **Legislation, Regulations and Directives**

10.6.2 The impact assessment will be undertaken with due consideration of the following relevant legislation, regulations and directives:

- Part 2A of the Environmental Protection Act 1990, as amended by the Environment Act 1995
- The Contaminated Land (England) (Amendment) Regulations 2012
- Water Framework Directive (2000/60/EC)
- The Environmental Damage (Prevention and Remediation) Regulations 2009
- Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009
- Infrastructure EIA Regulations 2017 (as amended)

## Statutory Guidance and Regulations

10.6.3 Statutory (Regulatory) guidance on the application of legislative requirements and restrictions will be obtained from:

- Contaminated Land Statutory Guidance (Defra, 2012)
- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572).

## Non-Statutory Guidance

10.6.4 Further non-statutory guidance which will be referred to as appropriate during preparation of the ES chapter includes:

- Land Contamination: Risk Management - <https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks>;
- CIRIA 552: Contaminated Land Risk Assessment, A guide to good practice (CIRIA, 2001)
- BS 10175:2011+A2:2017 Investigation of potentially contaminated sites. Code of practice
- DMRB CD622: Managing geotechnical risk (2020)
- DMRB LA104: Environmental assessment and monitoring (2019)
- DMRB LA109: Geology and soils (2019)

## Methodology

10.6.1 The environmental baseline at the M3 J9 Improvement site, with reference to ground conditions, including potential soil and groundwater contamination, and ground gas, will be determined through the production of a Ground Investigation Report (GIR) that will include a review of existing information/data.

10.6.2 The GIR will include a land stability risk assessment and a controlled waters and land gas risk assessment. The controlled waters risk assessment will include Tier 1 (preliminary) and Tier 2 (quantitative) risk assessment as appropriate. The Tier 1 Preliminary Risk Assessment (PRA) will include the identification of current and historical land use activities within the proposed study area and is used to assess the likelihood for ground contamination to be present. The Tier 2 risk assessment will be based on site specific ground investigation and monitoring data.

10.6.3 The GIR report will confirm the ground conditions and environmental setting, and also assess the information available to identify potential issues that may

have associated environmental liabilities or affect the Proposed Scheme. The GIR will comprise:

- a review of existing available information
- a site and area reconnaissance
- Interpretative reporting including both Tier 1 PRA and Tier 2 Quantitative Risk Assessment, preparation of Conceptual Models (CM), and a preliminary land stability risk assessment. The report will consider potential effects for each identified pollutant linkage such that any potential impacts can be identified, and mitigation measures identified as required.

10.6.4 The Tier 1 and Tier 2 risk assessments will be undertaken in accordance with Land Contamination: Risk Management, (available from GOV.UK) which is intended to replace CLR 11 Model Procedures for the Management of Contaminated Land (EA, 2004). The guidance sets out a three-stage process, with stage 1 being risk assessment using a tiered with increasing level of detail required to progress through the tiers.

10.6.5 The environmental baseline will then be used to assess the likely effects of the Proposed Scheme on identified receptors such as human health, the environment and the proposed structures relating to ground conditions and land contamination, and also the potential for the M3 J9 Improvement to directly contribute to or to be affected by land instability and geological hazards.

10.6.6 Once the GIR is completed, this will form the evidence base for the ES chapter relating to geology and soils. In accordance with the requirements of the EIA Regulations, the ES chapter will identify any likely significant effects on the environment, together with proposed mitigation, and description of any cumulative impacts and residual effects.

### **Significance Criteria**

10.6.7 The sensitivity of receptors has been determined in accordance with guidance and criteria provided in LA109 Geology and Soils (Highways England, 2019) and LA113 Road Drainage and the Water Environment (Highways England, 2020). The excerpt below presents the relevant environmental value (sensitivity) and descriptors from LA109 and LA113.

Table 10-3: Receptor value (sensitivity) and descriptions

Receptor value (sensitivity)	Description
Very High	<p>Geology: very rare and of international importance with no potential for replacement (e.g. UNESCO World Heritage Sites, UNESCO Global Geoparks, SSSI's and GCR where citations indicate features of international importance). Geology meeting international designation citation criteria which is not designated as such.</p> <p>Soils:</p> <ul style="list-style-type: none"> <li>▪ soils directly supporting an EU designated site (e.g. SAC, SPA, Ramsar); and / or</li> <li>▪ ALC grade 1 &amp; 2 or LCA grade 1 &amp;</li> </ul> <p>Contamination:</p> <ul style="list-style-type: none"> <li>▪ human health: very high sensitivity land use such as residential or allotments</li> <li>▪ surface water: Watercourse having a WFD classification shown in a RBMP and Q95 <math>\geq</math> 1.0 m<sup>3</sup>/s. Site protected/designated under EC or UK legislation (SAC, SPA, SSSI, Ramsar site)</li> <li>▪ groundwater: Principal aquifer providing a regionally important resource, SPZ1</li> </ul>
High	<p>Geology: rare and of national importance with little potential for replacement (e.g. geological SSSI, ASSI, National Nature Reserves (NNR)). Geology meeting national designation citation criteria which is not designated as such.</p> <p>Soils:</p> <ul style="list-style-type: none"> <li>▪ soils directly supporting a UK designated site (e.g. SSSI); and / or</li> <li>▪ ALC grade 3a, or LCA grade 3.1.</li> </ul> <p>Contamination:</p> <ul style="list-style-type: none"> <li>▪ human health: high sensitivity land use such as public open space</li> </ul>



	<ul style="list-style-type: none"> <li>■ surface water: Watercourse having a WFD classification shown in a RBMP and Q95 &lt;1.0m3/s</li> <li>■ groundwater: Principal aquifer providing locally important resource or supporting a river ecosystem, SPZ2.</li> </ul>
Medium	<p>Geology: of regional importance with limited potential for replacement (e.g. RIGS). Geology meeting regional designation citation criteria which is not designated as such.</p> <p>Soils:</p> <ul style="list-style-type: none"> <li>■ soils supporting non-statutory designated sites (e.g. Local Nature Reserves (LNR), LGS's, Sites of Nature Conservation Importance (SNCIs)); and / or</li> <li>■ ALC grade 3b or LCA grade 3.2.</li> </ul> <p>Contamination:</p> <ul style="list-style-type: none"> <li>■ human health: medium sensitivity land use such as commercial or industrial</li> <li>■ surface water: Watercourses not having a WFD classification shown in a RBMP and Q95 &gt;0.001m3/s</li> <li>■ groundwater: Aquifer providing water for agricultural or industrial use with limited connection to surface water, SPZ3.</li> </ul>
Low	<p>Geology: of local importance / interest with potential for replacement (e.g. non designated geological exposures, former quarry's / mining sites).</p> <p>Soils:</p> <ul style="list-style-type: none"> <li>■ ALC grade 4 &amp; 5 or LCA grade 4.1 to 7; and / or</li> <li>■ soils supporting non-designated notable or priority habitats.</li> </ul> <p>Contamination:</p> <ul style="list-style-type: none"> <li>■ human health: low sensitivity land use such as highways and rail</li> <li>■ surface water: Watercourses not having a WFD classification shown in a RBMP and Q95 ≤0.001m3/s</li> </ul>



	<ul style="list-style-type: none"> <li>■ groundwater: Unproductive strata.</li> </ul>
Negligible	<p>Geology: no geological exposures, little / no local interest. Soils: previously developed land formerly in 'hard uses' with little potential to return to agriculture.</p> <p>Contamination:</p> <ul style="list-style-type: none"> <li>■ human health: undeveloped surplus land / no sensitive land use proposed</li> <li>■ surface water: not present</li> <li>■ groundwater: Unproductive strata.</li> </ul>

10.6.8 The magnitude of change will be determined in accordance with the criteria provided in LA109 and LA113. The excerpt below presents the relevant magnitude of impact and typical descriptions from LA109 and LA113.

Table 10-4: Magnitude of Impact and typical descriptions

Magnitude of Impact (change)	Typical Description
Major	<p>Geology: loss of geological feature / designation and/or quality and integrity, severe damage to key characteristics, features or elements.</p> <p>Contamination:</p> <ul style="list-style-type: none"> <li>■ human health: significant contamination identified. Contamination levels significantly exceed background levels and relevant screening criteria (e.g. category 4 screening levels) SP1010 with potential for significant harm to human health. Contamination heavily restricts future use of land</li> <li>■ surface water: Loss of regionally important public water supply. Loss or extensive change to a designated nature conservation site. Reduction in water body WFD classification</li> <li>■ groundwater: Loss of, or extensive change to, an aquifer. Loss of regionally important water supply. Loss or significant damage to major structures through subsidence or similar effects.</li> </ul>

<p>Moderate</p>	<p>Geology: partial loss of geological feature / designation, potentially adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.</p> <p>Contamination:</p> <ul style="list-style-type: none"> <li>■ human health: contaminant concentrations exceed background levels and are in line with limits of relevant screening criteria (e.g. category 4 screening levels) SP1010. Significant contamination can be present. Control / remediation measures are required to reduce risks to human health / make land suitable for intended use</li> <li>■ surface water: Degradation of regionally important public water supply or loss of major commercial/industrial/agricultural supplies. Contribution to reduction in water body WFD classification</li> <li>■ groundwater: Partial loss or change to an aquifer. Degradation of regionally important public water supply or loss of significant commercial/ industrial/ agricultural supplies.</li> </ul> <p>Damage to major structures through subsidence or similar effects or loss of minor structures.</p>
<p>Minor</p>	<p>Geology: minor measurable change in geological feature / designation attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.</p> <p>Contamination:</p> <ul style="list-style-type: none"> <li>■ human health: contaminant concentrations are below relevant screening criteria (e.g. category 4 screening levels) SP1010. Significant contamination is unlikely with a low risk to human health. Best practice measures can be required to minimise risks to human health</li> <li>■ surface water: Minor effects on water supplies</li> <li>■ groundwater: Minor effects on an aquifer, abstractions and structures.</li> </ul>
<p>Negligible</p>	<p>Geology: very minor loss or detrimental alteration to one or more characteristics, features or elements of geological feature / designation. Overall integrity of resource not affected.</p>

	<p>Contamination:</p> <ul style="list-style-type: none"> <li>■ human health: contaminant concentrations substantially below levels outlined in relevant screening criteria (e.g. category 4 screening levels) SP1010. No requirement for control measures to reduce risks to human health / make land suitable for intended use</li> <li>■ surface water; The proposed project is unlikely to affect the integrity of the water environment</li> <li>■ groundwater: No measurable impact upon an aquifer and/or groundwater receptors.</li> </ul>
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*Agricultural Land*

The assessment of impacts to agricultural land will be informed by updated site survey work. The sensitivity of agricultural land receptors is outlined in **Table 10.2** above, with the magnitude of impact to be used within assessments outlined below (replicating Table 3.12 of LA 109 Geology and Soils (Highways England, 2019) as updated by Table E/2.1 of LA 109 Geology and Soils (Highways England, 2019).

*Table 10-5: Magnitude of Impact and Typical Descriptions – Agricultural land*

Magnitude of impact (change)	Typical description
Major	Physical removal or permanent sealing of >20ha of agricultural land
Moderate	<ul style="list-style-type: none"> <li>■ physical removal or permanent sealing of 1ha - 20ha of agricultural land; or</li> <li>■ permanent loss / reduction of one or more soil function(s) and restriction to current or approved future use (e.g. through degradation, compaction, erosion of soil resource).</li> </ul>
Minor	Temporary loss/reduction of one or more soil function(s) and restriction to current or approved future use (e.g. through degradation, compaction, erosion of soil resource)
Negligible	No discernible loss/reduction of soil function(s) that restrict current or approved future use

No change	No loss/reduction of soil function(s) that restrict current or approved future use
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10.6.9 The significance of effects will be determined in accordance with **Table 10-6** below. An effect of Moderate or above is taken to be significant in EIA terms.

10.6.10 Where an effect could be one of two gradings (for example where a Negligible impact interacts with a Medium sensitivity receptor resulting in a Neutral or Slight effect), professional judgement will be used to determine which effect is applicable and this will be explained in the associated commentary.

Table 10-6 Significance of effect matrix

		Magnitude of impact (degree of change)				
		No change	Negligible	Minor	Moderate	Major
Environmental value (sensitivity)	Very High	Neutral	Slight	Moderate or large	Large or very large	Very large
	High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral or slight	Slight	Moderate	Moderate or large
	Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
	Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight

## 10.7 Assessment assumptions and limitations

10.7.1 This assessment is in part based on published information which is generic to an area rather than specific to the M3 J9 Improvement site. Where this is the case professional judgement will be used to inform the assessment in terms of likelihood and scale of contamination associated with the identified land uses. This is accepted practice and therefore does not affect the robustness of the assessment.

10.7.2 The assessment in the ES will be based in part on the findings of ground investigation works. Ground investigation works are by their nature exploratory and there may be ground conditions at the M3 J9 Improvement site that have not been disclosed by the information reviewed or by the investigative work undertaken. Such undisclosed conditions cannot be taken into account in any assessment. This is accepted practice and therefore does not affect the robustness of the assessment.

10.7.3 Historical maps and aerial photographs used as part of the studies provide a 'snap shot' in time about conditions or activities within the proposed study area, and as such cannot be relied upon as indicators of any events or activities that may have taken place at other times.

10.7.4 It should also be noted that groundwater levels, groundwater chemistry, surface water levels, surface water chemistry, soil gas concentrations and soil gas flow rates can vary due to seasonal, climatic, tidal and man-made effects.

10.7.5 Only contamination from current and historical land-uses will be considered. It is assumed that the generation of new contamination during the construction phase will be minimised through measures required in an fiEMP.

10.7.6 The findings and interpretation of supplementary intrusive works and assessment required to support the discharge of DCO requirements will be incorporated into the final EMP to ensure that an appropriate level of mitigation is provided. Risk assessments to further characterise ground conditions and ground gas risks will be updated following additional investigation works and monitoring.

### 10.8 Elements to be scoped in/out

10.8.1 The elements to be scoped in to the EIA for Geology and Soils and out are in **Tables 10-7 and 10-8**.

*Table 10-7: Elements to be scoped in to the EIA for Geology and Soils*

Elements scoped in	Justification
Land stability	Compressible ground and dissolution features may be present in the proposed study area
Effects associated with ground contamination that could already exist	Contamination could be present as a consequence of existing on and off-site activities (e.g. historical landfills)
Effects associated with the potential for polluting substances to cause new ground contamination issues, e.g. contaminants introduced during construction/operation	Sensitive receptors have been identified within the proposed study area which could have the potential to be impacted by contaminants arising from the M3 J9 Improvement construction and / or operation
Impact to agricultural land	It has been identified that the Proposed Scheme would affect BMV land, thus further assessment will be undertaken within the ES.

Table 10-8: Elements to be scoped out of the EIA for Geology and Soils

Elements scoped out	Justification
Effects on geology as a valuable resource, i.e. sterilisation of mineral resources	Scoped out of the chapter on geology and soils explicitly. However, this assessment will be contained in <b>Chapter 11, Material Assets and Waste</b> .
Effects on geology and designated geological sites	There are no designated geological or geomorphological sites or features of conservation value in the immediate area affected by the Proposed Scheme.

## 11 Material Assets and Waste

### 11.1 Study area

11.1.1 The proposed study areas are defined with reference to Design Manual for Roads and Bridges (DMRB) LA 110 – Material assets and waste (Highways England, 2019), and will be agreed with the overseeing organisation. The assessment defines two geographically different study areas, used to examine the use of primary/ secondary/ recycled/ manufactured materials and the generation and management of waste.

11.1.2 The first study area comprises all land contained within the boundary of the Proposed Scheme, within which materials would be contained and waste generated and managed, including any areas identified for temporary uses. Such temporary land could include temporary storage areas for soils and other materials, construction compounds, haulage roads and land for temporary construction site drainage.

11.1.3 To allow determination of the significance of effects in line DMRB LA 110 – Material assets and waste (Highways England, 2019) guidance, the second study area (study area two) has been defined using professional judgement as being sufficient to identify:

- suitable recovery and waste management facilities that could accept arisings and/or waste generated by the Proposed Scheme
- feasible sources and availability of construction materials.

11.1.4 Study area two **Figure 11.1, Appendix 11.1**, provides the area for appreciation of raw material availability and relevant waste management facility capacity. This is considered on a regional basis as the south of England (inclusive of both the south-east and the south-west). This is in line with DMRB LA 110 – Material assets and waste (Highways England, 2019) guidance with consideration of the proximity principle and value for money. In the context of this chapter, the south of England is the region comprising Berkshire, Oxfordshire, Buckinghamshire, East Sussex, West Sussex, Hampshire, Surrey, Kent, Bristol, Cornwall, Dorset, Devon, Gloucestershire, Somerset and Wiltshire.

### 11.2 Baseline conditions

11.2.1 Receptor types likely to be at risk of impact under this topic heading are presented in **Table 11-1**.



Table 11-1: Material Assets and Waste Receptors

Receptor	Description
Material resources	<p>Primary materials and non-renewable resources should – in accordance with the principles of resource efficiency and the waste hierarchy – be protected wherever possible.</p> <p>The consumption of primary material depletes natural resources which in turn degrades the natural environment. Mechanisms to reduce the volume of primary materials consumed and increase sustainability benefits of materials used, should be deployed across a project lifecycle.</p>
Mineral Safeguarding Areas	Any mineral safeguarding areas and peat resources located in the first study area could be potentially at risk of being sterilised.
Waste Management Capacity	Waste needs to be managed appropriately to limit the impact on waste management capacity in a region. Also, landfill capacity is an increasingly scarce (sensitive) resource in England. Where potential exists to reduce the generation of waste and use best practice methods to divert it from landfill, associated opportunities should be taken.

### Material resources

#### *Availability of construction materials in the South of England*

11.2.2 **Table 11-2** (Defra 2016, South East Aggregates Working Party 2013, Mineral Products Association 2016, World Steel Organisation) provides a summary of the availability of the main construction materials in the south-east of England required to deliver typical highways schemes. **Table 11-2** provides the initial south-east context.

11.2.3 The assessment of impacts from the consumption of materials resulting from the Proposed Scheme will be undertaken using this data in combination with the south-west data once sourced. This will inform the ES and allow referenced data to be consistent with the application of the secondary study area.

Table 11-2: Materials availability in the South East of England (million tonnes / million metres cubed)

Material Type		South East of England
Aggregate	Sand and gravel *	18.8Mt
	Permitted crushed rock *	1.0Mt
Recycled and secondary aggregate (as part of 'Aggregate', above) *		3.7Mt (2013, consumption)
Ready-mix concrete +		5.9Mm <sup>3</sup>
Asphalt *		3.6Mm <sup>3</sup>
Concrete blocks #		5.8Mm <sup>3</sup>
Steel +		(no data)
# stocks	+ production	* sales

11.2.4 The sensitivity of specific construction materials (as determined by their regional availability) cannot be accurately determined without long-term trend information, the latter being unavailable at the time this Chapter was drafted. A Bill of Quantities (BoQ) will be established for the Proposed Scheme (and the associated data will then be used in conjunction with cumulative information) to more precisely establish the sensitivity of current stocks, production and sales of construction material types. This will be done in consultation with relevant statutory bodies.

11.2.5 Prior to the addition of the south-west data, the 2015 data available for the south-east on the general availability of construction materials indicate that the Proposed Scheme could be delivered without serious detriment to stocks/ production/ sales due to ample resource above what is likely to be required.

*Transfer, treatment and metal recycling in England and the South of England.*

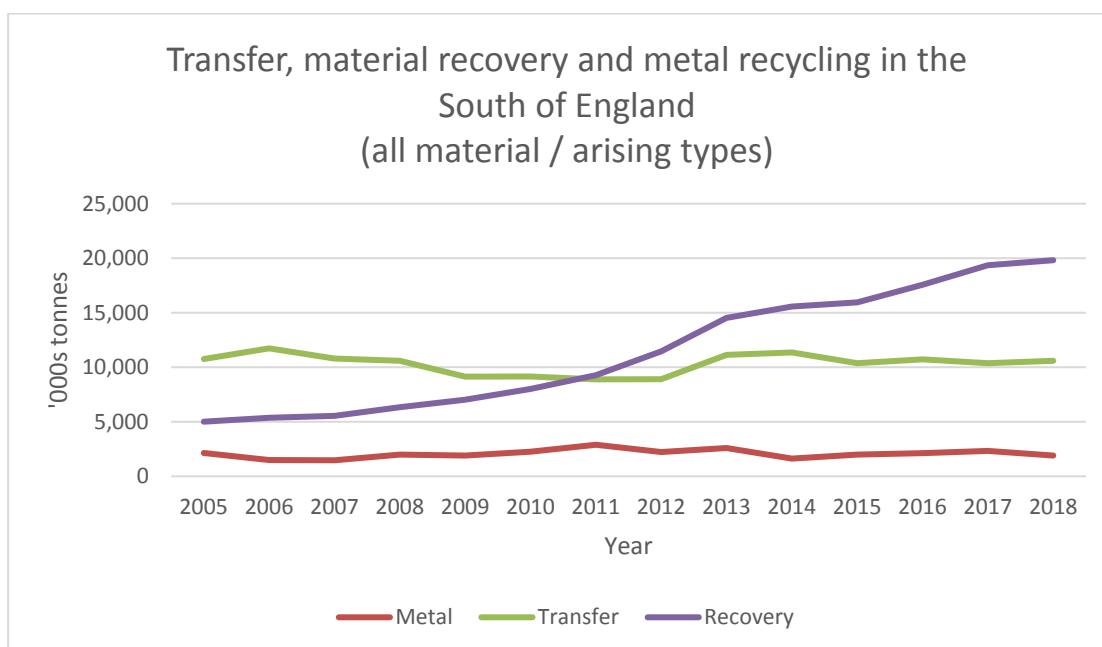
11.2.6 Defra's Waste Management Plan for England (2020b) data, **Table 11-3** show that within England, the recovery rate for non-hazardous construction and demolition arisings have remained above 92% since 2010. The EU target was for the UK to exceed 70% by 2020.

Table 11-3: Non-hazardous construction and demolition arisings recovery in England

Year	Generation (Mt)	Recovery (Mt)	Recovery rate (%)
2010	53.6	49.4	92.2%
2011	54.9	50.8	92.5%
2012	50.5	46.4	92.0%
2013	51.7	47.6	92.0%
2014	55.9	51.7	92.4%
2015	57.7	53.3	92.3%
2016	59.6	55.0	92.1%

11.2.7 No regional data for Construction, Demolition and Excavation (CDE) production or recovery rates is currently available for the South of England, see **Section 11.7 – Assumptions and limitations**.

11.2.8 **Inset Figure 11-1** below shows that rates of material recovery<sup>1</sup> within the South of England have risen steadily over the past 13 years. Metal recycling and transfer shows a consistent, and relatively flat profile. Data provided include all waste types in the region and hence include, but are not specific to, CDE arisings.



*Inset Figure 11-1 Transfer, material recovery and metal recycling in the South of England*

<sup>1</sup> Environment Agency, 2018. Waste Management in the England: Data Tables. Available at: <https://data.gov.uk/dataset/312ace0a-ff0a-4f6f-a7ea-f757164cc488/waste-data-interrogator-2018>

## Waste

### *Landfill - national, regional and local context*

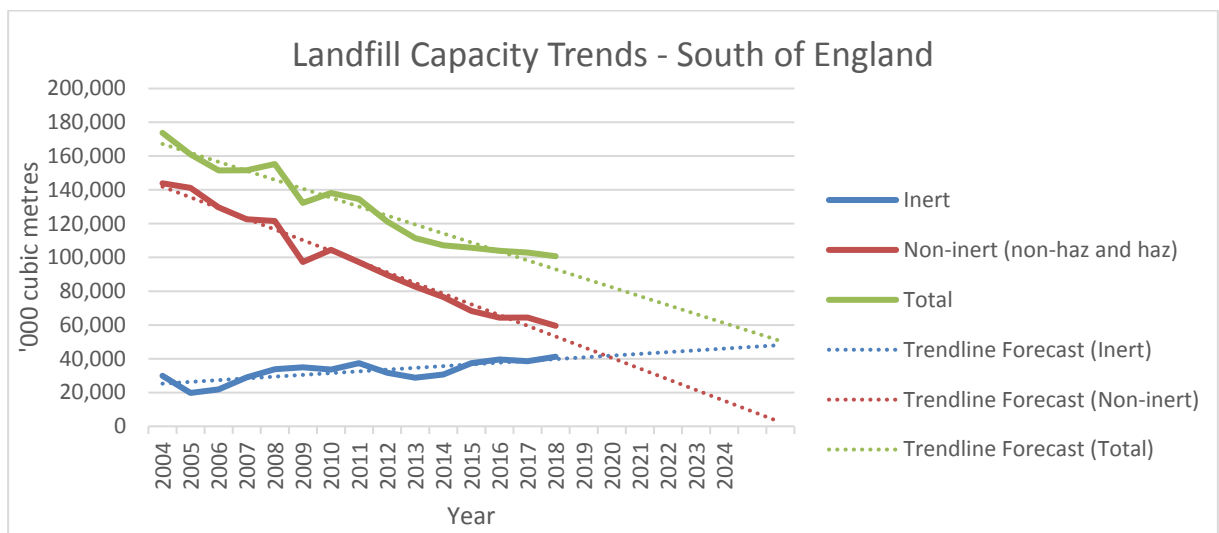
11.2.9 Environment Agency data demonstrate an increasing shortage of landfill capacity in England: 723M m<sup>3</sup> of capacity was recorded in 1998/99, and 405M m<sup>3</sup> in 2018, representing a 44% reduction over a period of 19 years.

11.2.10 At the end of 2018, 97 licensed landfill sites in South England were recorded as having 100.6M m<sup>3</sup> of remaining capacity (**Table 11-4**).

Table 11-4: Remaining landfill capacity, South England

Landfill type	Remaining capacity '000 m <sup>3</sup> (2018)
Hazardous (merchant and restricted)	1,921
Inert	41,184
Non-hazardous (including stable hazardous waste cells)	57,492
<i>Total</i>	100,597

11.2.11 **Inset Figure 11-2** below shows the remaining landfill capacity in the South of England<sup>2</sup> and uses simple extrapolation in MS Excel to indicate how this trend may continue in the absence of future recovery provision up to 2026.



Inset Figure 11-2 Landfill capacity trends in South England

11.2.12 Baseline data indicates that the total and non-inert landfill capacity in the South of England is likely to become an increasingly sensitive receptor over time. Simple extrapolation indicates that, by comparison with 2018 data and in the absence of future provision, non-inert capacity could fall as much by 100%, and total capacity by 50% by 2026.

11.2.13 Inert landfill capacity in South England increased by over 2.7Mt between 2017 and 2018.

<sup>2</sup> Environment Agency, 2018. Waste Management in the England: Data Tables. Available at: <https://data.gov.uk/dataset/312ace0a-ff0a-4f6f-a7ea-f757164cc488/waste-data-interrogator-2018>

### 11.3 Potential impacts

11.3.1 The Proposed Scheme has the potential to consume material resources (including those recovered from site arisings) and produce and manage waste during the construction of the Proposed Scheme.

11.3.2 **Table 11-5** describes the potential impacts of consuming material resources, including recovering site arisings, on mineral safeguarding areas and peat resources, and through the generation and management of waste. Due to the availability of information during early stages of development, it is not possible to provide quantitative information on the elements within **Table 11-5**. Such detail will be provided within the ES.

Table 11-5: Impacts from material assets and waste

Element	Timing	Impacts	Effect	Type
Material resources	Site preparation and construction	<p>The direct impact of using primary materials is the consumption of non-renewable environmental resources. Associated indirect impacts include the release of greenhouse gas emissions, water consumption and scarcity, environmental degradation and pollution, and nuisance to communities (visual, noise, dust).</p> <p>During site preparation works, timber, steel and other products would likely be required for the erection of perimeter fencing, and aggregate and stone would be likely to be needed for ground improvement at the M3 Junction 9 Improvement site, prior to use by heavy plant.</p> <p>During construction, a wide range of material resources would be required to deliver the Proposed Scheme, including:</p> <ul style="list-style-type: none"> <li>■ bulk materials for earthworks (volumes will be dependent on the cut and fill balance, which will be identified within the Environmental Statement (ES))</li> <li>■ road paving materials, including sub-base and bituminous products</li> <li>■ steel – for structures and sheet piling</li> </ul>	<p>Depletion of natural resources</p> <p>Degradation of the natural environment</p>	Adverse

Element	Timing	Impacts	Effect	Type
		<ul style="list-style-type: none"> <li>■ concrete including for pre-cast or prefabricated elements</li> <li>■ bricks and aggregate</li> <li>■ timber for fencing and formwork</li> <li>■ new street furniture and signage</li> <li>■ cabling</li> <li>■ other general construction materials</li> </ul> <p>Most non-contaminated site arisings generated during site preparation and construction (including any surplus from materials required to deliver the Proposed Scheme) would have the potential for diversion from landfill and be re-used on site where possible. In particular, bulk materials for earthworks, road paving materials, steel, concrete, bricks, aggregate, timber and cabling would be readily recoverable.</p>		
Mineral safeguarding areas and peat resources	Site preparation and construction	If the Proposed Scheme transects mineral safeguarding areas or peat resources, there would be potential for this resource to be impacted. For example, if a road scheme were to be built over a mineral safeguarded area it could mean that the resource could no longer be accessed, and any future extraction compromised. If peat resources are within the Proposed Scheme they would be likely to be damaged.	Potential sterilisation of mineral/ peat resources	Adverse



Element	Timing	Impacts	Effect	Type
Production and management of waste	Site preparation and construction	<p>The generation and management of waste directly impacts on the capacity of waste management facilities within the Region.</p> <p>Disposal to landfill has a range of indirect impacts, including the release of greenhouse gas emissions, environmental pollution and potential nuisance to communities (visual, noise, dust).</p> <p>Wastes generated during site preparation and construction would be likely to include:</p> <ul style="list-style-type: none"> <li>■ broken out concrete, cut steel and road surface planings (potentially hazardous waste).</li> <li>■ hazardous or contaminated material found on or at the surface of the site.</li> <li>■ vegetation and other above ground materials produced by site clearance (potentially including invasive weeds)</li> <li>■ surplus topsoil or subsoil materials</li> <li>■ hazardous or contaminated material found on or beneath the site.</li> <li>■ green bio-waste</li> <li>■ timber</li> </ul>	<p>Reduction in the capacity of waste management facilities in the region.</p> <p>Reduction in the remaining capacity of landfill facilities in the region.</p>	Adverse

Element	Timing	Impacts	Effect	Type
		<ul style="list-style-type: none"> <li>■ concrete, bricks and aggregate waste</li> <li>■ road paving materials including sub- base and bituminous products</li> <li>■ hazardous or contaminated material found or generated on site</li> <li>■ cabling</li> <li>■ redundant street furniture and signage</li> <li>■ steel waste e.g. safety barriers</li> <li>■ general construction waste e.g. packaging, ducting.</li> </ul>		
Material resources, site arisings and waste	Operation	<p>During future maintenance, renewal, or improvement works of the Proposed Scheme, the potential to consume material resources and produce and treat / dispose of waste could be required. The scale of any future maintenance, renewal, or improvement works is not currently known. However, given the scale of the Proposed Scheme it is unlikely that consumption of material resources and generation of waste would have the potential to result in significant adverse effects.</p>	As above, but anticipated to be less than during construction	Adverse

## Operation material use and waste

11.3.3 It is not anticipated that there would be large quantities of material resource use or waste generation associated with operation and maintenance of the Proposed Scheme. Therefore, the effect of material use and waste generation from the Proposed Scheme, although adverse, is not anticipated to be at a scale which could result in likely significant effects and is therefore proposed to be scoped out.

### 11.4 Design, mitigation and enhancement measures

11.4.1 Potential design, enhancement and other mitigation measures that could be adopted by the Proposed Scheme, are set out in **Table 11-6**.

*Table 11-6: Design, enhancement and other mitigation measures*

Project activity	Mitigation and enhancement measures	Lifecycle stages
Material resources	Identification and specification of materials that can be acquired responsibly, in accordance with BES 6001 Responsible Sourcing of Construction Products	Design, construction
	Design for resource optimisation: simplifying layout and form, using standard sizes, balancing cut and fill, maximising the use of renewable materials and materials with recycled or secondary content, and setting material balance as a goal	Design
	Design for off-site construction: maximising the use of pre-fabricated structures and components	Design
	Design for the future: considering how materials can be designed to be more easily adapted over an asset's lifetime, and how deconstruction and demounting of elements can be maximised at end-of-first-life	Design
	Design for recovery and re-use: identifying, securing and using materials at their highest value, whether they already exist on site, or are sourced from other locations.	Design
	Identify opportunities to minimise the export and import of materials	Design, construction
	Identify areas for stockpiling and storing arisings in a manner minimising quality degradation and leachate, and damage and loss	Design, construction

Project activity	Mitigation and enhancement measures	Lifecycle stages
	Making sure potential arisings and waste are properly characterised before or during design, to maximise the potential for highest value reuse	Design
	Implement a Materials Management Plan in accordance with the CL:AIRE Definition of Waste: Code of Practice	Construction
Production and management of waste	Engage early with contractors to identify possible mitigation measures, and to identify opportunities to reduce waste through collaboration and regional synergies	Design, Procurement
	Working to a proximity principle, ensuring arisings generated are handled, stored, managed and re-used or recycled at one of the nearest appropriate installations.	Design, construction
	Capture information and data on waste sent to landfill, by developing a Design Site Waste Management Plan	Design
	Capture information and data on site arisings recovered and diverted from landfill, by developing a Design Site Waste Management Plan	Design

## 11.5 Description of likely significant effects

11.5.1 **Table 11-7** provides a description of the likely significance of effects from material assets and waste.

*Table 11-7: Likely significant effects*

Element	Description of likely significance of effect
Material resources	<p>The consumption of material resources has the adverse effect of depleting natural resources and degrading the natural environment.</p> <p>DMRB guidance<sup>3</sup> defines a significant effect as less than 70% overall material recovery/ recycling (by weight) of non-hazardous construction and demolition waste to substitute use of primary materials. Or aggregates required to be imported to site comprise re-used/ recycled content below the local target of 26%<sup>4</sup>.</p> <p>Given the size of the Proposed Scheme and based on professional judgement an adverse significant effect from materials would be unlikely. However, until the Proposed Scheme's material quantities have been</p>

<sup>3</sup> Standards for Highways (2020). Design Manual for Roads and Bridges (DMRB). LA 110 – Material Assets and Waste

<sup>4</sup> ISBN 978-1-4098-1589-1 2009 [Ref 3.N]

Element	Description of likely significance of effect
	<p>determined the effect on material resources cannot be confirmed. This will be part of the ES submission following consultation with relevant stakeholders.</p> <p>Based on the scale and nature of the Proposed Scheme, there is a potential to generate value by recovering site arisings and diverting them from landfill.</p>
Mineral Safeguarding Areas	<p>The latest Highways England guidance<sup>5</sup> defines a significant effect as one which sterilises greater than or equal to 1 mineral safeguarding site and/or peat resource.</p> <p>Mineral resources comprising of sharp sand and gravel are located in the vicinity of the River Itchen in the northern part of the Proposed Scheme. Therefore, there is the potential for the Proposed Scheme to have an adverse impact on a mineral safeguarding area.</p>
Production and management of waste	<p>For the generation and management of waste, a potential impact is the risk of reduction of waste management or disposal facilities capacity. For the effect to be significant the latest Highways England guidance<sup>6</sup> defines that the waste generated would need to reduce or alter the regional capacity by more than 1% and require disposal outside of the region of 1-50% of the project waste. Given the size of the Proposed Scheme, and with appropriate mitigation, based on professional judgement, it is considered unlikely that there would be any significant effects with respect to impact on waste management capacity within the South of England. However, until the Proposed Scheme's waste quantities have been determined the effect of waste generation cannot be confirmed. This will be part of the ES submission following consultation with relevant stakeholders.</p>

11.5.2 Residual operational effects would not be expected to be significant for material resources and waste, therefore operational effects are not considered further in the assessment.

11.5.3 The extent to which effects (including residual effects) are significant will be further determined during the Environmental Impact Assessment (EIA) and reported within the ES.

<sup>5</sup> Standards for Highways (2020). Design Manual for Roads and Bridges (DMRB). LA 110 – Material Assets and Waste

<sup>6</sup> Standards for Highways (2020). Design Manual for Roads and Bridges (DMRB). LA 110 – Material Assets and Waste

## 11.6 Assessment methodology

### Policies and plans

11.6.1 Planning policies and guidance that are relevant to the Proposed Scheme include:

- National Policy Statement for National Networks (NPSNN) (DfT, 2014)
- Waste Management Plan for England (Defra, 2020)
- A Strategy for Hazardous Waste Management in England (2010)
- National Planning Policy Framework (NPPF) (2019): Paragraph 8 (Achieving sustainable development); paragraphs 203, 205 and 206 (Facilitating the sustainable use of minerals)
- National Planning Policy for Waste (2014) Paragraph 8 (non-waste development)
- Winchester District Local Plan Part 1 – Joint Core Strategy (2013): Policy DS1 (Development Strategy and Principles)
- Winchester District Draft Local Plan 2018 – 2038 (Emerging)
- Hampshire Minerals and Waste Plan (2013): Policy 1 (Sustainable mineral and waste development), Policy 15 (Safeguarding – mineral resources), Policy 18 (Recycled and secondary aggregates development)
- South Downs Local Plan (2019): Core Policy SD2 (Ecosystems Services)

### Guidance

11.6.2 The material requirements and level of waste generated by construction of the Proposed Scheme is not known due to the limited design information available at this stage in the design process. Therefore, there could potentially be environmental impacts from the use and consumption of materials and the production and management of waste during construction.

11.6.3 Based on the initial review at this stage, it is recommended that the materials and wastes from the construction phase of the Proposed Scheme are assessed further.

11.6.4 DMRB LA 110 – Material assets and waste (Highways England, 2019) requires that further assessment should be carried out in order to gather together the data and information required to assess and in turn address potential effects identified through this scoping exercise. This will enable an understanding of any likely environmental effects to inform the final design.

11.6.5 The assessment will focus on the environmental impacts and effects arising from construction in the form of depletion of natural resources, the generation

and management of waste on site, potential impacts on the available landfill void capacity, and the alignment of the Proposed Scheme with the legislative and policy framework for sustainable development, material resources and waste.

11.6.6 The assessment is largely a desk-based exercise and, for the purposes of the materials and waste topic, the following issues will be identified and assessed:

- any potential impact or sterilisation of mineral resources
- the materials required for the project and, where information is available, the quantities
- the anticipated waste arisings from the project and, where information is available, the quantities and type (e.g. inert / hazardous)
- impacts arising from the issues identified in the scoping exercise in relation to materials and waste
- the results of any consultation

11.6.7 The method of assessment will depend on the level of detail on the Proposed Scheme at the time of the assessment. Where detailed information about the types and quantities of materials and waste is available (i.e. in the form of a detailed bill of quantities for example), then further assessment should be carried out where the quantities identified indicate the likelihood of a significant effect. This is in line with the expectation outlined within DMRB LA 110 – Material assets and waste (Highways England, 2019) (Section 3 – Assessment methodology).

11.6.8 Further assessment will comprise a qualitative and quantitative exercise using available forecast data and information (as provided by the appointed designer and other Scheme delivery partners) which for material assets will aim to identify the following:

- The types and quantities of materials required for the project
- Information on materials that contain secondary/ recycled content
- Information on any known sustainability credentials of materials to be consumed
- The type and volume of materials that will be recovered from off site sources for use on the project
- The cut and fill balance
- Details of on-site storage and stockpiling arrangements, and any supporting logistical details.

11.6.9 For waste, the assessment will aim to identify the following:



- The amount of waste (by weight) that will be recovered and diverted from landfill either on site or off site (i.e. for use on other projects)
- Types and quantities of waste arising from the project (site preparation, excavation arisings and remediation) requiring disposal to landfill
- Details of on site storage and segregation arrangement for waste and any supporting logistical arrangements
- Potential for generation of hazardous waste (type and quantity)

#### **Assessment methodology: material resources and mineral safeguarding sites**

- 11.6.10 An assessment of the impacts of consuming material resources required during site construction will be undertaken by considering the origins and sources of materials, including their general availability (production, stock, sales) and the proportion of re-used or recycled materials they contain.
- 11.6.11 The assessment will take the relative volume of material resources that need to be consumed for the Proposed Scheme into account. The assessment will evaluate the impacts and effects of the Proposed Scheme understanding that – typically - the larger a development footprint and associated groundworks, the greater the requirement to consume materials.
- 11.6.12 The assessment will identify and assess the potential impact of the Proposed Scheme on mineral safeguarding areas.
- 11.6.13 Site arisings (from site preparation/ remediation/ excavation/ construction activities) will be evaluated as part of the assessment of material resources, to determine the volume of excavations that can be retained for re-use or (as a last resort) be sent to landfill as waste. The assessment will take into account the nature of impacts (adverse/beneficial, permanent/temporary, direct/indirect) from material resources and site arisings. If further assessment is carried out the effects on material resources and mineral safeguarding areas shall be assessed in accordance with **Table 11-8**. The significance of effects on material resources and mineral safeguarding areas will be reported in accordance with the criteria set out in **Table 11-9**.

#### **Assessment methodology: waste**

- 11.6.14 An assessment of the remaining landfill capacity in the South of England will be used to determine the impacts of waste generated during the Proposed Scheme delivery and the first full year of operation.
- 11.6.15 The assessment will consider the volume of waste generated by the Proposed Scheme and its potential impact on remaining landfill capacity. This will be completed for inert and non-inert (non-hazardous and hazardous) waste types.



11.6.16 The assessment will take the nature of impacts (adverse/ beneficial, permanent/ temporary, direct/ indirect) from waste generated and treated/disposed of into account and where further assessment is carried out the effects on the generation of waste will be assessed in accordance with **Table 11-8**. The significance of effects from the generation of waste from the Proposed Scheme will be reported in accordance with the criteria set out in **Table 11-9**.

### Assessing the significance of effect

11.6.17 DMRB LA 110 – Material assets and waste (Highways England, 2019) guidance sets out how effects associated with material assets and waste should be assessed. The descriptions provided in **Table 11-8** are taken directly from the guidance and will be used to assess the effects of material assets and waste on the Proposed Scheme.

11.6.18 Where required professional judgement will be used to determine the significance of effects, and any conclusions will be justified and explained with the ES.

Table 11-8: Impacts and effects from material assets and waste

Magnitude of impact	Description
Neutral	<p>Material Assets</p> <ul style="list-style-type: none"> <li>■ Project achieves &gt;99% overall material recovery/ recycling (by weight) of non-hazardous Construction and Demolition Waste (CDW) to substitute use of primary materials</li> <li>■ Aggregates required to be imported to site comprise &gt;99% re-used/ recycled content</li> </ul> <p>Waste</p> <ul style="list-style-type: none"> <li>■ No reduction or alteration in the capacity of waste infrastructure at a regional scale</li> </ul>
Slight	<p>Material Assets</p> <ul style="list-style-type: none"> <li>■ Project achieves 70-99% overall material recovery/ recycling (by weight) of non-hazardous CDW to substitute use of primary materials</li> <li>■ Aggregates required to be imported to site comprise re-used/ recycled content in line with the 26% target regional target</li> </ul> <p>Waste</p> <ul style="list-style-type: none"> <li>■ ≤ 1% reduction or alteration in the regional capacity of landfill</li> </ul>

Magnitude of impact	Description
	<ul style="list-style-type: none"> <li>■ Waste infrastructure has sufficient capacity to accommodate waste from a project, without compromising the integrity of the receiving infrastructure (design life or capacity) within the region</li> </ul>
Moderate	<p>Material Assets</p> <ul style="list-style-type: none"> <li>■ &lt;70% overall material recovery/ recycling (by weight) of non-hazardous CDW to substitute use of primary materials</li> <li>■ Aggregates required to be imported to site comprise re-used/ recycled content below the 26% regional target</li> </ul> <p>Waste</p> <ul style="list-style-type: none"> <li>■ &gt;1% reduction or alteration in the regional capacity of landfill as a result of accommodating the waste from the project</li> <li>■ 1-50% of project waste requires disposal outside of the region</li> </ul>
Large	<p>Material Assets</p> <ul style="list-style-type: none"> <li>■ &lt;70% overall material recovery/ recycling (by weight) of non-hazardous CDW to substitute use of primary materials</li> <li>■ Sterilises <math>\geq 1</math> mineral safeguarding site and/or peat resource</li> <li>■ Aggregates required to be imported to the site comprise &lt;1% reused/ recycled content</li> </ul> <p>Waste</p> <ul style="list-style-type: none"> <li>■ &gt;1% reduction in the regional capacity of landfill as a result of accommodating waste from the project</li> <li>■ &gt;50% of project waste requires disposal outside of the region</li> </ul>
Very Large	<p>Material Assets</p> <ul style="list-style-type: none"> <li>■ No criteria: use criteria for large category</li> </ul> <p>Waste</p> <ul style="list-style-type: none"> <li>■ &gt;1% reduction or alteration in national capacity of waste infrastructure, as a result of accommodating waste from the project</li> <li>■ The project would require new (permanent) waste infrastructure to be constructed to accommodate waste</li> </ul>

11.6.19 Significance of effects on material assets and waste will be reported in accordance with the criteria set out in the DMRB LA 110 – Material assets and waste (Highways England, 2019) guidance and **Table 11-9**.

*Table 11-9: Significance criteria for material assets and waste*

Significance	Description
Not significant	Material assets <ul style="list-style-type: none"> <li>■ Category description met for neutral or slight effect</li> </ul> Waste <ul style="list-style-type: none"> <li>■ Category description met for neutral or slight effect</li> </ul>
Significant (one or more criteria met)	Material assets <ul style="list-style-type: none"> <li>■ Category description met for moderate or large effect</li> </ul> Waste <ul style="list-style-type: none"> <li>■ Category description met for moderate, large or very large effect</li> </ul>

## 11.7 Assessment assumptions and limitations

11.7.1 CDE figures at a national level is accessible through the publicly available Waste Data Interrogator Database (EA, 2018). Defra does not publish CDE figures at a regional level. This database is held and operated by the Environment Agency.

11.7.2 Until such a time that CDE generation and recovery rates by region are available, transfer (non-civic), recovery and metal recycling data (available through the Waste Data Interrogator Database) will be used as the closest possible proxy.

11.7.3 Waste management operators can claim commercial confidentiality for their data at the time they are requested to provide inputs for the Waste Data Interrogator Database. Data for sites with commercial confidentiality in place are therefore unavailable for the analyses presented in this chapter.

11.7.4 The absence of the above data is not expected to materially influence the outcome of the assessment of material assets and waste. Where new data to fill the stated gaps is identified, they will be used during the assessment process and reported within the ES.

## 11.8 Elements to be scoped in/out

11.8.1 The elements to be scoped into the EIA for Material Assets and Waste are in **Table 11-10**.

*Table 11-10 Elements to be scoped into the EIA for Material Assets and Waste*

Elements scoped in	Justification
The consumption of materials and products (from primary, recycled or secondary, and renewable sources, and including material resources offering sustainability benefits) including the generation and use of arisings recovered from site	Until the Proposed Scheme's material quantities have been determined the effect on material resources cannot be confirmed, thus is scoped in to the assessment.
The production and management of waste to regional waste management facilities	Until the Proposed Scheme's waste quantities have been determined the effect of waste generation cannot be confirmed, thus is scoped in to the assessment.
The impact on mineral safeguarding areas and peat resources	Until the impact of the Proposed Scheme on mineral safeguarding areas can be determined, the effect on mineral safeguarding areas cannot be confirmed, thus is scoped in to the assessment.

11.8.2 The elements to be scoped out of the EIA for Material Assets and Waste are in **Table 11-11**.

*Table 11-11: Elements to be scoped out of the EIA for material assets and waste*

Elements scoped out	Justification
Materials consumption and waste generation and management during operation	Impacts and associated effects have been deemed not to be potentially significant.

## 12 Noise and Vibration

### 12.1 Study area

#### Construction Noise

12.1.1 The study area for the assessment of construction noise will be defined in accordance with the guidance in Design Manual for Roads and Bridges (DMRB), LA 111(LA 111 - Revision 2) (Highways England, 2020), as follows:

- A study area of 300m from the closest construction activity is normally sufficient to encompass noise sensitive receptors
- A diversion route study area will be defined where a project requires full carriageway closures during the night (23:00 – 07:00) to enable construction works to take place
- A diversion route study area will be defined to include a 25m width from the kerb line of the diversion route
- A construction traffic study area will be defined to include a 50m width from the kerb line of public roads with the potential for an increase in baseline noise level of 1dBA or more as a result of the addition of construction traffic to existing traffic levels.

12.1.2 The final study area is not yet known, and a plan identifying the study area will be depicted as part of the Environmental Statement (ES).

#### Construction Vibration

12.1.3 The study area for the assessment of construction vibration will be defined in accordance with the guidance in DMRB, LA 111 (LA 111 - Revision 2) (Highways England, 2020), as follows:

12.1.4 A study area of 100m from the closest construction activity with the potential to generate vibration is normally sufficient to encompass vibration sensitive receptors.

12.1.5 The final study area is not yet known, and a plan identifying the study area will be depicted as part of the ES.

#### Operational Noise

12.1.6 The study area for operational road traffic effects will be defined in accordance with the guidance in DMRB, LA 111 (LA 111 - Revision 2) (Highways England 2020), as follows:

- 1) The area within 600m of new road links or road links physically changed or bypassed by the project;

2) The area within 50m of other road links with potential to experience a short-term Basic Noise Level (BNL) change of more than 1dBA as a result of the project.

12.1.7 The study area for operation road traffic will ultimately be defined through a combination of the Proposed Scheme footprint and the predicted change in traffic flows to determine affected links, whether those lie within the main study area or within the wider road network.

12.1.8 The final study area is not yet known, and a plan identifying the study area will be depicted as part of the ES.

### **Other Impacts**

12.1.9 As per paragraph 2.3 of DMRB, LA 111 (LA 111 - Revision 2) (Highways England, 2020), the assessment of whether noise and/or vibration levels generated by the Proposed Scheme gives rise to, or contributes to, a likely significant effect shall be considered for biodiversity, landscape and cultural heritage resources within the relevant chapters, as well as recreational facilities. Consideration to noise and vibration impacts will also be given within the Population and Health chapter.

## **12.2 Baseline conditions**

### **Existing noise climate**

12.2.1 The existing noise climate varies across the study area. The noise climate across much of the study area is dominated by road traffic noise, particularly the areas close to the M3, A34, and A33. However, the study area also includes relatively large areas where there are no major roads and, as such, these areas are exposed to lower noise levels.

12.2.2 In addition to road traffic noise, there will be localised noise from commercial areas clustered around the west side of Junction 9, as well as some limited noise associated with aircraft arriving at and departing from Southampton Airport. The train line running from Winchester, northwards to Basingstoke lies in excess of 1 km to the west of the motorway junction; consequently it is considered unlikely that rail noise will significantly affect the existing noise climate in the calculation area. These assumptions will be revisited once the model calculation area has been defined.

12.2.3 The existing road traffic noise climate within the calculation area has been determined at PCF Stage 2 using a 3D noise model, populated with traffic flow data.

12.2.4 Baseline environmental sound monitoring was undertaken in 2019, with the positions agreed with the Environmental Health Officer (EHO) at Winchester City Council (WCC). Full details of the measurements are not available at this time, and therefore further environmental sound surveys are proposed. The

proposed measurement locations will be confirmed with Winchester City Council’s Environmental Health Officer (EHO).

12.2.5 It is anticipated that baseline noise monitoring will be undertaken at locations close to the M3 and A34. The M3 and A34 is the main corridor between the Midlands and north carrying freight traffic from Southampton and Portsmouth Docks. Substantial volumes of Heavy Goods Vehicle (HGV) traffic are likely, particularly at night. Evaluation of daytime and night-time noise levels from measured data, will be used to assist in the accuracy of predictions for the night-time period using the Transport Research Laboratory (TRL) methods within DMRB, LA 111 (LA 111 - Revision 2) (Highways England, 2020).

12.2.6 The extent of, and locations for, baseline sound monitoring will be agreed with the EHO at Winchester City Council in advance of the survey.

**Noise sensitive receptors**

12.2.7 In accordance with the DMRB, LA 111 (LA 111 - Revision 2) (Highways England 2020), examples of sensitive receptors include dwellings, hospitals, healthcare facilities, education facilities, community facilities, European Noise Directive (European Commission, 2002) (END) quiet areas or potential END quiet areas, international and national or statutorily designates sites, public rights of way and cultural heritage assets.

12.2.8 In addition to the list of example receptors with DMRB, LA 111 (LA 111 - Revision 2) (Highways England, 2020, ecological receptors and commercial premises will be considered as noise sensitive receptors. The sensitivity of commercial premises to noise and vibration will be considered as part of the assessment. The sensitivity of ecological receptors and noise and vibration impact will be considered within the Biodiversity chapter.

12.2.9 A summary of potentially sensitive receptors identified as lying within the calculation area is provided in **Table 12-1**. The calculation area, study area and sensitive receptors will be re-visited during the Environmental Impact Assessment (EIA) and agreed through consultation with WCC.

*Table 12-1 Potentially sensitive receptors*

<b>Potentially Sensitive Receptors</b>	
Residential Areas	Headborne Worthy
	Kings Worthy
	Easton Village
	Eastern fringes of Winchester, including (from north to south) Winnall, St Giles Hill and Highcliffe
Nursery Schools	Springvale Playgroup, St Marys Church, Kingsworthy, SO23 7QL



	Sparklers Sure Start Children's Centre, Winnall Community Centre, Winchester SO23 0NY
	Yellow Dot Nursery, Wales Street, Winchester, SO23 0ET
	Stepping Stones Preschool, Winnall Community Centre, Winchester SO23 0NY
Primary Schools	Winnall Primary School, Winchester SO23 0NY
	St Swithun's Junior School, Winchester SO23 1HA
Secondary Schools, Colleges and Further Education (FE)	St Swithun's Senior School, Winchester SO23 1HA
Healthcare Facilities	Leigh House Hospital
Places of Worship	Kingdom Hall, Winchester SO23 0NY
	St Swithun's Church, Headborne Worthy SO23 7JX
	St Mary's Church, Kings Worthy SO23 7QL
Scheduled Monuments	Round barrow cemetery on Magdalen Hill Down
	Site of St Gertrude's Chapel
Designated Areas	South Downs National Park (SDNP)
	River Itchen Site of Special Scientific Interest (SSSI)
	River Itchen Special Area of Conservation (SAC)
Public Rights of Way (PRoW)	Itchen Way
	St Swithun's Way
	Three Castles Path
	Allen King Way
	South Downs Way
Commercial Areas	Winnall Industrial Estate
	Premises off London Road, adjacent to A34

### Vibration Sensitive Receptors

12.2.10 Vibration sensitive receptors are considered to be any noise sensitive receptor within the construction vibration study area, inclusive of ecological receptors.



## Noise Important Areas (NIAs)

12.2.11 The current Noise Action Plan for major roads (Defra, 2019b) outlines a number of NIAs at Round 3 of the UK noise mapping project, identified in accordance with the requirements of the EU Environmental Noise Directive and associated English regulations. The Round 3 NIA's include the top 1% of the population, in terms of exposure to road traffic noise (LA<sub>10, 18h</sub>).

12.2.12 The Round 3 NIAs for both Highways England and local authority maintained roads are available under the Open Government Licence (Defra, 2020). The Round 3 NIAs within (whether partially or wholly) the calculation area defined for the Project Control Framework (PCF) Stage 2 assessment are set out below. Note that this list will be updated once the calculation area has been confirmed for the ES.

- NIA4006, M3, north of Junction 9 – owned by Highways England
- NIA4007, A34, north of Junction 9 – owned by Highways England
- NIA4008, M3, south of Junction 9 – owned by Highways England

12.2.13 In accordance with the provisions of the Round 3 Noise Action Plan for Roads and the objectives of the Road Investment Strategy 2: 2020-2025 (RIS) (DfT, 2020), it is understood that the aim should be to bring about improvements to the noise environment in these areas. The NIAs can be seen in **Figure 2.2, Appendix 2.1**.

## 12.3 Potential impacts

### Construction effects

12.3.1 Temporary noise and vibration effects can be defined as those that would occur between the start of advance works and end of the construction period. Typical construction effects might include a localised increase in noise and/or vibration and a loss of amenity due to the presence of construction traffic. Although temporary, construction-related effects could nevertheless require mitigation.

12.3.2 The following are generally applicable to temporary construction related effects:

- The area where construction disruption tends to be more localised than the effects of the Proposed Scheme once it has opened to traffic
- It has been shown that disturbance arising from construction diminishes rapidly with distance
- The duration of the effects is important when considering the potential for disturbance.

12.3.3 Construction activities such as piling, breaking and site preparation, could cause high levels of noise and vibration. Whether such levels might cause significant effects would depend on other factors such as the time of day, duration and proximity of receptors. The ES will clearly set out anticipated construction details such as programme, night time working, duration, plant and equipment. Consideration will be given to construction noise and vibration effects on sensitive ecological receptors.

### **Operational effects**

12.3.4 The level of road traffic noise affecting any receptor is dependent on a number of variables, all of which are accounted for within the road traffic noise prediction methodology. In summary these are:

- Traffic related factors: volume, speed and composition of vehicles
- Road related factors: surface (e.g. concrete or bituminous) and gradient
- Propagation factors: distance, the presence of screening and type of ground cover (for example new or removed vegetation) intervening between the road and any receptor
- Receptor specific factors: view of the road and reflections.

12.3.5 Therefore, should any of these factors alter, such as changes along an existing road, or with the introduction of a new length of carriageway, then noise levels would also be likely to change. Individually, these variables could cause noise levels to increase or decrease for any receptor.

## **12.4 Design, mitigation and enhancement measures**

12.4.1 A mitigation strategy will be developed during the EIA to minimise any residual noise and vibration impacts during construction and these will be set out in an outline Environmental Management Plan (EMP). This will include a requirement on the Contractor to apply Best Practicable Means (BPM).

12.4.2 Mitigation measures will need to be considered in the EIA to minimise any noise impact arising from the operation of the Proposed Scheme. The requirement for environmental noise barriers and low noise road surfaces will be considered to minimise effects to receptors. However, it should be noted that mitigation measures such as these would be development in conjunction with other EIA topics/constraints such as ecology and landscape.

12.4.3 In accordance with Infrastructure Planning (EIA) Regulations 2017 (as amended) (the EIA Regulations), the Environmental Management Plan (EMP) may contain a requirement for noise monitoring to be undertaken once the Proposed Scheme is open to traffic, if significant residual adverse effects are identified. If required, the methodology will be agreed with the EHO at WCC including appropriate actions to be taken depending on the results of the monitoring.

## 12.5 Description of likely significant effects

12.5.1 Given the proximity of sensitive human and ecological receptors to the Proposed Scheme, allied to the scale and complexity of the works, it is considered that there could be potential for adverse effects to occur during the construction phase. This conclusion would be reinforced should any night-time or Sunday/Bank Holiday working be required.

12.5.2 It is understood that a length of the M3 could require temporary closure on occasion during the construction phase. During such times, diversion routes would be in operation leading to a temporary increase in noise levels at receptors along these routes. A qualitative assessment will be undertaken, based on the duration criteria in BS 5228-1 (BSI, 2009a), to determine whether the number of times the diversion routes are in operation would cause a significant effect. Where feasible, mitigation measures to minimise any adverse effects will also be identified.

12.5.3 Given the proximity of sensitive human and ecological receptors to the Proposed Scheme, it is considered likely that some sensitive receptors could experience adverse impacts during operation, particularly those located on Easton Lane.

12.5.4 Residual effects will be determined following the completion of the EIA.

12.5.5 The EIA will determine whether the Proposed Scheme meets the aims of the NPSE:

- "Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development
- Avoid significant adverse impacts on health and quality of life
- Mitigate and minimise adverse impacts on health and quality of life
- Where possible, contribute to the improvement of health and quality of life."

## 12.6 Assessment methodology

### Policies and plans

12.6.1 Planning policies and guidance that are relevant to the Proposed Scheme include:

- National Policy Statement for National Networks (NPS NN) (DfT, 2014): Paragraphs 5.186 to 5.200 (Noise and Vibration)
- National Planning Policy Framework (NPPF) (2019): Paragraphs: 170 (Conserving and enhancing the natural environment) and 180 and 182.

(Conserving and enhancing the natural environment – Ground conditions and pollution); and associated Planning Practice Guidance for ‘Noise’ (2014)

- Noise policy statement for England (NPSE): The NPSE was published in March 2010 by the Department for Environment Food and Rural Affairs (Defra) and is the overarching statement of noise policy for England
- Noise Action Plan (outside first round agglomerations), Environmental Noise (England) regulations 2006 as amended, 2010, Defra – Defra produced the Noise Action Plan in March 2010 to address the effects of noise from major roads in England under the terms of the Environmental Noise (England) Regulations 2006
- Winchester Local Plan Review (adopted 2006) - Saved Policies: Policy DP.3 General design criteria, Policy DP.11 Unneighbourly uses
- Winchester District Local Plan Part 1 – Joint Core Strategy (2013): Policy DS1 (Development Strategy and Principles) and Policy MTRA4 Development in the Countryside
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (2017): Policy DM17 (Site Development Principles); Policy DM19 (Development and Pollution); Policy DM20 (Development and Noise); and, Policy DM23 (Rural Character)
- Winchester District Draft Local Plan 2018 – 2038 (Emerging)
- South Downs Local Plan (2019): Strategic Policy SD1 (Sustainable Development); Strategic Policy SD3 (Major Development); Strategic Policy SD5 (Design); Strategic Policy SD7 (Relative Tranquillity); and, SD54 (Pollution and Air Quality).

12.6.2 The following policy and guidance will underpin the assessment and be described in the EIA. Where any document has particular relevance to this Scoping Report, details are set out in the following paragraphs:

- National Planning Policy Framework (NPPF)
- Noise Policy Statement for England (NPSE)
- Planning Practice Guidance (PPG)
- National Policy Statement for National Networks (NPS NN) (DfT, 2014)
- Road Investment Strategy 2 (RIS): for the 2020-2025 Road Period
- Highways England: Licence

12.6.3 The NPSE was published in March 2010 by the Department for Environment Food and Rural Affairs (Defra) and is the overarching statement of noise policy for England.

12.6.4 The Explanatory Note to the NPSE introduces three concepts to the assessment of noise in England:

- NOEL - No Observed Effect Level - This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise
- LOAEL - Lowest Observable Adverse Effect Level - This is the level above which adverse effects on health and quality of life can be detected
- SOAEL - Significant Observed Adverse Effect Level - This is the level above which significant adverse effects on health and quality of life occur.

12.6.5 None of these three levels are defined numerically in the NPSE and for the SOAEL the NPSE makes it clear that the noise level is likely to vary depending upon the noise source, the receptor and the time of day/day of the week. The need for more research to investigate what may represent a SOAEL for noise is acknowledged and the NPSE asserts that not stating specific SOAEL values provides policy flexibility in the period until further evidence and guidance is published.

12.6.6 The Department for Transport's Road Investment Strategy (RIS) 2 was published in March 2020 and sets out policies relating to the strategic planning and funding of the road network. The RIS identifies a target to improve noise levels through the management and redevelopment of Highways England assets, via low noise road surfacing, noise barriers etc.

### **Methodology**

12.6.7 LA 111 (LA 111 - Revision 2) (Highways England, 2020) requires that the determination of appropriate levels of assessment for operational road traffic and noise and vibration effects with reference to the following thresholds, where upon a 'further' assessment should be undertaken:

- Construction noise – does construction noise generated by the project have the potential to adversely affect any noise sensitive receptors?
- Construction noise – are there any noise receptors where there would be a reasonable stakeholder expectation that a construction noise assessment would be undertaken?
- Construction vibration – does vibration from construction have the potential to adversely affect any vibration sensitive receptors?
- Construction vibration – does the scale of the development or type of construction mean that there will be a reasonable stakeholder expectation that a construction vibration assessment would be undertaken at any vibration sensitive receptors?

- Operational noise - is the project likely to cause a change in the BNL of 1dB  $LA_{10,18hr}$  in the Do-Minimum opening year compared to the Do-Something opening year?
- Operational noise - is the project likely to cause a change in the BNL of 3dB  $LA_{10,18hr}$  in the Do-Something future year compared to the Do-Minimum opening Year?
- Operational noise - does the project involve the construction of new road links within 600m of noise sensitive receptors?
- Operational noise - would there be a reasonable stakeholder expectation that an assessment would be undertaken?

12.6.8 The assessment of noise and vibration will be undertaken in accordance with the requirements of LA 111 (LA 111 - Revision 2) (Highways England, 2020). Based on the outcomes of the PCF Stage 2 assessment, it is proposed that a 'further' assessment will be undertaken for the EIA.

12.6.9 The assessment will consider the sensitivity of receptors in order to determine the magnitude of change and significance of impact.

12.6.10 One of the outcomes of the EIA will be a commentary setting out the significance of effect of the Proposed Scheme on relevant policy objectives.

### **Construction noise**

12.6.11 LA 111 (LA 111 - Revision 2) (Highways England, 2020) states when determining the need for assessment of potential noise effects during the construction phase that the potential for exceeding the criteria provided in LA 111 should be considered. This will also include the effects of any road closures resulting from construction works.

12.6.12 The guidance in LA 111 (LA 111 - Revision 2) (Highways England, 2020) has been reproduced for construction noise, in **Table 12-2** below.



Table 12-2: Effect levels for construction noise

Period	LOAEL	SOAEL
Daytime weekday (07:00-19:00) and Saturdays (07:00-13:00)	Exceeds existing $L_{Aeq,T}$ noise level	Threshold level determined as per BS 5228-1: 2009 + A1: 2014 Section E3.2 and Table E.1
Evenings weekday (19:00-23:00), Saturdays (13:00-23:00) and Sundays (07:00-23:00)	Exceeds existing $L_{Aeq,T}$ noise level	Threshold level determined as per BS 5228-1: 2009 + A1: 2014 Section E3.2 and Table E.1
Night-time weekday and weekend (23:00-07:00)	Exceeds existing $L_{Aeq,T}$ noise level	Threshold level determined as per BS 5228-1: 2009 + A1: 2014 Section E3.2 and Table E.1

Source – LA 111 Table 3.12

12.6.13 The LOAEL is set at a noise level where construction noise becomes the dominant noise source whereas the SOAEL is set at a level where construction noise exceeds BS5228-1 thresholds.

12.6.14 Existing noise levels shall be determined based on ambient noise monitoring, noise model prediction or estimation based on published noise level datasets. At the time of writing, the only data available to inform this would be from the Defra noise mapping exercise undertaken in 2017. However, a noise survey exercise will be undertaken along with noise model predictions for the Do-Minimum (i.e. without the Proposed Scheme) opening year scenario (2026), which will be used to inform the selection of appropriate LOAEL and SOAEL values as this data is likely to be more accurate than the Defra noise mapping.

12.6.15 An impact may be significant in EIA terms when the noise level at sensitive receptors during construction works exceeds the SOAEL values listed in **Table 12-2**. A significant effect would be determined if this noise level is exceeded for a period of 10 or more days of working in any 15 consecutive days or for a total number of days exceeding 40 in any 6 consecutive months. Similarly, adverse effects might be expected where noise levels exceed the LOAEL. Other factors would also be considered in determining if there is the potential for adverse and significant adverse effects, such as the number of receptors affected and the duration and character of the impact.

12.6.16 Consideration would be given to the potential need for working outside of 'typical' working hours (in accordance with DMRB LA 111 (LA 111 - Revision

2) (Highways England, 2020) (typically Monday to Friday from 07:00 to 19:00 and 07:00 to 13:00 on Saturdays), in particular at night.

12.6.17 Detailed information regarding the construction programme and the likely plant and equipment that might be used for the worst-case consideration is not yet available. The assessment would be based on reasonable assumptions as to the likely construction programme, construction methods and typical plant and equipment that would be used. The assessment will also consider the likely need for construction works outside of typical daytime working hours and highlight potential noise mitigation measures that are likely to be required.

### Construction vibration

12.6.18 LA 111 (LA 111 - Revision 2) (Highways England, 2020) states when determining the need for assessment of potential vibration effects during the construction phase that the potential for exceeding the criteria provided in LA 111 should be considered.

12.6.19 The guidance in LA 111, applicable to human receptors, has been reproduced for construction noise, in **Table 12-3** below.

*Table 12-3: Effect levels for construction vibration*

Effect level	Peak particle velocity (PPV)
SOAEL	1.0mm/s
LOAEL	0.3mm/s

Source – LA 111 Table 3.31

12.6.20 Where the need for further assessment is established, the measured vibration levels within Annex C and D, and prediction methodology presented in Annex E in BS 5228-2 (BSI, 2009b) shall be used to calculate construction vibration levels.

12.6.21 If the predicted vibration level at a sensitive receptor is above the SOAEL, then there is the potential for a significant effect to occur and mitigation should be proposed. However, the duration of the works, the number of receptors affected, and the duration and character of the impact should also be considered in determining the significance of effect.

12.6.22 If necessary, the potential impact from construction vibration on building structures will be considered. The potential construction vibration levels at ecological receptors will be presented within the Noise and Vibration chapter of the ES, and the impact will be assessed within the Biodiversity chapter of the ES.

12.6.23 Similar to construction noise, the assessment of construction vibration impacts would be based on reasonable assumptions as to the likely



construction programme, construction methods and typical plant and equipment that would be used. The assessment would also consider the likely need for construction works outside of typical daytime working hours and highlight potential vibration mitigation measures that are likely to be required.

### Operational road traffic noise

12.6.24 The EIA will include the assessments specified in DMRB LA 111 (Revision 2) (Highways England, 2020). The assessment of permanent road traffic noise impacts arising from the M3 Junction 9 Improvement will involve predictions for all sensitive receptors in the calculation area, as well as a BNL assessment for routes outside the calculation area (i.e. the wider road network).

12.6.25 This aspect of the assessment will consider the following scenarios:

- Opening year (2026) – Do-Minimum (i.e. without the Proposed Scheme)
- Opening year (2026) – Scheme Do-Something (i.e. with the Proposed Scheme)
- Future year (2041) – Do-Minimum
- Future year (2041) – Scheme Do-Something

12.6.21 The assessment will make the following comparisons, as specified in LA 111 (LA 111 - Revision 2) (Highways England, 2020):

- Do-Minimum in the opening year versus Do-Minimum in the future year (long-term)
- Do-Minimum in the opening year versus scheme Do-Something in the opening year (short-term)
- Do-Minimum in the opening year versus scheme Do-Something in the future year (long-term).

12.6.26 All road traffic noise predictions will be undertaken in accordance with the calculation methodology presented in the former Department of Transport/Welsh Office technical memorandum Calculation of Road Traffic Noise (CRTN) and the advice contained in Appendix A2 of LA 111 (LA 111 - Revision 2) (Highways England, 2020). Traffic speed will be derived in accordance with Appendix A3 of LA 111.

12.6.27 The classification of magnitude of noise impacts associated with short and long term changes in noise levels will be determined in accordance with the criteria presented in **Table 12-4** below, which are taken from LA 111 (LA 111 - Revision 2) (Highways England, 2020). Both adverse and beneficial changes will be considered in the assessment.

Table 12-4 Classification of magnitude of noise impacts

Magnitude of impact	Noise change, dB ( $L_{A10,18h}$ or $L_{night}$ )	
	Short-term	Long-term
Major	$\geq 5.0$	$\geq 10.0$
Moderate	3.0 – 4.9	5.0 – 9.9
Minor	1.0 – 2.9	3.0 – 4.9
Negligible	<1	<3

Source – DMRB LA 111 Tables 3.54a and 3.54b

12.6.28 Particular consideration will be given to both noise change and noise levels within NIAs along the Proposed Scheme (three NIAs have been identified, see **Figure 2.2, Appendix 2.1**).

12.6.29 An assessment of likely eligibility for sound insulation measures under the Noise Insulation Regulations 1975 (as amended 1988) will be carried out to identify residential dwellings that may potentially qualify under the Regulations.

12.6.30 In addition to the requirements of LA 111 (LA 111 - Revision 2) (Highways England, 2020), consideration of the Proposed Scheme with respect to national policy will be undertaken.

### Road traffic noise - significant environmental effects

12.6.31 For the operational noise assessment, appropriate noise level criteria have been defined for the purposes of identifying potential significant environmental effects arising from the operation phase of the Proposed Scheme. The criteria have been defined based on the guidance provided in the NPSE, PPG and LA 111 (LA 111 - Revision 2) (Highways England, 2020).

12.6.32 For the operational noise assessment, the noise levels detailed in **Table 12-5** will be considered as the LOAEL and SOAEL in this assessment:

Table 12-5 SOAEL and LOAEL values for operational noise

Parameter	Value for daytime (06:00 – 24:00)	Value for night-time (23:00 – 07:00)
SOAEL	68dB $L_{A10,18h}$ (façade)	55dB $L_{night, outside}$ (free-field)
LOAEL	55dB $L_{A10,18h}$ (façade)	40dB $L_{night, outside}$ (free-field)

Source – DMRB LA 111 Table 3.49.1

12.6.33 For the operation road traffic noise assessment, groups of receptors, or individual receptors where appropriate, will be assessed.

12.6.34 If the predicted magnitude of impact at a sensitive receptor is above Moderate or Major (see Table 12-4), then there is the potential for a significant effect to occur and mitigation should be proposed. However, where the magnitude of impact in the short term is Minor, Moderate or Major at noise sensitive buildings, Table 3.60 of LA 111 (LA 111 – Revision 2) (Highways England, 2020) will be used to determine the final significance. These factors include, but are not limited to:

- Noise level change
- Differing magnitude of impact in the long term to magnitude of impact in the short term
- Absolute noise level with reference to LOAEL and SOAEL (by design this includes sensitivity of receptor)
- Location of noise sensitive parts of a receptor
- Acoustic context
- Likely perception of change by residents

#### **Road traffic noise – Significant policy effects**

12.6.35 In terms of complying with Government policy on noise, the ES will demonstrate how the project intends on complying with the three aims of the NPSE.

12.6.36 To put the aims of the NPSE into context, the following will be reported:

- For daytime and night-time periods, count and report the number of properties in the following categories:
- Above the SOAEL
- Between the SOAEL and LOAEL
- Below the LOAEL

#### **Data Sources**

12.6.37 The following data sources will inform the noise and vibration assessment:

- Ordnance Survey (OS) MasterMap base mapping layer
- OS AddressBase Plus mapping layer
- 3D engineering drawings to the Proposed Scheme topography and road alignments

- Available survey data, LiDAR or OS Terrain 5 to derive a topographical layer for the study area
- Traffic flow data
- Construction phase information (e.g. construction plant lists and methodologies)
- Road surface information
- Open Government Licence (Defra, 2015) for Noise Important Areas

12.6.38 A baseline noise survey will be undertaken to establish existing noise levels at a representative sample of receptors likely to be impacted by the Proposed Scheme and to aid in the accurate prediction of night-time noise levels. The methodology used during the survey will follow the procedures contained in BS 7445-1:2003 and BS 7445-2:1991 'Description and Measurement of Environmental Noise', and CRTN Section III 'The Measurement Method'. The survey will comprise a combination of short-term attended and long-term unattended measurements within the study area, subject to agreement with the EHO at WCC.

## 12.7 Assessment assumptions and limitations

12.7.1 The study area for the EIA cannot be determined until detailed traffic data is received allowing for affected road links to be identified.

12.7.2 The assessment of operational noise impacts will be based on the traffic data provided by the transportation team. Vehicle flows and the proportion of heavy vehicles in the form of Average Annual Weekday Traffic (AAWT) will be used. Traffic speeds will be determined by the transportation team in accordance with LA 111 (LA 111 - Revision 2) (Highways England, 2020).

12.7.3 The noise modelling incorporates many different data sources. Therefore, the outcome of the modelling is reliant on the quality of these data. Any limitations of these data sources will be reported in the noise and vibration assessment, along with any associated implications.

12.7.4 The BS 5228 calculation methods enable the level of noise during various construction activities to be determined. However, the precision of any such predictions is necessarily limited by the number of assumptions made regarding the number and type of plant proposed to be utilised, their location and detailed operating arrangements. Some of this information will be clarified as the Proposed Scheme design progresses and later when a contractor is appointed and resources are mobilised, but other information (such as exactly where the plant operates and for how long) would remain uncertain, even after works had commenced.

12.7.5 It is anticipated that night-time noise levels will be estimated using the guidance within TRL document 'Converting the UK traffic noise index LA<sub>10,18h</sub>'

to EU noise indices for noise mapping'. The availability of appropriate traffic data will influence the prediction methodology adopted.

12.7.6 Despite the limitations identified, the information to be provided for the ES will result in robust assessments.

## 12.8 Elements to be scoped in/out

12.8.1 The elements to be scoped into the EIA for noise and vibration are in **Table 12-6**. There are no elements to be scoped out for noise and vibration.

*Table 12-6: Elements to be scoped into the EIA for noise and vibration*

Element scoped in	Justification
Construction noise	Given the proximity of human and ecological sensitive receptors to the Proposed Scheme, allied to the scale and complexity of the works, it is considered that there could be potential for adverse effects to occur during the construction phase
Construction vibration	Given the proximity of sensitive human and ecological receptors to the Proposed Scheme, allied to the scale and complexity of the works, it is considered that there could be potential for adverse effects to occur during the construction phase
Operational road traffic noise	Given the proximity of sensitive human and ecological receptors to the Proposed Scheme, it is considered likely that some sensitive receptors could experience adverse impacts.

## 13 Population and Health

### 13.1 Study Area

#### Overview

- 13.1.1 This section of the Scoping Report identifies the proposed scope of the Environmental Impact Assessment (EIA) to assess likely significant socio-economic effects from the Proposed Scheme under the EIA topics of 'Population' and 'Human Health'. In accordance with the Design Manual for Roads and Bridges LA112 Population and Health (Highways England, 2020), this chapter provides details of the assessment and significance criteria to be applied in the assessment of likely significant population and health effects. DMRB LA112 (Highways England) requires a wider scope of assessment to be undertaken than in the previous iteration of the guidance. Whilst health effects on individuals still need to be assessed, the new approach is broader and includes other relevant socio-economic issues.
- 13.1.2 Alongside previously identified assessment elements including effects on key health determinants and recreational routes, new elements of assessment include wider consideration of likely effects on community land and assets, housing, employment and development land.
- 13.1.3 As detailed below, the assessment will be focused on the temporal and spatial scales at which there is the potential for likely significant effects to occur from the Proposed Scheme. study areas corresponding to distance-based thresholds and standard statistical geographies have been adopted to ensure accurate use of data.

#### Study Area

- 13.1.4 DMRB LA112 (Highways England 2020) advises that, whilst the minimum Study Area for assessment is set at a 500m radius around the project boundary, this should be extended accordingly where likely effects (direct or indirect) are identified in the surrounding area. This necessitates early consideration of the broad types of effects likely to occur from the Proposed Scheme and the spatial extent within which there is the potential for these to be identified and considered significant within the context of the Infrastructure Planning (EIA) Regulations 2017 (as amended) (the EIA Regulations).

#### *Land Use and Development Study Area*

- 13.1.5 As per the original EIA scoping process in January 2019 and Preliminary Environmental Information Report (PEIR) (June 2019), it remains the case that no direct encroachment or unlocking of development land would occur or is proposed.
- 13.1.6 There is however the potential for indirect effects to occur. This includes potential indirect effects in terms of land value uplift, removing or reducing

cumulative development constraints, accelerating development and improving development site marketability. Any such socio-economic effects would be driven by changes in accessibility resulting from the introduction of the Proposed Scheme to the transport network, potentially in combination with other plans and projects.

13.1.7 The starting point for defining the land use study area was therefore to review the Traffic Reliability Area (TRA) and the extent of land already included in the M3 Junction 9 Uncertainties Log (HE551511-JAC-GEN-0\_00\_00-RP-TR-0019). However, the Uncertainty Log (Transport Forecasting Report HE551511-JAC-GEN-0\_00\_00-RP-TR-0005 refers) covers the entirety of both the Winchester local authority area and the Partnership for South Hampshire (PFSH) subregion<sup>7</sup> as M3 Junction 9 is indirectly connected to the road network across this area. To ensure this assessment remains proportionate, it is proposed to focus on land within the vicinity of the Indicative Application Boundary (IAB) where specific relationships with the Proposed Scheme can be identified. Subject to potential refinement or change through the related Economic Appraisal which will be submitted alongside the Environmental Statement (ES) for Development Consent, an area extending to 2km radius from the IAB (including land within the South Downs National Park (SDNP)) is therefore proposed to be adopted as the Land Use Study Area.

#### *Health and Communities Study Area*

13.1.8 The previous EIA Scoping Report (January 2019) and PEIR (June 2019) utilised the Winchester City Council (WCC) area and a 2km radius around the IAB, as Health study areas to assess likely effects on the key determinants of health, including on both physical and social/socio-economic factors.

13.1.9 This approach remains appropriate to identify and assess likely significant effects on both key health determinants (for individuals) and related effects on community infrastructure provision (including but not limited to recreational routes). The distance of 2km from the IAB encompasses:

- Surrounding industrial and residential neighbourhoods within Winchester
- Winchester City Centre and historic core
- The Worthys
- Easton
- Western part of SDNP

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<sup>7</sup> Eastleigh Borough Council, Fareham Borough Council, Gosport Borough Council, Havant Borough Council, New Forest District Council, Portsmouth City Council, Winchester City Council (southern part of district only), Test Valley Borough Council and Southampton City Council



- The journey distance that can be reasonably undertaken by most people on foot,<sup>8</sup> thereby capturing potential impacts on access to local facilities and community infrastructure using active travel modes (i.e. walking or cycling) as well as using vehicular transport.

13.1.10 It is therefore appropriate to retain 2km (from the IAB) as the principal Study Area to assess likely effects on both key health determinants and communities (e.g. effects on access to community infrastructure), with a higher-level assessment also undertaken at WCC level to align with existing public health reporting. The two Study Areas are shown on **Figure 13.1**, **Appendix 13.1**.

## 13.2 Baseline Conditions

### Introduction

13.2.1 This section provides an overview of key baseline conditions which have informed the scope of the Population and Health assessment, including:

- **IAB and surrounding area:** an overview of nearby settlements and the demographics and health of the Study Area population
- **Labour market and key business sectors:** the activity and skillset of the Study Area labour market and the relative performance of the construction sector
- **Housing market:** the market trends and geography of the local housing market, including major land allocations
- **Community infrastructure:** provision of education, health, care, and community facilities within the Study Area
- **Public access and recreation:** relevant key roads, active travel routes and rights of way.

### IAB and Surrounding Area

#### *Indicative Application Boundary*

13.2.2 A description of the IAB and surrounding area are provided in **Chapter 2**.

#### *Spatial Overview*

13.2.3 In terms of administrative geographies, the IAB and the 2 km Study Area are both located wholly within the WCC local authority area. The junction is within the St Bartholomew electoral ward of WCC, with the Alresford and Itchen Valley, Upper Meon Valley, St Michael, St Paul, St Barnabas, and The Worthys wards also located within 2 km. Wards can be further divided into

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<sup>8</sup> Department for Transport, April 2017.



smaller geographical units called Lower Super Output Areas (LSOA). The IAB is located within the LSOA of Winchester 006C.

13.2.4 South of Junction 9, the M3 forms the western boundary of the South Downs National Park (SDNP). South of the IAB, the SDNP boundary extends to the south-west. An area of the SDNP also wraps around land north of Junction 9. This means that parts of the 2 km Study Area fall within the National Park, as do parts of the IAB.

13.2.5 As the IAB is within northern part of WCC local authority area, it falls outside of the Partnership for South Hampshire (PfSH) subregional grouping of Councils grouped around the Solent Coast. However, WCC is itself a member of the PfSH.

13.2.6 A short overview of settlements, specifically within the Study Area, is set out below in **Table 13-1**.

*Table 13-1: Settlements within the Study Area*

Name	Type of Settlement	Distance from Proposed Scheme to settlement centre	Population (2011 Census)	% of Popn under 16	% of Popn 65+
Winchester City Centre	City	Approximately 1.7 km south west	45,184	17.7%	17.5%
St John and All Saints Ward (includes Winnall)	Suburb of Winchester	Abuts western and southern scheme boundary	6,285	18.2%	13.8%
St Bartholemew Ward (includes Abbott's Barton)	Suburb of Winchester	Approximately 1.1 km west	6,407	14.9%	21.6%
Itchen Valley Ward (includes Easton and Chilcomb hamlets)	Suburb of Winchester	Abuts eastern scheme boundary	1,896	18.8%	22.3%
Headbourne Worthy	Village	Abuts northern scheme boundary	466	12.9%	41%
Kings Worthy	Village	Abuts northern scheme boundary	4,435	19%	16.5%

### *Winchester*

13.2.7 Winchester is a historic city and acts as the main service centre for the district services and assets include a hospital, primary, secondary, and tertiary education establishments, a core retail area, employment areas and tourist attractions. A large proportion of journeys to and from Winchester to access services are via the A34 and M3, by vehicle.

### *Winnall*

13.2.8 Winnall is a mixed-use neighbourhood in the eastern part of Winchester, situated immediately west of the M3 Junction 9 Improvement IAB. Industrial and commercial uses are concentrated within the Winnall Industrial Estate, Valley Business Park and the Wykeham Trade Park, all of which are accessed directly from the Easton Lane arm of the existing interchange. Easton Lane also provides access to retail and services including Winchester Fire station, a fuel station, coffee shop, a hotel and a Tesco Extra superstore, which includes a pharmacy.

13.2.9 To the south of the industrial and commercial area lies a residential area, within which is the Winnall Primary School, Winnall Community Centre and a convenience store. It is likely that local residents to Winnall and employees of the businesses utilise the pedestrian and cycle route access within this area to access the Tesco superstore, and local residents will be serviced by the smaller convenience store and the primary school. Other local facilities are likely to be accessed from Winchester city centre.

13.2.10 Leigh House Hospital and St Swithun's School are located east of the M3 from Alresford Road (B3404). They may be accessed on foot by residents of Winnall by a footway on either side of the carriageway, however most journeys are expected to be made by vehicle.

13.2.11 Most journeys from Winnall into Winchester will be via Easton Lane or Alresford Road. Access to the M3 or the A34 is from Easton Lane.

### *'The Worthys'*

13.2.12 Kings Worthy is a small residential area which lies between the fork of the A34 and the A33. Within this local settlement are a food convenience store, a primary school, a post office, a church, a sports and social club and a pharmacy. In addition to these community facilities, there are shops, restaurants and a pub.

13.2.13 It is likely that some of the local trips to the facilities listed above are made by non- motorised means by local residents. For access to other services, it is likely that these will currently be sought in the centre of Winchester, via vehicular means by the B3047 (London and Worthy Roads), or Flowerdown to the west by Wellhouse Lane.

- 13.2.14 Abbots Worthy lies to the south east of Kings Worthy, in between the A33 Basingstoke Road and the M3. There are a small number of residential properties accessed from the B3047. There are no community facilities within Abbots Worthy, other than Princesmead School.
- 13.2.15 There is no off-road pedestrian provision along the B3047, so it is likely that the majority of journeys from Abbots Worthy are made by vehicle to local facilities in Kings Worthy, or into Winchester by the A33/A34 or the B3047.
- 13.2.16 Headbourne Worthy is located west of Kings Worthy, separated by the A34. There are no community facilities located within this small residential area.
- 13.2.17 There is no pedestrian provision on the B3047 to Kings Worthy, but there is a pedestrian footway on Springvale Road into Kings Worthy. Some residents from Headbourne Worthy could access facilities in Kings Worthy on foot, but it is more likely that the majority of journeys are made by vehicle into Kings Worthy (via London Road or Springvale Road), Flowerdown (via Wellhouse Lane) or Winchester (via the B3047).

### Demographic Overview

- 13.2.18 The 2011 National Census and 2019-based mid-year population estimates have been used to inform the broad demographic profile of the Winchester District, in which the Proposed Scheme is wholly located, compared with the South East region (the Nomenclature of Territorial Units for Statistics (NUTS) 1 region). **Table 13-2** sets out this profile.

Table 13-2: Demographic Profile of Winchester District

Category	Winchester District	South East
Population	2011 Census: 116,595 2019 estimate: 124,900 (+7.1%)	2011 Census: 8,634,750 2019 estimate:
All Persons Aged 0-15	2011 Census: 18.4% 2019 estimate:	2011 Census: 18.9% 2019 estimate:
All Persons 65 and over	2011 Census: 18.7% 2019 estimate: 18.5% (-0.2%)	2011 Census: 19.8% 2019 estimate: 21.4% (+1.6%)
Ethnicity (Census only)	White British (91.8%), White Irish (0.6%), White Traveller (0.2%), Other White (3.0%), Mixed (1.4%), Asian British (2.3%), Black or Black British (0.4%), Other Ethnic Group (0.3%)	White British (79.8%), White Irish (1.0%), White Traveller (0.1%), Other White (4.6%), Mixed (2.2%), Asian British (7.7%), Black or Black British (3.4%), Other Ethnic Group (0.6%)
Long-Term Health Problem / Disability (Census only)	Day to day activities limited a lot (5.89%), Day to day activities limited a little (8.63%), Day to day activities not limited (85.5%)	Day to day activities limited a lot (8.3%), Day to day activities limited a little (9.3%), Day to day activities not limited (82.4%)
Religion (Census only)	Christian (63.2%), Buddhist (0.5%), Hindu (0.4%), Jewish (0.2%), Muslim (0.5%), Sikh (0.1%), Other (0.4%), No Religion (27.3%), Not Stated (7.5%)	Christian (59.3%), Buddhist (0.4%), Hindu (1.5%), Jewish (0.5%), Muslim (5%), Sikh (0.8%), Other (0.4%), No religion (24.7%), Not stated (7.1%)

13.2.19 The data indicates that the population of Winchester District is broadly in line with the average age profile for the South East, has a lower rate of people with very limiting health conditions and is comparatively less diverse than the South East as a whole in terms of ethnicity and religion.

## Health

13.2.20 Joint Strategic Needs Assessments (JSNAs) identify the current and future health and social care needs of the local community and are a fundamental part of planning and commissioning (buying) services at a local level. The IAB is located within the jurisdiction of Winchester City Council and the West Hampshire Clinical Commissioning Group (CCG).

13.2.21 The JSNA undertaken by the West Hampshire CCG (2017) identifies a range of health issues for the area, including the following:

- The ratio of people of state pension age is increasing compared to the working age population
- Healthy life expectancy is not keeping up with overall life expectancy. Women in particular are living longer in poor health
- Health inequalities are increasing and more people are living with multiple long term conditions and there is increasing prevalence of lifestyle related illness related to unhealthy behaviours.

13.2.22 The Local Authority Health Profile 2019 for Winchester identifies that generally the area performs better than the England average with respect to most indicators (Public Health England, 2019). The exceptions to this are in relation to the suicide diagnosis rate where Winchester performs significantly worse.

13.2.23 However, when looking at data at the local level of the IAB, the Index of Multiple Deprivation (ONS, 2019) identifies the corresponding LSOA as in the fourth decile, meaning it performs relatively poorly in terms of health inequalities.

13.2.24 Key health indicators, including wider social determinants of health such as income and employment, are set out below in **Table 13-3**. These have been taken for the population of Winchester District and compared to the average for England using the most up to date data available. The table only presents those health issues deemed relevant to transport.

*Table 13-3: Key Health Indicators for the Winchester District*

Indicator	Time Period	Winchester District	England
Life expectancy at birth (male) (years)	2014-2016	82.0	79.5
Life expectancy at birth (female) (years)	2014-2016	84.9	83.1
Killed and seriously injured on roads (crude rate per 100,000 population)	2014-2016	81.7	39.7
Physically active adults (aged 19+) (%)	2016/2017	74.7	66.0
Excess weight in adults (aged 18+) (%)	2016/2017	53.2	61.3
Obese children (aged 10-11) (%)	2016/2017	11.3	20.0
Children in low income families (%)	2015/16	7.5	16.8

Source - Public Health England (2018)  
Office for National Statistics (2018)

13.2.25 In summary the health of people in Winchester is generally better than the average for England and life expectancy for both men and women is higher than the average for England. The employment rate for Winchester is better than average for England, **Table 13-3** and Winchester is one of the 20% least deprived districts/unitary authorities in England, however about 8% (1,500) of children live in low income families. In Year 6 (aged 10-11 years), 11.3% of children are classified as obese, which is below the average for England (which is 20%). Estimated levels of adult excess weight and physical activity are better than the average for England.

### **Labour Market and Key Business Sectors Overview**

#### *Labour market*

13.2.26 WCC typically consider three or four distinct labour market sub-geographies: the City, South Winchester / South Hampshire (PfSH) and the 'rural' areas, sometimes further split by the rural National Park and non-National Park Area. The IAB is directly on the border between the City and National Park areas as defined in the Council's recent employment land study (Stantec UK for Winchester City Council, 2020). **Table 13-4** below presents key labour market statistics as recorded by the Annual Population Survey.

Table 13-4: Economic activity and employment

	Economic Activity Rate	Employment Rate
Winchester	78.3%	72.8%
South East region	82.3%	79.6%
England	79.4%	76.2%
Source: ONS (2020). Annual Population Survey.		

13.2.27 Both the economic activity rate (78.3%) and employment rate (72.8%) in Winchester is lower than regional and national averages. At the same time, residents of Winchester are relatively highly skilled with 60.5% of the population aged 16-64 holding a degree-level qualification or equivalent (NVQ4+), see **Table 13-5** below.

Table 13-5: Qualifications held by residents aged 16-64

	Winchester	South East	England
NVQ4+	60.5%	43.4%	40.0%
NVQ3+	75.0%	62.1%	58.5%
NVQ2+	90.9%	79.1%	75.7%
NVQ1+	97.1%	88.8%	85.8%
Other	No data	5.4%	6.7%
None	2.9%	5.8%	7.5%
Source: ONS (2020). Annual Population Survey.			

13.2.28 This high skills profile is reflected in the occupational structure of the Winchester Local Authority Area (the district), with 64.3% of those in employment in Standard Occupational Classification (SOC2010) levels 1 – 3, representing the highest skilled jobs. This is significantly higher than the South East (53.2%) and England as a whole (48.5%).



Table 13-6: Employed workforce by Standard Occupational Classification 2010

SOC2010	Winchester		South East		England	
	'000s	%	'000s	%	'000s	%
1: Managers, Directors and Senior Officials	8.8	15.1%	624.8	13.5%	3,284.7	11.9%
2: Professional	18.3	31.4%	1,080.6	23.3%	5,999.6	21.7%
3: Associate Prof. and Tech.	10.4	17.8%	765.2	16.5%	4,112.5	14.9%
4: Administrative and Secretarial	3.7	6.3%	457.0	9.8%	2,699.2	9.8%
5: Skilled Trades	5.0	8.6%	403.0	8.7%	2,710.2	9.8%
6: Caring, Leisure and Other Service	3.2	5.5%	403.7	8.7%	2,447.9	8.9%
7: Sales and Customer Service	2.3	3.9%	306.8	6.6%	1,895.7	6.9%
8: Process, Plant and Machine Operatives	2.7	4.6%	210.7	4.5%	1,654.2	6.0%
9: Elementary	3.9	6.7%	389.6	8.4%	2,798.8	10.1%
<b>Total</b>	<b>58.3</b>	<b>100.0%</b>	<b>4,641.4</b>	<b>100.0%</b>	<b>27,602.8</b>	<b>100.0%</b>

Source: ONS (2020). Annual Population Survey.

13.2.29 Higher skilled jobs typically command higher wages. **Table 13-7** below shows that the gross annual pay of Winchester residents in 2019 (£35,8123) was 8.3% higher than the regional average (£33,072) and 16.5% higher than the average across England (£30,748). However, workplace earnings in Winchester were lower than across the South East and England as a whole. This suggests that a proportion of higher skilled individuals, with higher remuneration on average, work outside of the district on a daily basis and commute from their place of residence.



Table 13-7: Gross Annual Pay, 2019

	<b>Resident</b>	<b>Workplace</b>
Winchester	£35,812	£30,332
South East	£33,072	£31,902
England	£30,748	£30,753
Source: ONS (2020). Annual Survey of Hours and Earnings.		

13.2.30 While Winchester experienced a net increase in its workday population of 18,361 when measured at the 2011 Census (ref. WU03UK), a significant number of residents commuted to other authority areas daily (23,412). Neighbouring authorities including Eastleigh (3,034), Southampton (2,923), and Portsmouth (2,098) receive the highest number of commuters. Most commuters travelled to other parts of the South East (19,490) followed by London (2,581).

### **Economic Activity and Key Business Sectors**

#### *Overview*

13.2.31 The Winchester District Joint Core Strategy (2013) identifies key growth sectors as the service sector (primarily business services), health, distribution and retail, construction, and transport. The Enterprise M3 Local Enterprise Partnership (LEP) has a narrower focus on manufacturing and professional services activities including ICT, pharmaceuticals, and aerospace and defence (Enterprise M3, 2014). All these sectors are likely to be directly impacted by journey time improvements, changes in productivity, access to markets and/or effects on development land and are therefore of relevance to this impact assessment.

#### *Neighbouring Economic Assets*

13.2.32 The Winnall Industrial Estate is accessed from Easton Lane via the existing M3 Junction 9. It is a purpose-built facility that provides business units to a variety of retail (convenience and comparison) and industrial businesses. The immediate proximity of the estate to the strategic road network (i.e. M3 Junction 9) together with proximity to consumer markets provides a strategic locational advantage for businesses within the logistics and manufacturing sectors. Current industrial occupiers include a Royal Mail depot, Basepoint office space, Sydenhams Aggregates, APEM Components and B&M Steel.

13.2.33 Winnall Industrial Estate (and surrounding industrial areas) comprises three distinct areas:

- **Central:** this area includes a Tesco Extra superstore and a noticeable grouping of retail warehouses and DIY stores orientated around large central car parks adjacent to Easton Lane, generating the feel of a retail park destination. The premises are largely uniform size, shape and finishing at double storey
- **North:** the northern half of Winnall Industrial Estate is dominated by large 'industrial' sheds and depots for industrial and related employment use, each with their own car park. Sectors represented here include automotive engineering and sales, building materials, electronics manufacturing and engineering consultancy. Two university halls of residence are also located along the western edge close to the River Itchen
- **South and Outlying:** the southern boundary of the industrial area is formed by Winnall Valley Road, a linear road with disparate small-scale trade shops, each with their own car parks. Both the layout and sectoral representation of businesses here are different from the public facing retail park further north. There are also outlying individual comparison retail and service units, such as the Midmay Vets, Mole Valley unit and the Homebase sections, which all have dedicated access and car parks specific to each business.

13.2.34 Junction 9 is the designated M3 junction for accessing Winchester City Centre, the largest economic centre across the local authority area. Easton Lane leading to Wales Street provides a direct route to the city centre.

#### *Construction Sector*

13.2.35 The nature and scale of the Proposed Scheme means that it is likely to impact the construction sector during the construction. Initial analysis to date indicates that the construction sector based within the WCC area exhibits the following features:

- **Lower than average labour market density:** some 4,000 persons were employed in the construction sector in 2019 across Winchester, accounting for 4.6% of all workforce jobs. This is a lower concentration than the South East as a whole (5.3%)
- **Lower than average concentration of firms:** whilst construction is among one of the largest sectors in the district when measured by the number of enterprises at approximately 810 units and represents 10.1% of the total, this is lower than the South East average of 13.6%
- **Higher than average productivity:** the Winchester construction sector generates more gross value added per-worker (£89,250) than the South East average (£81,190).

13.2.36 Whilst not a major employer in Winchester, the South Downs Local Plan (2019) recognises that tourism plays a key role in the in the economy of the park and facilitating visits. Whilst recreational routes provide access into the SDNP from Winchester, there are no other specific tourism destinations in immediate proximity to the IAB.

## Housing Market and Development Allocations

13.2.37 The adopted Local Plan for Winchester has a housing target of 11,000 over the plan period 2011 – 2031 (Winchester City Council, 2011). The Future Local Housing Need and Population Profile Assessment (Winchester City Council, 2020) suggests a local housing need of 664 dwellings per annum over the emerging local plan period (2021 – 2030).

13.2.38 The Winchester District Strategic Housing Market Assessment (2020) concludes that there are three distinct housing sub-markets in the district which demonstrate different characteristics:

- **Winchester Town Market Area:** covering Winchester City Centre and partially containing the M3 J9 Improvement IAB, this area commands higher house prices than the rest of the district
- **Northern Market Area:** this area includes the remainder of the M3 J9 Improvement IAB and the area surrounding Winchester City Centre
- **Southern Market Area:** house prices are the lowest in this area, which has greater commuting connections to Portsmouth and Havant.

13.2.39 Major settlements within the two market areas which contain the M3 J9 improvement IAB include Winchester itself, the Worthys, and Winnall.

13.2.40 Following consideration by the South Downs National Park Authority (SDNPA) and Winchester City Council both planning authorities adopted the Winchester District Local Plan Part 1. The Winchester District Local Plan Part 1 – Joint Core Strategy was adopted by both authorities in March 2013 and sets out the overall vision, objectives, spatial strategy and strategic policies for the district. The emerging new Local Plan 2018-38 has progressed updates of its evidence base, but a draft plan is not yet available. A Strategic Issues and Options Document is due to be consulted on during Sept/Oct 2020, which is an early phase of preparing the new Local Plan and will explore important issues that will influence the future Local Plan's development.

13.2.41 The current development strategy for the District identifies three spatial areas within accompanying vision and objectives, along with development requirements for – Winchester Town, Market Towns and Rural Area and South Hampshire Urban Area. The Local Plan Part 1 states that the principal focus for new development across the District will be within the urban areas of Winchester Town and the South Hampshire Urban Area. The development strategy (Policy DS1) sets out that over the plan period a total of around 12,500 new dwellings and 20 hectares of employment land will be delivered in the following way:

### *Winchester Town*

- Around 4,000 new homes of which The Barton Farm forms a major development area will provide 2,000 including affordable housing, community facilities, a new primary school and a new park and ride facility to serve the north of Winchester. The site is on the very edge of the 2km Study Area to the north west of the Proposed Scheme
- Retention of existing employment land and premises along with new development or redevelopment to provide for new business growth to broaden Winchester's economic base is identified. This targets sector growth including knowledge, tourism, creative and media industries and more specifically start-up premises to encourage entrepreneurship including exploring opportunities at the employment site of Bushfield Camp, located to the southern edge of Winchester close to M3 junction 11.

### *City Centre*

- Additional retail floorspace through existing developments at Silver Hill are planned to support Winchester's role as a sub-regional shopping centre for existing and new communities
- Promotion of the town centre as the preferred location for new development that attracts high visitor numbers such as retail, commercial and offices, leisure, culture and tourism with the need to demonstrate that this type of development out with the town centre would not have a harmful impact on the town centre.

### *The Worthys*

- The larger village of King's Worthy, which forms part of the Market Towns and Rural Area in the Winchester Local Plan, is expected to contribute approximately 250 new homes over the plan period with any economic and commercial growth at a scale appropriate to the settle and its catchment area.

### *Market Towns and Rural Area including Winchester Part of South Downs National Park*

13.2.42 This spatial area includes the approximately 50 smaller settlements within the District, which range from market towns of a few thousand population to small hamlets of a few dwellings originally serving the agricultural sector. It includes that part of the SDNP that is within Winchester District.

13.2.43 Whilst this spatial area is largely rural in nature there are opportunities to address local needs and maximise attractive rural settings through Tourism, local food production and niche markets which will be more resilient to wider changes in the economy.

13.2.44 Some settlements within this spatial area have an ageing population and those in an attractive setting with a school are often popular with in-migrants. The key objective is to ensure that the right amount and type of development

occurs, so that existing communities can remain viable, with access to the services they need:

- 2,500 new homes in the Market Towns and Rural Area across Bishops Waltham, New Alresford, Colden Common, Denmead, Kings Worthy, Swanmore, Waltham Chase, and Wickham
- New employment uses through development and redevelopment opportunities within existing settlement boundaries in the first instance, along with retention of major commercial establishments in the countryside.

#### *South Hampshire Urban Area*

13.2.45 The PfSH is a consortium of 11 local authorities focused on economic development, of which Winchester City Council is a member. However, the IAB lies in the northern part of the WCC area and is therefore itself outside of the PfSH subregion.

13.2.46 Through a non-statutory Spatial Position Statement (2016), PfSH has identified specific Strategic Development Locations, Strategic Employment Locations, and a Hierarchy of Centres for the subregion and works to key principles utilising a “*cities first*” approach to development. The Spatial Position Statement (2016) identifies specific locations for strategic housing and employment growth, including West of Waterlooville within the Winchester District area:

- Around 6,000 new homes, of which 2,500 of the new homes, which already have planning permissions, will be to the West of Waterlooville and 3,500 new homes in North Whiteley this allocation is outside of the Winchester District Council area and covered by Havant Borough Council
- The allocations West of Waterlooville which form part of the PfSH spatial approach are a key location for provision of new employment floorspace which are of significant scale to have sub-regional importance that offer further development potential.

13.2.47 The Winchester District Local Plan Part 2 was adopted in April 2017 follows on from the Local Plan Part 1 and makes further land allocations at the non-strategic level to help deliver the overall development requirements for the district over the plan period, particularly for the Market Towns and Rural Areas outside the SDNP that are expected to provide around 2,500 new homes between 2011 and 2031.

13.2.48 The South Downs Local Plan was adopted in July 2019 to cover the whole of the SDNP. It is a landscape-led plan that reflects the national parks’ statutory purposes and considers the park as a single entity which covers the counties of Hampshire, West Sussex and East Sussex and the districts of East Hampshire, Winchester, Lewes, Arun, Horsham and Wealdon.

13.2.49 There are no market towns in this area of the SDNP. Villages in the Western Downs are clustered along the northern boundary of the SDNP and relate most closely to gateway towns along the A31 corridor.

13.2.50 The area known as the Western Downs abuts the M3 corridor at Winchester and is recognised as both a gateway to the SDNP and a location of external growth pressure. In economic and land use terms the area is characterised by farming and rural enterprises taking the form of diversified land holdings (e.g. Rotherfield Estate) which include arable, managed woodland, shoots and fisheries. Nationally important watercress production also occurs in the Itchen Valley.

13.2.51 Challenges and opportunities within The Western Downs relate to ease of accessibility from more densely populated areas around the SDNP, such as Winchester and Alton, and there are opportunities to create better multi-user routes and circular itineraries based on railway stations. A specific challenge in this area lies with the need to safeguard the important habitats and species of the Itchen and to reconcile these with the commercial requirements of watercress production by finding more sustainable methods of cultivation and processing.

### Community Infrastructure

13.2.52 There are a range of community facilities and assets within the 2km Health and Communities Study Area. An overview of community infrastructure is set out in **Tables 13-8 to 13-11 below**.

Table 13-8: Schools in Health and Communities Study Area

Facility	Type of facility	Location from Proposed Scheme
All Saints Church of England Primary School	One form entry primary school.	1,600m south west
Kings Worthy Primary School	Mixed government school for children ages 4 - 11	368m east
Osbourne School	Maintained special school for pupils with learning disabilities aged 11-19.	1,600m west
St. Bede Church of England Primary School	Church of England school for pupils aged 4-11.	1,190m west
St Swithun's School	Independent school for girls aged 3 – 18.	270m east
Winnall Primary School	Mixed public community school	430m west



Table 13-9: Nurseries and Playgroups in Health and Communities Study Area

Facility	Type of facility	Location from Proposed Scheme
Nurseries and Playgroups		
Hartley House Montessori Ltd	Montessori style nursery for children aged 6 months to 5 years	1,310m west
Riverside Nursery School	Private nursery with some government funding for children aged 2 – 5	1,010m west
Kingsmead Day Nursery	Private nursery for children aged 0 – 5	1,550m south west
Spingvale Playgroup	Playgroup	240m east
All Saints Preschool	Early years provision for children aged 2 years 6 months and up	1,600m south west
Stepping Stones Pre-School	Private nursery with some government funding for children aged 2 to 4/5	450m west
Yellow Dot Nursery	Private nursery for children of 'baby to kindergarten age'	900m west

Table 13.10: Care Homes and Nursing Homes in Health and Communities Study Area

Facility	Type of facility	Location from Proposed Scheme
Care Homes and Nursing Homes		
Leonard Cheshire	Provides support for disabled people	310m west
Homerise House	Assisted living facility with resident management staff	1,700m west
Moorside Nursing Home	Specialist dementia care	1,400m south west
Abbotts Barton Care Home	Private residential and nursing care	1,250m north west
Brendoncare Park Road Nursing Home	Charity-run nursing home	1,400m west
Anchor - Watersmeet	Private residential and nursing care.	1,560m south
Cambria House	Specialist residential care	1,600m west

Table 13-11: Emergency Services in Health and Communities Study Area

Facility	Type of facility	Location from Proposed Scheme
Hospitals		
Leigh Hospital	Specialist mental health unit for young people	620m east
Winchester Fire Station	Fire station	430m south west

### Public Access and Recreation

13.2.53 The key roads and public rights of way (PRoW) that interact with, or are in close proximity to the Proposed Scheme are shown on **Figure 2.2, Appendix 2.1**.



13.2.54 The highways associated with the M3 Junction 9 include:

- **M3 motorway itself:** the M3 runs 95km from Sunbury-on-Thames in Surrey to Eastleigh in Hampshire. From Junction 8 to Junction 9, it runs dual two lanes and then three dual lanes onwards to Southampton
- **A34 Winchester Bypass:** Junction 9 connects the M3 to the A34, a major road which runs to the Midlands and the North West. The A34 is a key route within Winchester, connecting northern residential areas at the Worthies, Wherwell, and Wonston to the city centre
- **Easton Lane:** this road provides direct access to Winchester city centre from the M3 via Junction 9. It also provides access into the adjacent industrial areas.

13.2.55 The B3404 (Alresford Road) crosses the M3 east-west via a bridge approximately 570 m south of Junction 9 and accommodates bus routes between Winchester and settlements to the east. Vehicle travellers on the M3 north of junction 9 would have intermittent views of the surrounding countryside since the motorway is on embankment. However, to the south of the junction, the motorway drops into cutting restricting views for vehicular travellers. There is a footway along the eastern edge of the A34 dual carriageway. There are footways on both sides of Easton Lane within industrial estate.

13.2.56 There are four non-vehicular PRow within the vicinity of the site, including the South Downs Way National Trail which crosses the M3 in a west – east alignment using an overbridge south of Junction 9.

13.2.57 The National Cycle Network Route 23, linking Reading to Southampton, crosses Junction 9 via at-grade crossings. The cycleway is routed onto Easton Lane in the industrial estate from the south, crossing the motorway junction via two at-grade crossings, before continuing along Easton Lane to the east. Easton Lane at this point is bridleway 502 as it crosses the junction and for approximately 200 m until it becomes a small, single carriageway metalled track from which some isolated residential properties/farms may be accessed. There is no through-route for motorised traffic across the junction via Easton Lane.

13.2.58 There are four distance paths (regional trails) following the Itchen valley. The Allan King Way and St Swithun's Way follow the same route on the west side of the valley, crossing the A34 immediately north of the Proposed Scheme location via an underpass into Kingsworthy. The Itchen Way and Three Castles Path follow another route on the east side of the valley, crossing under the A34 where the River Itchen crosses, within the footprint of the Proposed Scheme. The two distance paths diverge approximately 600 m east of the A34, with the Three Castles Path crossing the M3 via a subway approximately 740 m north of the Proposed Scheme, whilst the Itchen Way joins St Swithun's Way and crosses the M3 approximately 380 m further along. These are the main PRow within close proximity to the Proposed

Scheme, although there are several shorter public footpaths and bridleways in the wider area.

13.2.59 The location of the Proposed Scheme on the edge of settlement with the SDNP to the east means that the majority of pedestrian and cycling journeys across the Proposed Scheme area would be likely to be for recreational purposes. However, community infrastructure such as St Swithun's School and Leigh House Hospital east of the M3 can be accessed via the cycleway or Alresford Road and likewise, it is possible that some residents from the villages and properties east of the M3 would access services within Winchester via the same routes.

13.2.60 The routes identified above are likely to be heavily used as the M3 acts as a barrier between Winchester and the SDNP and these represent the only crossing points available in the vicinity of the site.

13.2.61 The Proposed Scheme incorporates opportunities to improve provision for pedestrians, cyclists and potentially equestrians, when crossing the M3 Junction 9 area. It is proposed to provide an improved standard of shared use (pedestrian/cycle) route across the junction area, offering a more direct means of accessing the countryside east of the Proposed Scheme.

13.2.62 Potential improvements to the local PRow network as part of the Proposed Scheme. The inclusion of specific PRow network improvements will be investigated further and confirmed through the detailed design of the Proposed Scheme.

### 13.3 Potential impacts

#### Range of Likely Population and Health Effects

13.3.1 All new developments have the potential to generate socio-economic effects at the local, regional and/or national level, principally in relation to changes in economic development, employment, area regeneration, community infrastructure provision and usage, retail expenditure and public access to recreational assets. However, the range of likely significant socio-economic effects generated by a development proposal depends upon the characteristics of the individual development combined with the baseline socio-economic conditions (e.g. labour and housing markets) which the proposal would interact with.

13.3.2 Having regard to the characteristics of the site, the surrounding area and the Proposed Scheme (**Chapter 2**), the terms of the 2019 EIA Scoping Opinion and guidance provided within DMRB LA112, the Proposed Scheme is likely to result in the following types of effects:

#### Construction

- Private property and housing: access and amenity effects on existing residential areas

- Community land (South Downs National Park, open space) and assets: effects on community assets / infrastructure
- Development land (nearby land with the opportunity to be developed or re-developed, falling outside of agricultural land uses) and businesses
- Effects on the labour market including direct, indirect and induced employment effects, with associated economic and expenditure effects
- Effects on the performance (e.g. activity, productivity, etc) of key business sectors
- Access and amenity effects on existing employment areas
- Agricultural land holdings: encroachment (temporary or permanent) onto agricultural land
- Walking & Cycling: effects on access to and users of recreational routes (public access)
- Effects on relevant key determinants of health (physical and social)

### **Operation**

- Private property and housing
- Access and amenity effects on existing residential areas
- Effects on residential development land and the housing market
- Community land and assets: effects on community assets / infrastructure
- Development land and business
- Effects on the performance (e.g. activity, productivity, etc) of key business sectors
- Access and amenity effects on existing employment areas
- Agricultural land holdings: any agricultural land-take (permanent)
- Walking & Cycling: effects on access to and users of recreational routes (public access)
- Effects on relevant key determinants of health (physical and social).

13.3.3 It should also be noted that an assessment of Agricultural Land as a resource will be undertaken within **Chapter 10 Geology and Soils** and therefore will be not considered further within this chapter.

13.3.4 From these likely effects, this chapter identifies the scope of effects which at this stage have the potential to be considered significant and thus require

detailed assessment through the EIA process, together with proposed assessment methodologies.

### **Receptor Sensitivity and Value**

- 13.3.5 The initial baseline review presented above has identified a range of sensitive receptors which are likely to be impacted by the Proposed Scheme and therefore need to be taken account of in the assessment. In accordance with DMRB LA112 (Highways England, 2020), relevant receptors will be assigned a sensitivity level based on their importance, value and impact susceptibility as a key part of the assessment process and fully justified within the ES.
- 13.3.6 The city of Winchester includes key employment, residential, retail, commercial and industrial areas all within relatively close proximity of the site. It is also of value to communities in the surrounding area, providing a variety of local and regional services (for example retail, leisure, schools, healthcare facilities and employment). As set out in **Tables 13-10 and 13-11**, there are also several facilities in the surrounding area that are likely to provide for vulnerable people who would potentially be sensitive to potential impacts of the M3 J9 Improvement.
- 13.3.7 Forming part of the UK's strategic road network, M3 Junction 9 and the wider M3 route is of high value for economic reasons. The M3 is a key route to the south coast including the cross-channel and Isle of Wight ferry ports at Portsmouth, the Isle of Wight ferry ports and cruise ports at Southampton, the New Forest National Park, and westward towards Poole and Bournemouth from the north via the A34 and from M25 connections, London and Basingstoke. The 'A' roads stemming from M3 Junction 9 are also of value in linking Winchester to other towns, areas and the wider road network.
- 13.3.8 The four PRow and cycleway (National Cycle Network Route 23) within the vicinity of Proposed Scheme and which cross the M3 are of high recreational value in terms of providing access from the Winchester area eastwards into the SDNP. In addition to providing access into rural hinterlands from the urban centre, residents of outlying villages east of the M3 are also likely to utilise the existing PRow and cycleway to access to industrial areas and services within Winchester (therefore also making the routes of utility value).
- 13.3.9 Alresford Road, being one of relatively few routes across the M3, is likely to be of value to local traffic, including pedestrians and cyclists, to access some of the facilities on the east side of the M3.

## **13.4 Design, mitigation and enhancement measures**

- 13.4.1 The Proposed Scheme will incorporate a number of embedded mitigation measures to achieve the design objectives and avoid, prevent or minimise likely significant adverse environmental effects. At this early stage in the design process, this includes the following relevant design principles which will be incorporated into the final design of the Proposed Scheme:

- Opportunities to improve provision for pedestrians, cyclists and equestrians when crossing the M3 Junction 9 area - it is proposed to provide an improved standard of shared use (pedestrian/cycle) route across the junction area, offering a more direct means of accessing the countryside east of the Proposed Scheme
- Potential improvements to the local PRow network as part of the Proposed Scheme - The inclusion of specific PRow network improvements will be investigated further and confirmed through the detailed design of the Proposed Scheme

13.4.2 Responding to feedback obtained from previous engagement with consultees and local communities, the detailed design and implementation of the Proposed Scheme will consider additional opportunities to maximise local accessibility and socio-economic benefits. This may include:

- Proposals to better integrate adjacent residential, industrial and commercial areas (e.g. Winnall Industrial Estate) accessed from Easton Lane immediately west of the M3 with the new Junction 9 and A34 interchange
- Proposals to maximise social value and local supply chain opportunities through the construction phase of the Proposed Scheme.

13.4.3 All proposed embedded and other essential mitigation measures to achieve the design objectives and avoid, prevent or minimise likely significant adverse effects on Population and Human Health receptors will be detailed within the ES for the Proposed Scheme.

## 13.5 Description of likely significant effects

13.5.1 Having regard to the Proposed Scheme and the characteristics of the Site, at this early stage it is considered that within the assessed study areas, the following socio-economic effects (beneficial or adverse) have the potential to be significant within the context of the EIA Regulations and therefore require further consideration:

### Construction

- Private property and housing: amenity effects on existing residential areas
- Community land and assets: amenity effects on community assets / infrastructure
- Development land and business
- Construction employment effects, with associated economic and expenditure effects
- Effects on the performance (e.g. activity, productivity, etc) of the construction sector

- Access and amenity effects on existing employment areas (e.g. Winnall Industrial Estate) through temporary delays and disruption to access
- Walking & Cycling: effects on users of recreational routes (walkers, cyclists and horse riders through physical disruption and restrictions on public access between Winchester and the SDNP
- Effects on relevant key determinants of health (physical and social)

### **Operation**

- Private property and housing
- Secondary effects on residential development land and the housing market (Winchester District Strategic Housing Market Assessment (SHMA)) resulting from improvements in access. This could indirectly generate development and regeneration effects through supporting development intensification, acceleration and land value uplift
- Community land and assets: effects on access to community assets / infrastructure
- Development land and business
- Effects on the performance (e.g. activity, productivity, etc) of key business sectors including logistics/distribution and tourism
- Secondary effects on development land and existing key employment areas resulting from improvements in access. This could generate economic development and regeneration effects through directly or indirectly supporting development intensification, acceleration and land value uplift
- Access and amenity effects on existing employment areas (e.g. Winnall Industrial Estate) through improvements to the adjacent transport network
- Walking & Cycling: effects on users of recreational routes (walkers, cyclists and horse riders through changes (improvements) in public access between Winchester and the South Downs National Park
- Effects on relevant key determinants of health (physical and social). Arising from likely changes in recreational access, the Proposed Scheme would enhance local opportunities for active travel, with the associated potential to improve rates of physical activity and generate associated physical and mental health benefits.

## **13.6 Assessment methodology**

### **Overview of Approach**

13.6.1 An assessment of the likely significant effects associated with the Proposed Scheme will be undertaken in accordance with relevant and applicable



legislation, policies and technical standards. The full methodology will be set out, explained and justified within the ES. Where possible, approach to assessment will be agreed with relevant statutory bodies.

13.6.2 The assessment will be undertaken in accordance with the EIA Regulations, the UK Government Green Book for Appraisal and Evaluation of Projects and Programmes, and DMRB LA112 – Population and Health (January 2020).

13.6.3 Planning policies that are relevant to the Proposed Scheme include:

- National Policy Statement for National Networks (NPS NN) (DfT, 2014) Paragraphs: 3.2-3.5 (Environmental and Social Impacts); 3.10 (Safety); 3.15-3.17 (Sustainable Transport); 3.19-3.22 (Accessibility); 4.81-4.82 (Health); 5.162, 5.175, 5.180, 5.184 (Land use Including Open Space, Green Infrastructure and Green Belt); and, 5.202-5.214 (Impacts on Transport Networks)
- The National Planning Policy Framework (NPPF) (2019): Chapters 8 (Promoting healthy and safe communities); 9 (Promoting sustainable transport), 11 (Making effective use of land); 12 (Achieving well-designed places); and, 15 (Conserving and enhancing the natural environment), and the associated Planning Practice Guidance: Environmental Impact Assessment (2020); Natural Environment (2019) and Open space, sports and recreation facilities PRoW and local green space (2014)
- Winchester District Local Plan Review (2006) Saved Policies – DP.3 (General Design Criteria)
- Winchester District Local Plan Part 1 – Joint Core Strategy (2013): MTRA4 (Development in the Countryside); Policy CP13 (High Quality Design), Policy CP15 Green Infrastructure, Policy CP19 (National Park), Policy CP20 (Heritage and Landscape Character)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (2017): Policy WIN1 (Winchester Town); Policy DM16 (Site Design Criteria); Policy DM17 (Site Development Principles); Policy DM18 (Access and Parking); Policy DM20 (Development and Noise); and, Policy DM23 Rural Character
- Winchester District Draft Local Plan 2018 – 2038 (Emerging)
- South Downs Local Plan (2019): Core Policy SD1 (Sustainable Development); Core Policy SD2 (Ecosystem Services); Core Policy SD3 (Major Development); Strategic Policy SD5 (Design); Strategic Policy SD6 (Safeguarding Views); Strategic Policy SD7 (Relative Tranquillity); Strategic Policy SD8 (Dark Night Skies); Strategic Policy SD19 (Transport and Accessibility); Strategic Policy SD20 (Walking, Cycling and Equestrian Routes); Development Management Policy SD21 (Public Realm, Highway Design and Public Art); Strategic Policy SD42 (Infrastructure); and, Strategic Policy SD45 (Green Infrastructure).

13.6.4 The following activities will be undertaken to complete the population and health assessment:

- Reviewing relevant legislation and planning policies
- Establishing baseline conditions within the relevant study areas to identify potential receptors and receptor groupings for consideration in the assessment
- Defining receptor sensitivity to likely changes (e.g. in employment, business sector performance, land use or community severance) resulting from the Proposed Scheme
- Examining likely socio-economic changes from the Proposed Scheme on identified receptors and receptor groupings, with consideration given to the phasing, magnitude, duration (e.g. short/long term, temporary/permanent) and nature (i.e. adverse/beneficial) of the change. The types of effects which will be examined in the assessment are those listed in **Section 13.4** above
- Considering likely cumulative socio-economic changes from the Proposed Scheme in combination with other identified approved developments
- Determining the likely level of socio-economic effects from the Proposed Scheme, having regard to both receptor sensitivity and the characteristics of predicted changes
- Identifying the significance of likely socio-economic effects in the context of the assessment criteria
- Identifying mitigation and enhancement measures to address any likely significant adverse socio-economic effects, and to enhance the socio-economic performance of the Proposed Scheme.

13.6.5 Identifying likely residual socio-economic effects from the Proposed Scheme taking account of all mitigation and enhancement measures.

#### **Information Sources, Modelling and Consultation**

13.6.6 A detailed socio-economic baseline of the relevant study areas will be collated to establish the sensitivity of identified receptors (labour market, housing market, key business sectors, etc). The following key data sources will be reviewed:

- Experian Forecast and Office for National Statistics (ONS) datasets, including: Business Register and Employment Surveys; Annual Survey of Hours and Earnings; Mid-year Population Estimates; Annual Business Statistics; and UK business; activity, size and location statistical bulletins
- Ground truthing will be undertaken to verify the characteristics of identified receptors including key economic areas (e.g. Winnall Industrial Estate), public access routes and community infrastructure assets within the assessed study



areas. A site familiarisation visit was undertaken in September 2020 to inform the preparation of this EIA Scoping Report chapter.

13.6.7 Consultation with relevant stakeholders including Winchester City Council Economic Development, Hampshire County Council (HCC), Business Hampshire, Enterprise M3 LEP will be undertaken where appropriate.

13.6.8 There could be circumstances where information required to undertake the assessment as stated in this EIA Scoping Report is not available or the quality of information is poor. In such circumstances, the latest publicly available information will be used in the assessment and any gaps in the data will be clearly identified and noted.

13.6.9 Relevant socio-economic data will be inputted to a bespoke economic model to predict the gross and net socio-economic effects, including with respect to expenditure and employment, from the construction and operation of the Proposed Scheme. This model will incorporate economic multipliers and additionality assumptions.

### **Approach to Assessment**

13.6.10 There are no specific methodological guidelines or requirements for socio-economic assessments within the context of EIA. However, DMRB LA112 (Highways England, 2020) provides fixed assessment criteria and definitions of sensitivity, magnitude of change and EIA significance which will be used to underpin the assessment.

13.6.11 The level and significance of likely socio-economic effects from the Proposed Scheme will be judged with reference to the following factors:

- Sensitivity of affected receptor: Negligible to Very High
- Predicted magnitude of change: No change to Major.

### **Receptor Sensitivity**

13.6.12 DMRB LA112 (Highways England, 2020) sets out definitions for receptors sensitivity for use within impact assessments. From this, **Table 13-12 and 13-13** below identifies the definitions of receptors and magnitude of change relating to the Proposed Scheme where it is considered there is a likelihood for significant effects and further assessment is required.

Table 13-12: Population and Human Health Sensitivity

Receptor value (sensitivity)	Description
Very High	<p><b>Private property and housing:</b></p> <ul style="list-style-type: none"> <li>■ existing private property or land allocated for housing located in a local authority area where the number of households are expected to increase by &gt;25% by 2041 (ONS data); and/or</li> <li>■ existing housing and land allocated for housing (e.g. strategic housing sites) covering &gt;5ha and / or &gt;150 houses.</li> </ul> <p><b>Community land and assets where there is a combination of the following:</b></p> <ul style="list-style-type: none"> <li>■ complete severance between communities and their land/assets, with little/no accessibility provision</li> <li>■ alternatives are only available outside the local planning authority area</li> <li>■ the level of use is very frequent (daily); and</li> <li>■ the land and assets are used by the majority (&gt;=50%) of the community.</li> </ul> <p><b>Development land and businesses:</b></p> <ul style="list-style-type: none"> <li>■ existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering &gt;5ha</li> <li>■ there is an extensive shortfall of appropriate labour and skills. The Scheme would therefore lead to labour market pressure and distortions (i.e. skills and capacity shortages, import of labour, wage inflation).</li> </ul> <p><b>WCH:</b></p> <ul style="list-style-type: none"> <li>■ national trails and routes likely to be used for both commuting and recreation that record frequent (daily) use. Such routes connect communities with employment land uses and other services with a direct and convenient WCH route. Little / no potential for substitution</li> <li>■ routes regularly used by vulnerable travellers such as the elderly, school children and people with disabilities, who</li> </ul>

Receptor value (sensitivity)	Description
	<p>could be disproportionately affected by small changes in the baseline due to potentially different needs</p> <ul style="list-style-type: none"> <li>■ rights of way for WCH crossing roads at grade with &gt;16,000 vehicles per day.</li> </ul>
High	<p><b>Private property and housing:</b></p> <ul style="list-style-type: none"> <li>■ private property or land allocated for housing located in a local planning authority area where the number of households are expected to increase by 16-25% by 2041 (ONS data); and/or</li> <li>■ existing housing and land allocated for housing (e.g. strategic housing sites) covering &gt;1-5ha and / or &gt;30-150 houses.</li> </ul> <p><b>Community land and assets where there is a combination of the following:</b></p> <ul style="list-style-type: none"> <li>■ there is substantial severance between community and assets, with limited accessibility provision</li> <li>■ alternative facilities are only available in the wider local planning authority area</li> <li>■ the level of use is frequent (weekly); and</li> <li>■ the land and assets are used by the majority (&gt;=50%) of the community.</li> </ul> <p><b>Development land and businesses:</b></p> <ul style="list-style-type: none"> <li>■ existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering &gt;1 - 5ha</li> <li>■ there is an extensive shortfall of appropriate labour and skills. The Scheme would therefore lead to labour market pressure and distortions (i.e. skills and capacity shortages, import of labour, wage inflation).</li> </ul> <p><b>WCH:</b></p> <ul style="list-style-type: none"> <li>■ regional trails and routes (e.g. promoted circular walks) likely to be used for recreation and to a lesser extent commuting, that record frequent (daily) use. Limited potential for substitution; and/or</li> </ul>

Receptor value (sensitivity)	Description
	<ul style="list-style-type: none"> <li>▪ rights of way for WCH crossing roads at grade with &gt;8,000 - 16,000 vehicles per day.</li> </ul>
Medium	<p><b>Private property and housing:</b></p> <ul style="list-style-type: none"> <li>▪ houses or land allocated for housing located in a local authority area where the number of households are expected to increase by &gt;6-15% by 2041 (ONS data); and/or</li> <li>▪ existing housing and land allocated for housing (e.g. strategic housing sites) covering &lt;1ha and / or &lt;30 houses.</li> </ul> <p><b>Community land and assets where there is a combination of the following:</b></p> <ul style="list-style-type: none"> <li>▪ there is severance between communities and their land/assets but with existing accessibility provision</li> <li>▪ limited alternative facilities are available at a local level within adjacent communities</li> <li>▪ the level of use is reasonably frequent (monthly); and</li> <li>▪ the land and assets are used by the majority (&gt;=50%) of the community.</li> </ul> <p><b>Development land and businesses:</b></p> <ul style="list-style-type: none"> <li>▪ existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering &lt;1ha</li> <li>▪ there is a low/limited supply of appropriate labour and skills. The proposed development may therefore lead to labour market pressure or distortions.</li> </ul> <p><b>WCH:</b></p> <ul style="list-style-type: none"> <li>▪ public rights of way and other routes close to communities which are used for recreational purposes (e.g. dog walking), but for which alternative routes can be taken. These routes are likely to link to a wider network of routes to provide options for longer, recreational journeys, and / or</li> <li>▪ rights of way for WCH crossing roads at grade with &gt;4000 - 8000 vehicles per day.</li> </ul>

Receptor value (sensitivity)	Description
Low	<p><b>Private property and housing:</b></p> <ul style="list-style-type: none"> <li>■ proposed development on unallocated sites providing housing with planning permission/in the planning process.</li> </ul> <p><b>Community land and assets where there is a combination of the following:</b></p> <ul style="list-style-type: none"> <li>■ limited existing severance between community and assets, with existing full Disability Discrimination Act (DDA) DDA 1995 [Ref 2.N] compliant accessibility provision</li> <li>■ alternative facilities are available at a local level within the wider community</li> <li>■ the level of use is infrequent (monthly or less frequent); and</li> <li>■ the land and assets are used by the minority (&gt;=50%) of the community.</li> </ul> <p><b>Development land and businesses:</b></p> <ul style="list-style-type: none"> <li>■ proposed development on unallocated sites providing employment with planning permission/in the planning process</li> <li>■ there is a readily available supply of appropriate labour and skills. The proposed development is therefore unlikely to lead to labour market pressure or distortions.</li> </ul> <p><b>WCH:</b></p> <ul style="list-style-type: none"> <li>■ routes which have fallen into disuse through past severance or which are scarcely used because they do not currently offer a meaningful route for either utility or recreational purposes, and/or</li> <li>■ rights of way for WCH crossing roads at grade with &lt;4000 vehicles per day.</li> </ul>
Negligible	<p><b>Private property and housing:</b></p> <p>N/A.</p> <p><b>Community land and assets where there is a combination of the following:</b></p> <ul style="list-style-type: none"> <li>■ no or limited severance or accessibility issues</li> </ul>

Receptor value (sensitivity)	Description
	<ul style="list-style-type: none"> <li>■ alternative facilities are available within the same community</li> <li>■ the level of use is very infrequent (a few occasions yearly); and</li> <li>■ the land and assets are used by the minority (&gt;=50%) of the community.</li> </ul> <p><b>Development land and businesses:</b> N/A.</p> <p><b>WCH:</b> N/A.</p> <p>Receptors identified as having negligible sensitivity (to likely effects) have no potential to experience significant effects from the Proposed Scheme and thus do not require further consideration in the assessment. To remain proportionate and support the assessment process, the baseline analysis presented in <b>Section 13.2</b> focuses on characterising potential receptors with higher than negligible sensitivity to likely changes due to the Proposed Scheme.</p>
Human Health	<p>Once the health profile of communities has been established through analysis of baseline conditions, human health sensitivity change will be reported as Low, Medium, High in line with LA112 guidance. Sensitivity will be assigned to the following broad receptor groupings which cover key health determinants: Physical Health Statistics; Wider Wellbeing and Mental Health Determinants and Wider Environmental Factors.</p>

### Magnitude of Change

13.6.13 Proportionate economic modelling will be undertaken to quantify the net additional employment generated by and wider economic effects of the Proposed Scheme. The assessment of likely significant effects will also draw on the findings of the following related technical assessments to identify the predicted type, valency (direction) and magnitude of change associated with specific likely effects from the Proposed Scheme:

- **Economic Appraisal:** this will identify both the transport economic benefits from the Proposed Scheme and the areas of development and employment land which are likely to benefit from related accessibility, capacity, and journey time improvements. A bespoke economic model will estimate the likely net

employment, value-added, and If productivity impacts of changes to development including potential acceleration, increase in scale, and/or changes in use

- **Equalities Impact Assessment:** this will identify any likely different or disproportionate effects on persons with protected characteristics (as defined under the Equality Act 2010); and
- **Walking, Cycling and Horseriding (WCH) Assessment:** this will review accident data, existing survey data (for cycle, pedestrian, and horse use), confirm transport interchanges within the Study Area (e.g. bus stops), identify key trip generators (schools, businesses, tourist destinations, etc) and characterise the quality of the existing WCH network. Through this technical assessment, opportunities will be identified to improve the WCH network surrounding M3 Junction 9 and incorporated within the Proposed Scheme, with both likely temporary construction phase and permanent operational phase effects on public access then assessed within the Population and Health chapter of the ES.

13.6.14 Building upon relevant technical assessments, the Population and Health Chapter of the ES will assign a specific magnitude of change rating to each type of likely effect from the Proposed Scheme (as listed in Section 13.4) on each identified relevant receptor. As specified within DMRB LA112 (Highways England, 2020), the definitions of magnitude of change set out in **Table 13-13** below will be adopted for the purposes of undertaking this assessment.

Table 13-13: Population and Human Health Magnitude of Change Criteria

<b>Magnitude of impact (change)</b>	<b>Typical description</b>
Major	<p><b>Private property and housing, community land and assets, development land and businesses and agricultural land holdings:</b></p> <ul style="list-style-type: none"> <li>■ Major change (beneficial /adverse) to a resource including quality and integrity of resource; key characteristics; features or elements (e.g. direct acquisition and demolition of buildings and direct development of land to accommodate highway assets)</li> <li>■ Major change (beneficial /adverse) to accessibility</li> <li>■ Major change (beneficial /adverse) the number of net jobs in the Study Area, 250 or greater (based upon the EU definition of small and medium enterprises (European Commission, 2003)).</li> </ul> <p><b>WCH:</b></p> <ul style="list-style-type: none"> <li>■ Major change (beneficial /adverse) &gt;500m in WCH journey length.</li> </ul>
Moderate	<p><b>Private property and housing, community land and assets, development land and businesses and agricultural land holdings:</b></p> <ul style="list-style-type: none"> <li>■ Moderate change (beneficial /adverse) to a resource including quality and integrity of resource; key characteristics; features or elements (e.g. partial removal or substantial amendment to access or acquisition of land compromising viability of property, businesses, community assets or agricultural holdings);</li> <li>■ Moderate change (beneficial /adverse) to accessibility</li> <li>■ Moderate change (beneficial /adverse) the number of net jobs in the Study Area would be 50 or greater, but fewer than 250.</li> </ul> <p><b>WCH:</b></p> <ul style="list-style-type: none"> <li>■ Moderate change (beneficial /adverse) &gt;250m - 500m in WCH journey length</li> </ul>



<b>Magnitude of impact (change)</b>	<b>Typical description</b>
Minor	<p><b>Private property and housing, community land and assets, development land and businesses and agricultural land holdings:</b></p> <ul style="list-style-type: none"> <li>■ Minor change (beneficial /adverse) to a resource including quality and integrity of resource; key characteristics; features or elements (e.g, amendment to access or acquisition of land resulting in changes to operating conditions that do not compromise overall viability of property, businesses, community assets or agricultural holdings)</li> <li>■ Minor change (beneficial /adverse) to accessibility</li> <li>■ Minor change (beneficial /adverse) to the number of net jobs in the Study Area would be greater than 10, but fewer than 50.</li> </ul> <p><b>WCH:</b></p> <ul style="list-style-type: none"> <li>■ Minor change (beneficial /adverse) &gt;50m - 250m) in WCH journey length.</li> </ul>
Negligible	<p><b>Private property and housing, community land and assets, development land and businesses and agricultural land holdings:</b></p> <ul style="list-style-type: none"> <li>■ Very minor change (beneficial /adverse) to a resource including quality and integrity of resource; key characteristics; features or elements (e.g. acquisition of non-operational land or buildings not directly affecting the viability of property, businesses, community assets or agricultural holdings);</li> <li>■ Very minor change (beneficial /adverse) to accessibility</li> <li>■ Very minor change (beneficial /adverse) in the number of net jobs in the Study Area would be less than 10.</li> </ul> <p><b>WCH:</b></p> <ul style="list-style-type: none"> <li>■ Very minor change (beneficial /adverse) &lt;50m in WCH journey length.</li> </ul>
No change	No change of resource, key characteristics, features, elements, accessibility or net jobs with no observable impact (beneficial /adverse).
Human health outcomes	Changes to health determinants likely to occur as a result of the Proposed will broadly be categorised as Positive; Neutral, Negative or Uncertain.

Magnitude of impact (change)	Typical description
	<p>The IEMA 'Health in Environmental Impact Assessment – A Primer for a Proportionate Approach' (2017) notes the complexities to defining significance for population and human health. There is an absence of significance criteria or a defined threshold for determining significance for population and health in UK EIA practice. As such, the typical matrix of determining impact significant in EIAs, will therefore not be applied in this impact assessment of human health. Rather, a qualitative assessment of likely effects on the key determinants of health will be undertaken with reference to the identified receptor groupings of relevant health determinants. Where relevant, the assessment will draw upon the findings of other ES chapters in relation to likely primary environmental effects (e.g. change in air quality) with potential implications for health determinants.</p>

13.6.15 In line with the general approach outlined in **Chapter 5 EIA Assessment Methodology**, the level and significance of likely socio-economic effects from the Proposed Scheme will be judged with reference to the following factors:

- Sensitivity of affected Receptor: Low to Very High, **refer to Table 13-12**
- Predicted magnitude of change: No change to Major, **refer to Table 13-13**

13.6.16 In line with standard EIA practice, a matrix-based approach will be used to objectively assess the level and significance of predicted socio-economic effects with reference to receptor sensitivity and the predicted magnitude of socio-economic change from the Proposed Scheme, as outlined in **Table 13-14** which is taken from DMRB LA104 Effects predicted to occur at levels of moderate and major will be considered significant in the context of the EIA Regulations.

Table 13-14: Significance matrix of Population and Health

Sensitivity	Magnitude of Change				
	No Change	Negligible	Minor	Moderate	Major
<b>Very High</b>	Neutral	Slight	Moderate / Large	Large / Very Large	Very Large
<b>High</b>	Neutral	Slight	Slight / Moderate	Moderate / Large	Large / Very Large
<b>Medium</b>	Neutral	Neutral / Slight	Slight	Moderate	Moderate / Large
<b>Low</b>	Neutral	Neutral / Slight	Neutral / Slight	Slight	Slight / Moderate
<b>Negligible<sup>9</sup></b>	Neutral	Neutral	Neutral / Slight	Neutral / Slight	Slight

13.6.17 Where an effect could be one of two gradings (for example where a Negligible impact interacts with a Medium sensitivity receptor resulting in a Neutral or Slight effect), professional judgement will be used to determine which effect is applicable and this will be explained in the associated commentary.

13.6.18 The level and significance of likely residual effects will be determined taking account of embedded mitigation and any essential mitigation or enhancement measures identified through the assessment to prevent, reduce or offset significant adverse effects (or to enhance the socio-economic performance of the Proposed Scheme) given the strategic objectives of the Proposed Scheme include Supporting economic growth – through unlocked development capacity for job, business and housing creation. The population and health chapter within the ES will ensure that it is clear to the reader which, if any, effects are both adverse and significant and may therefore require monitoring.

### 13.7 Assessment Assumptions and Limitations

13.7.1 The assessment will draw upon relevant conclusions from the Economic Appraisal, Equalities Impact Assessment and WCH Assessment as well as other technical assessment chapters of the ES. In particular, likely ‘primary’ environmental or physical effects arising from changes in traffic, noise and air

<sup>9</sup> Receptors identified as having negligible sensitivity (to likely effects) have no potential to experience significant effects from the Proposed Scheme and thus do not require further consideration in the assessment. To remain proportionate and support the assessment process, the baseline analysis presented in **Section 13.2** focuses on characterising potential receptors with higher than negligible sensitivity to likely changes due to the Proposed Scheme.

quality which may lead to secondary socio-economic effects will be considered. To avoid duplication and maintain assessment proportionality, amenity related environmental effects on local residents are proposed to be scoped out of the socio-economic assessment as any likely significant visual, air quality or noise effects will be assessed elsewhere in the ES where relevant.

13.7.2 The approach to determining effect levels and significant shown in **Table 13-14** will apply both for likely socio-economic effects from the Proposed Scheme Effects predicted to occur at levels of moderate or major will be considered significant in the context of the EIA Regulations.

13.7.3 Following the identification of likely socio-economic effects, the need for any essential mitigation or further enhancement measures to address predicted adverse effects or to enhance the socio-economic performance of the Proposed Scheme will be considered through the assessment. Given the proposed Scheme Objectives, this will include identifying appropriate options and opportunities to reduce community severance and provide a more accessible and integrated multimodal access network between Winchester City Centre, including to key employment areas, housing locations and across the M3 into the SDNP.

13.7.4 The assessment will conclude by reporting the level and significance of likely residual socio-economic effects, taking account of all proposed mitigation and enhancement measures.

### 13.8 Elements to be scoped in/out

13.8.1 The elements proposed to be scoped in and out of the assessment of likely significant effects on Population and Health are summarised in **Tables 13-15 and 13-16** below.

*Table 13-15: Elements to be scoped in to the EIA for Population and Health*

Elements scoped in	Justification
<p><b>Community Land and Assets:</b> amenity effects on community assets / infrastructure (construction and operational phase)</p>	<p>Access to services in or around the community could be impeded during construction of and potentially improved following the completion of the Proposed Scheme. This could be through physical disruption, by creating inconvenience through changes in traffic flows or by reducing journey times to community assets.</p>
<p><b>Walking, Cycling Horseriding</b> / Public Access: effects on users of recreational routes through changes in public</p>	<p>There is a residential population with access to the countryside and SDNP via footpaths, bridleways and cycleways</p>

<p>access between Winchester and the SDNP. Likely construction and operational phase effects.</p>	<p>that cross the M3. The Proposed Scheme would be situated between this population and the countryside, so has the potential to disrupt access or affect the amenity of the PRow network. There is also potential for the Proposed Scheme to improve access to recreation.</p> <p>Potential operational effects of changes/severance of pedestrian, cycling and horse-riding access between Winchester and SDNP</p>
<p><b>Private Property and Housing:</b></p> <ul style="list-style-type: none"> <li>■ Amenity effects on existing residential areas (construction and operational phase)</li> <li>■ Secondary effects on residential development land and the housing market (Winchester District SHMA) resulting from improvements in access (operational phase only).</li> </ul>	<p>Potential effects of reduced delay and congestion leading unlocking development capacity</p>
<p><b>Development Land and Businesses:</b></p> <p>Construction Phase</p> <ul style="list-style-type: none"> <li>■ Construction employment effects, with associated economic and expenditure effects</li> <li>■ Effects on the performance of the construction sector</li> <li>■ Access and amenity effects on economic and employment areas.</li> </ul> <p>Operational Phase</p> <ul style="list-style-type: none"> <li>■ Effects on the performance of relevant key business sectors</li> <li>■ Access and amenity effects on economic and employment areas</li> <li>■ Secondary effects on development land and key employment areas resulting from improvements in access.</li> </ul>	<p>Temporary effects on labour market during construction. Potential operational effects on access to key employment locations and improvements to delay and congestion leading to intensification and higher value employment uses</p>

<p><b>Health:</b> effects on relevant key determinants of health (physical and social)</p>	<p>The assessment will focus on likely effects on identified key determinants of health. Access for recreation and open space, which is likely to be impacted by the Proposed Scheme, is an important issue for health and wellbeing. Where relevant, potential impacts on driver stress will continue to be considered in this context.</p>
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Table 13-16: Elements to be scoped out of the EIA for Population and Health

Elements scoped out	Justification
<p><b>Agricultural Land</b></p>	<p>An assessment of effects on Agricultural Land as a resource is proposed to be undertaken and reported in the Geology and Soils ES chapter.</p> <p>Having regard to the current characteristics of the Proposed Scheme, any impact on agricultural land is unlikely to occur to land upon which an agricultural enterprise is wholly reliant and is likely to be largely temporary in nature (e.g. temporary use of adjacent land for construction material deposition). On this basis it is presently considered that there is no potential for effects of Agricultural Land, as examined within the context of the Population and Human Health EIA topics, to be considered significant within the context of the EIA Regulations.</p>

## 14 Road Drainage and the Water Environment

### 14.1 Study area

- 14.1.1 This chapter provides an overview of the proposed scope and initial baseline assessment for Road Drainage and the Water Environment (RDWE). This is in line with the requirements set out in the Design Manual for Roads and Bridges (DMRB) LA113 Road Drainage and the water environment (Highways England, 2020). This encompasses the potential for flood risk, geomorphology (including the Water Framework Directive (WFD)), water quality and most groundwater impacts associated with the Proposed Scheme. Consideration is given to potential effects during the construction and operation phase.
- 14.1.2 The groundwater pollution risks associated with historical contamination are scoped separately in **Chapter 10 - Geology and Soils**. The groundwater risks associated with habitats and designated sites are scoped separately in **Chapter 9 – Biodiversity**. Appropriate consideration of the interaction of these environmental considerations will be provided within **Chapter 16 Assessment of cumulative effects** within the ES, as well as relevant discussion provided in **Chapter 14 (RDWE)** of the Environmental Statement (ES).
- 14.1.3 The proposed study area includes a 500m buffer surrounding the Indicative Application Boundary (IAB). This buffer is considered a suitable extent to assess direct potential impacts as well as encompassing indirect pathways, such as the migration of surface- borne pollutants, and the effects of any prolonged interception of groundwater flows. The proposed study area will be adapted during the EIA as design work progresses to cover receptors beyond 500m if needed. Where this is the case, the ES will fully justify and explain the rationale behind extending the study area.
- 14.1.4 The proposed study area also encompasses surface water features, groundwater features and abstractions, located up to a distance of approximately 500m from the site, that are considered to be in hydraulic connectivity with the Proposed Scheme, to assess potential indirect effects. If individual sensitive features located further than 500m from the site are identified at risk, they will also be considered within the assessment. Where this is the case, the ES will fully justify and explain the rationale behind extending the study area.

### 14.2 Baseline conditions

14.2.1 The following key data sources have been used to inform a description of the existing water environment baseline conditions:

- British Geological Survey mapping (BGS, 2020)
- Magic Map (DEFRA, 2020)



- Environment Agency *Flood Map for Planning* (EA, 2020a)
- Environment Agency *Historic Flood Map* (EA, 2020b)
- Environment Agency *Long Term Flood Risk* (EA, 2020c)
- Environment Agency South East River Basin Management Plan (EA, 2015)
- Environment Agency Test and Itchen Catchment Flood Management Plan (EA, 2009)
- South Downs National Park Authority *Water Cycle Study and SFRA Level 1* (AMEC, 2015)
- Winchester City Council *Strategic Flood Risk Assessment* (Halcrow, 2007)
- Hampshire County Council *Hampshire Groundwater Management Plan* (Hampshire County council, 2013).

14.2.2 The baseline data source also includes consultation undertaken with the Environment Agency (EA) in August 2020 (Reference: SSD/178635) to obtain the Product 5, 6 and 7 of the 2019 River Itchen Modelling Study.

### **Surface Water Features**

14.2.3 The Proposed Scheme alignment crosses the River Itchen at three locations, along the A34, A33 and M3. The Proposed Scheme also crosses one of the River Itchen's tributaries, the Nun's Walk Stream, which is crossed by the A34.

14.2.4 The River Itchen and the Nun's Walk Stream are classified as 'Main Rivers' and therefore regulated by the EA. The River Itchen also has a separate arm called the Itchen Navigation, located approximately 5km downstream of the site. The Itchen Navigation has been heavily modified and forms part of the floodplain of the River Itchen, however due to the distance downstream it has been excluded from consideration.

14.2.5 The River Itchen flows in a channel in a south-westerly direction and comprises several tributaries and land drains. There are also a number of ditches, ponds, wetlands, and ordinary watercourses associated with this floodplain.

14.2.6 All watercourses within the study area form part of the Test and Itchen Catchment Flood Management Plan (CFMP) (EA, 2009) and the South East River Basin District River Basin Management Plan (RBMP) (EA, 2015).

### **Environment Designations and Water Framework Directive Classifications**

14.2.7 The River Itchen catchment area has European and National designations, namely the River Itchen Special Area of Conservation (SAC) and the River



Itchen Site of Special Scientific Interest (SSSI), both of which are situated within the study area.

14.2.8 The River Itchen also flows into the Southampton and Solent Water Special Protection Area (SPA) and Ramsar site, located approximately 16km downstream of the Proposed Scheme, where the River Itchen discharges into the Solent.

14.2.9 The River Itchen also flows through the South Downs National Park (SDNP). The River Itchen floodplains forms part of the River Itchen SSSI, and much of the floodplain is designated as Lowland Fen wetland priority habitat. The floodplain is anticipated to protect in excess of 100 properties in Winchester and Kings Worthy from flooding.

14.2.10 The quality of the River Itchen and the Nun's Walk Stream is monitored by the EA against the objectives of the Water Framework Directive (WFD). There are two WFD designated water bodies in the vicinity of the Proposed Scheme: Itchen (GB107042022580) and Nun's Walk Stream (GB107042022730). Both water bodies are currently (Cycle 2, 2016) classified as at overall Good status, with Good ecological and chemical status. The Proposed Scheme is underlain by the River Itchen Chalk WFD groundwater body (GB40701G505000), which is currently (Cycle 2, 2016) at Poor overall status, with Poor status for both quantitative and chemical elements.

### **Existing Drainage**

14.2.11 The Highways Agency Drainage Data Management System (HADDMS) has Priority Asset Registers that identify existing outfalls, culverts and soakaways that potentially pose a risk of pollution or flooding. There are 17 Priority Outfalls from the Highways England network to the River Itchen catchment within the study area and numerous soakaway chambers and soakaway trenches. The database also identifies four surface water Priority Culverts. The risk posed by these existing drainage assets will be considered within the preparation of the ES.

14.2.12 Using the HADDMS database, the following will be reviewed as part of preparing the ES:

- The receiving water bodies of the Priority Outfalls and soakaways (and mitigation measures already in place, if any)
- The existing drainage system of the M3, the junction 9 roundabout, and the A34 approach

### **Surface Water Abstractions**

14.2.13 Consultation with the EA will be undertaken prior to the preparation of the ES, to confirm the presence of any licensed surface water abstractions at the IAB or within the study area. Hampshire County Council (HCC), the Lead

Local Flood Authority (LLFA) and Winchester City Council (WCC) will also be consulted, to confirm the presence of any private (unlicensed) abstractions that are not listed by the EA. However, there is no obligation to register private water supplies with WCC and therefore, unregistered private surface water supplies may be present.

## Groundwater Features

### Geology

14.2.14 Review of British Geological Survey (BGS, 2020) mapping indicates that the Proposed Scheme is underlain by bedrock geology of the Seaford Chalk Formation, which is described as “*firm white chalk with conspicuous semi-continuous nodular and tabular flint seams*” on the BGS online viewer. This chalk is itself underlain by the Lewes Nodular Chalk Formation, which is described as “*composed of hard to very hard nodular chalks and hardgrounds, with interbedded soft to medium hard chalks*” on the BGS online viewer.

14.2.15 Superficial deposits are limited across the study area. Superficial Alluvium, River Terrace and Head Deposits (comprising clay, silt, sand, and gravel) are present in close proximity to the River Itchen, within the extent of the river floodplain and adjacent riverbanks.

### Hydrogeology

14.2.16 Review of EA mapping (DEFRA, 2020) indicates that both the Seaford Chalk and the Lewes Chalk strata are classified as Principal Aquifers. A Principal Aquifer is defined by the EA as ‘layers of rock or drift deposits that have high intergranular and/or fracture permeability, meaning they usually provide a high level of water storage. These layers of rock or drift deposits may support water supply and/or river base flow on a strategic scale’.

14.2.17 The Alluvium and River Terrace Deposits are classified as a Secondary A Aquifer by the EA (DEFRA, 2020). A Secondary A Aquifer is defined as permeable layers of rock capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. The Head Deposits are classified as Secondary Aquifer (undifferentiated) (DEFRA, 2020).

14.2.18 Groundwater monitoring wells were installed across the M3 J9 Improvement site during the ground investigation completed in 2019 and groundwater monitoring is being undertaken. This data will be used as part of the assessment of the baseline groundwater quality in the ES, including understanding of baseline groundwater levels, fluctuations and quality across the Proposed Scheme in accordance with guidance in CIRIA 753 (CIRIA, 2015), BRE 365 (BRE, 2016) and the Institute of Civil Engineers (ICE) Earthworks Guidance, 2nd Edition, 2015 (ICE, 2015). Groundwater levels

have been monitored for over a year to provide information on seasonal fluctuations

- 14.2.19 The River Itchen is a baseflow-dominated chalk stream, fed by three major tributaries in its upper reaches: the Candover Stream, River Alre and Cheriton Stream. The River Itchen catchment has undergone significant modification over centuries (including the construction of the downstream Itchen Navigation which was completed in 1710), which has had a lasting impact on the fluvial geomorphology of the river. Modifications include re-alignment and/or deepening for land drainage and the construction of a variety of sluices and artificial channels for navigation, milling and to feed water meadows.
- 14.2.20 Notwithstanding, the river mainly retains the chalk stream geomorphological characteristics (low energy, high width to depth ratio, gravel bed with abundant macrophyte growth) and water quality characteristics required to support the features for which it is designated.
- 14.2.21 The Proposed Scheme lies within a Groundwater Vulnerability Zone of 'High'. These areas able to easily transmit pollution to groundwater. They are characterised by high leaching soils and the absence of low permeability superficial deposits.

#### *WFD Classifications*

- 14.2.22 Groundwater in the study area has been assessed against the objectives of the WFD. The RBMP (EA, 2015) identifies the groundwater body underlying the Proposed Scheme to be the River Itchen Chalk (GB40701G505000). The quality of the River Itchen Chalk is monitored by the EA against the objectives of the Water Framework Directive (WFD). The groundwater body is currently (Cycle 2, 2016) classified as at overall Poor status, with Poor quantitative quality and chemical status. The reasons for the River Itchen Chalk achieving a Poor status is noted to be local agriculture and rural land management practices.

#### *Groundwater abstractions*

- 14.2.23 Review of the EA Source Protection Zone (SPZ) map (DEFRA, 2020), **Figure 14.1, Appendix 14.1** shows that the northern parts of the M3 and the A34 traverse areas that are classified as SPZ 1: inner zones (50 day travel time of pollutant to source with a 50m default minimum radius) and SPZ 2: outer zone (400 day travel time of pollution to sources, with a 250m or 500m minimum radius around the source depending on the amount of water taken).
- 14.2.24 The SPZs are used by the EA as screening tools to identify those areas where it would object in principle to certain potentially polluting activities, or other activities that could damage groundwater and/or where additional controls or restrictions on activities may be needed to protect water intended

for human consumption. Zone 1 is the most sensitive of these protective areas and indicates the zone in which contamination released to the ground could reach the point of abstraction within 50 days. Zone 2 similarly defines a travel time of 400 days. Typically discharges of road drainage should be outside SPZ 1 and should be avoided within SPZ 2.

14.2.25 Information regarding licensed and non-licensed groundwater abstractions will be obtained through consultation with the EA, HCC and WCC during preparation of the ES.

14.2.26 Groundwater users may be particularly vulnerable to any disruptions of groundwater flow, provision and quality, and could therefore require consideration in the assessment of impacts due to the Proposed Scheme.

## **Flood Risk**

### *Fluvial*

14.2.27 The EA *Flood Map for Planning* (EA, 2020a) indicates that the northern and western parts of the study area, particularly at the A34 Winchester Bypass and M3 north of Long Walk, extend into an area designated as Flood Zone 3: area with a 1% ( 1 in 100) Annual Exceedance Probability (AEP) risk or greater of fluvial flooding. The designated Flood Zone 3 area is associated with the River Itchen and its tributaries. This shown in **Figure 14.2, Appendix 14.1**.

14.2.28 The northern and western part of the study area also extends into a Flood Zone 2 area: risk between a 0.1% (1 in 1000) and 1% (1 in 100) AEP of fluvial flooding. The remainder of the study area is situated within Flood Zone 1: less than 0.1% (1 in 1000) AEP risk of flooding. It is anticipated that climate change would cause these flood zone extents to increase in the future. The EA 2019 River Itchen modelling study considered climate change based on the EA guidance (EA, 2020d) for the South East River Basin District using the anticipated potential change factors of +35%, +45% and +105%.

### *Tidal*

14.2.29 The Proposed Scheme is not located within an area at risk of tidal flooding.

### *Surface Water (Pluvial)*

14.2.30 The Risk of Flooding from Surface Water (RoFSW) map (EA, 2020a) details that the study area is predominantly within an area at very low risk: less than 0.1% (1 in 1000) AEP of surface water flooding.

14.2.31 The RoFSW map identifies that parts of the M3 and slip roads at Junction 9 have a high: greater than 3.3% (1 in 30) AEP surface water flood risk.

14.2.32 The RoFSW mapping also identifies that there are several overland flow routes and isolated areas of ponding within the study area with a high: greater than 3.3% (1 in 30) AEP, to low: between 0.1% (1 in 1000) and 1% (1 in 100) AEP, risk of surface water flooding. These areas of flood risk are generally associated with topographic depressions within the fields to the east or where existing infrastructure (highways and residential development) causes an obstruction to natural overland flow paths.

14.2.33 There are several low-lying areas adjacent to watercourses to the west of the Proposed Scheme that are also shown to be at risk of surface water flooding. The flood risk associated with these areas are captured in the Fluvial section above.

### *Groundwater*

14.2.34 The South Downs National Park Authority (SDNPA) Water Cycle Study and Strategic Flood Risk Assessment (SFRA) Level 1 (AMEC, 2015) Groundwater Flood Risk Map indicates a variable susceptibility to groundwater flooding within the study area. The level of risk ranges from high (>75% based on a 1km square grid area) to low (25 – 50% based on a 1km square grid area) susceptibility; from south (M3/A34 crossing) to north of the Proposed Scheme. There are areas identified to be of high groundwater flood risk within the study area to the south-west and north-east of the Proposed Scheme. The areas of greatest risk are generally at close proximity to the River Itchen and its tributaries.

14.2.35 Winchester City Council SFRA (Halcrow, 2007) states that there is a high proportion of chalk within the Winchester District. These geological conditions and the high-water table increase susceptibility to groundwater flooding. The SFRA details that flooding from a combination of sources including groundwater has occurred in Winchester, however there are no records of flooding occurring from groundwater only.

14.2.36 The Hampshire Groundwater Management Plan (Hampshire County Council, 2013a) identified areas throughout the county at risk of groundwater flooding. Kings Worthy village, located north of the A34, showed a significant history of groundwater flooding (21 properties flooded in 2000/2001) and continued susceptibility to this flood risk.

14.2.37 The risk of flooding from groundwater will need to be further investigated as part of later assessment stages and will be fully reported within the ES.

### *Reservoir*

14.2.38 The EA provides mapping that gives an indication of the areas at risk of flooding due to reservoir failure (EA, 2020a). The northern extent of the study area is identified to be at risk of flooding, likely to be in the event of a failure of Old Alresford Pond. The mapped reservoir flood extents are indicated to be similar to the fluvial flood extents associated with the River Itchen.



### *Historic Flood Events*

- 14.2.39 HADDMS shows a number of recorded historic events on the carriageways across the Indicative Application Boundary. These will be considered in further detail at assessment stage to inform the design.
- 14.2.40 The Environment Agency's Historic Flood Map (EA, 2020b) identifies maximum extent of recorded flood outlines from the rivers, sea and groundwater springs. A review of the map identifies no recorded historic flood events within the Proposed Scheme, although there are areas of historic flooding recorded with the study area with most common source being groundwater.
- 14.2.41 Winchester City Council SFRA (Halcrow, 2007) identifies that there are historic flood records dating from 1997 to 2006 within the area of Winchester; the source is identified to be a combination of groundwater, fluvial flooding and foul/combined systems. The nearest recorded flood report to the Proposed Scheme is approximately 750m south-west on Wales Street; flooding is reported to have occurred from sewer flooding.

### *Other Flood Sources*

- 14.2.42 The EA *Flood Map for Planning* (EA, 2020a) highlights that there are no areas benefiting from flood defences within the vicinity of the Proposed Scheme and therefore no flood risk due to defence failure has been identified.

## **14.3 Potential impacts**

- 14.3.1 The Proposed Scheme has the potential to impact the water environment arising from a number of direct and indirect sources, during both the construction and operation phases.
- 14.3.2 The Proposed Scheme would not generate new overnight stays (i.e. would not result in the development of new accommodation) based on WCC's position statement and Natural England guidance. It is therefore not considered that there is the potential for a likely significant effects in relation to nutrient loading. Accordingly, such considerations will be scoped out of the EIA.

### **Construction Phase**

- 14.3.3 During construction, without any mitigation, it is considered likely that potential impacts of surface water features, groundwater features and flood risk could arise from:

#### *Groundwater, Geomorphology and the Water Framework Directive*

- Increased physical contamination of surface water runoff from ground disturbances, leading to the potential for increased sediment water runoff reaching drainage features and surface water features including the River Itchen.

The pollution risk to surface water bodies, from the disturbance of contaminated ground specifically, will be covered in **Chapter 10 Geology and Soils**

- Increased pollution risks from runoff during construction activities, including the accidental spillage of fuels, lubricants, cements, hydraulic fluids or other harmful substances which may be stored on the M3 Junction 9 Improvement site during the construction phase, and could migrate into surface water (including River Itchen) and groundwater bodies
- Impact to the hydromorphological and ecological quality of watercourses associated with works in close proximity to them
- Local groundwater drawdown as a result of temporary de-watering construction control measures. These measures may be required to construct any sub-surface structures, such as cuttings. Drawdown impacts may be experienced in areas outside of the Site (or area(s) requiring the hydraulic control) as a consequence of temporary dewatering activities. Discharge from dewatering may also impact on receiving surface water or groundwater.

#### *Flood Risk*

- Construction activities within the designated flood zones at risk of fluvial flooding associated with the River Itchen and its tributaries
- Construction activities that take place within the floodplain could result in a temporary loss of floodplain storage
- Temporary introduction of impermeable surfaces due to haul routes and temporary site compounds could result in an increase in run off and increased risk of surface water flooding
- Interception of overland flow through the introduction of impervious structures and the movement and storage of earth material within the study area, potentially disrupting local flow routes and increasing surface water flood risk
- Potential blocking of drainage systems with construction debris, potentially resulting in overflowing drains and increased surface water flood risk
- Interception of the groundwater table by cutting activities, including the excavation of materials and construction of below ground structures, potentially altering groundwater flow, and increasing local groundwater flood risk.

14.3.4 It is possible that the new or improved crossings of the River Itchen system could result in works within the river channel or floodplain. Design work remains on going and will inform the level of assessment work within the ES and FRA which will be justified and explained.

## Operational Phase

14.3.5 During operation, without any mitigation, it is considered likely that the potential impact of surface water features, groundwater features and flood risk could arise from:

### *Groundwater, Geomorphology and the Water Framework Directive*

- Increased pollution risks from routine runoff during the operation life of the Proposed Scheme, primarily consisting of silts, hydrocarbons and dissolved heavy metals, which may migrate to surface water and groundwater bodies
- Increased groundwater pollution risks from specific surface water drainage features such as soakaways, notably those installed and operating in the near vicinity of SPZ designated areas and/or dewatering catchment areas of licensed and unlicensed groundwater abstractors
- Increase pollution risks from accidental spillages. Road collisions involving Heavy Goods Vehicles (HGV) and the potential spillage of fuels pose the greatest risk during the operational phase
- Permanent impact of the hydromorphological and ecological quality of water features associated with works within and in close proximity to water features.

### *Flood Risk*

- Infrastructure located within the designated flood zones at risk of fluvial flooding associated with the River Itchen and its tributaries
- Loss of floodplain storage due to infrastructure located within the floodplain of the watercourse identified, resulting in increased flood risk
- Increased flood risk due to new footbridge without due consideration of appropriate soffit levels and span
- Introduction of new impermeable surfaces, leading to increased runoff and increased flood risk elsewhere
- Interception of overland flows through the introduction of impervious structures in the study area, potentially disrupting local flow routes and increasing surface water flood risk.

14.3.6 It is possible that the new or improved crossings of the River Itchen system could result in works within the river channel or floodplain. Design work remains on going and will inform the level of assessment work within the ES and FRA which will be justified and explained.



## 14.4 Design, mitigation and enhancement measures

14.4.1 The ES will discuss and confirm how the following mitigation items (as relevant) would be secured.

### Construction Phase

#### *Pollution*

14.4.2 During the construction phase, several actions can be taken to mitigate against potential pollution and accidental spillages. Such measures could include, but not limited to, the following:

- Provision of site worker awareness of environment best practice
- Installation of systems such as silt traps, swales and basins, designed to trap silty/polluted water
- Mixing of cement to be conducted away from watercourses and/or drainage lines to prevent wet cement coming into contact with surface water
- Controlled and covered waste storage areas
- On-site available of oil spill clean-up equipment including absorbent material and inflatable booms for use in the event of an oil spill or leak
- Preparation of incident response plans, prior to construction, which should be present on-site throughout construction to inform contractors of required actions in the event of a pollution incident.

14.4.3 The position and extent of working area during the construction stage would reflect the sensitivity of surrounding areas and works being carried out. The contractor should appraise the suitability of such working areas in this respect as part of working method statements.

14.4.4 Best practice recommendations for the prevention of contamination will be outlined in detail in a First Iteration Environmental Management Plan (fiEMP) submitted to accompany the application for Development Consent, (agreed with relevant statutory consultees) which will form a Second Iteration Environmental Management Plan (siEMP) prior to commencement of construction works. This would include measures to comply with relevant legislation, guidance and best practice measures, in line with the Considerate Contractors Scheme and 'Site Handbook for the Construction of SuDS' (CIRIA C698). A piling risk assessment would be undertaken to determine the risk to water features and SPZ.

14.4.5 The fiEMP and siEMP could include an erosion prevention and sediment control plan to reduce the quantity of sediment entrained in runoff and to prevent hydromorphological changes to surface water features. It would also describe the procedures in the event of an environmental emergency such as

a fuel or chemical spillage and outline measures to minimise the risk of flooding during construction.

14.4.6 A temporary drainage strategy will be prepared for the construction phase. Runoff should be collected and directed through the temporary drainage system, to ensure protection of water quality in receiving waterbodies from increased sediment and contaminant load. This strategy will be outlined within the ES and secured through the fiEMP and siEMP.

14.4.7 Movement of materials around the site would be managed under an appropriate Material Management Plan (MMP), to minimise any hydromorphological disturbances and minimise flood risk. The impacts of material placement and how the protection would be secured will be assessed in the context of the principles of Definition of Waste Code of Practice (DoWCoP).

#### *Flood Risk*

14.4.8 During the construction phase, several actions can be taken to mitigate against increased flood risk. Such measures may include, but are not limited to, the following:

- Site work areas, should be located outside of the floodplain where possible, where this is not possible temporary floodplain compensation could be required to offset storage losses
- Site runoff should be controlled through the implementation of an appropriate temporary drainage strategy and attenuated onsite prior to discharge, to mitigate flood risk
- Best practise construction measures should be adopted in line with the Considerate Contractors Scheme and CIRIA SuDS Manual (C753) (CIRIA, 2015) to minimise the risk of flooding during construction.

14.4.9 The works could themselves be classed as a flood risk activity and require a flood risk permit under the Environmental Permitting (England and Wales) Regulations. Land drainage consents could also be required for works near ordinary watercourses could require an environmental permit. Applications for the relevant permits is a separate process to the EIA.

#### *Groundwater*

14.4.10 If temporary de-watering is required in order for construction activities to take place, a de-watering risk assessment should be performed as per the guidance titled Hydrogeological Impact Appraisal (HIA) for dewatering abstractions (EA, 2007). Dewatering during construction could require an environmental permit, which would be sought prior to construction if required.

14.4.11 The local area, including the study area, is considered to be a sensitive water-rich environment, which could be subjected to the impacts from de-

watering activities, albeit temporary in nature. If the de-watering risk assessment suggests significant impacts could be experienced away from the site area being de-watered, then temporary mitigation, could be required.

14.4.12 During construction, several actions can be taken to mitigate the potential impacts to groundwater water users. These measures could include, but are not limited to, the following:

- Water user pump lowering; whereby local groundwater abstraction pumps would need to be lowered below any potentially revised groundwater table
- Re-drilling of water well(s); where water user abstraction wells were not deep enough to accommodate pump lowering, needing to be re-drilled
- Water recycling practices; whereby dewatered groundwater was recycled into the aquifer, maintaining groundwater contributions to groundwater users.

14.4.13 Potential de-watering impacts of the floodplain must be assessed in terms of potential impacts on the specific watercourses that interact with the floodplain, notably the potential for low-flow impacts.

14.4.14 If SuDS that discharge to ground are proposed during the construction stage, groundwater level information will be used to inform drainage design as high groundwater levels could undermine the performance of drainage features or discharges could lead to increased risk from groundwater flooding.

## **Operation Phase**

### *Pollution Risks*

14.4.15 During the operation phase, mitigation for the effects of routine runoff would be managed by the implementation of a robust surface water drainage strategy, appropriately designed against the potential for pollution and considering the proximity of the Proposed Scheme to sensitive receptors and following impact assessment in accordance with the Highways England Water Risk Assessment Tool (HEWRAT) tool within LA113. The efficacy of the surface water drainage strategy will be identified and assessed within the FRA appended to ES.

14.4.16 It is currently envisaged that discharge to ground would be likely to be the main drainage mechanism. Any discharge to surface water bodies that may occur would directly or ultimately be received by the River Itchen. An assessment will be undertaken as part of the ES relating to the impacts to the River Itchen from contaminants entering the watercourse and detail what mitigation would be implemented in agreement with relevant consultation bodies.

14.4.17 All surface water discharge would drain through effective SuDS, thereby mitigating the risk of pollution. SuDS design should be subject to a range of factors including the thickness of the unsaturated zone (notably in the winter

period when groundwater levels are highest), groundwater permeability, the presence of sensitive receptors and the predicted degree of contaminant loading.

14.4.18 Oil interceptors and oil containment structures would be considered to minimise the potential linkage between free-phase fuels, which may arise from a catastrophic spill, and local sensitive receptors, principally the River Itchen and Principal Chalk Aquifers.

14.4.19 In addition to the likely need for containment control features for spilled oils and fuels that could arise from a major accident/spillage, it is recommended that the emergency services and Highways England should hold copies of incident response plans and be aware of the procedure to minimise pollution entering the watercourse.

#### *Flood Risk*

14.4.20 Structures are to be designed outside of the floodplain where possible; where this is not possible, open span structures would be considered to minimise effects. Floodplain compensation could be required to offset floodplain losses which would be assessed within the FRA and other relevant EIA topics as required.

14.4.21 Mitigation for the effects of increased surface water flood risk should be managed by the implementation of a robust surface water drainage strategy and appropriate drainage design. The strategy should be designed to ensure discharge from the proposed Scheme does not increase flood risk elsewhere up to and including the 1% Annual Exceedance Probability rainfall event, with allowances for climate change as detailed in the EA Flood Risk Assessments: climate change allowances (EA, 2020d). Surface water from the new high catchment area would then be discharged in accordance with the drainage hierarchy to achieve greenfield runoff rated and ensure that surface water is managed as close to its source as possible.

14.4.22 The Proposed Scheme could provide an opportunity to provide betterment to the existing system and to reduce existing flood risk. Multi-stage proposals that maximise passive treatment through the use of SuDS should be considered.

14.4.23 As discussed previously, groundwater contours and groundwater investigation will inform the assessment of groundwater flood risk during both construction and operation phases of the Proposed Scheme, and this will be a focus within the Flood Risk Assessment (FRA). To improve, or at least maintain, the current flood risk, the Surface Water Drainage Strategy will attempt to maintain the current groundwater levels by replicating the current location and discharge rates into existing soakaways.

## Groundwater

- 14.4.24 The potential effects of groundwater should be considered when designing the surface water drainage strategy. Surface water discharge points could act as point sources for the discharge of contaminated road runoff, eventually migrating into the Itchen system. An appropriate groundwater risk assessment (in accordance with guidance in LA 113) would inform mitigation to be incorporated into the drainage design. Water quality attenuation facilities would be required (as described for surface water receptors previously), where this risk was judged to be significant.
- 14.4.25 It is recommended that winter hydrometric monitoring data should be obtained where possible, notably if SuDS features such as soakaways are likely to be installed within the study area or SPZ areas. Given the SPZ, the use of piling should be assessed. Winter monitoring data should be used to determine the unsaturated zone thickness between the base of the soakaway and highest groundwater levels (the minimum unsaturated zone thickness typically acceptable to the EA under similar constraints is 5m). Groundwater monitoring is ongoing and will be presented as part of the Ground Investigation Works (**Chapter 10 Geology and Soils**).
- 14.4.26 For the passive discharge of surface water to chalk bedrock, there are engineering considerations and guidelines which should be considered. These guidelines help to ensure that sufficient offsets away from proposed road structures are implemented, depending upon the nature of the local chalk bedrock. Numerous factors should be carefully considered when identifying potential passive surface water soakage locations.
- 14.4.27 The collection of site specific groundwater level monitoring data will determine if the Proposed Scheme cuttings will permanently or seasonally intercept groundwater. If groundwater is intercepted at the base of the proposed cuttings, then permanent passive or active groundwater management control mitigation measures will be required. These measures could include but not be limited to the installation of perimeter drains and dewatering pumping wells.
- 14.4.28 If groundwater controls were to be required there is the possibility that the local groundwater receptors could be impacted upon. This Scoping Report (and the subsequent ES) therefore assumes all groundwater receptors would be impacted upon until further data is released to confirm either wet winter groundwater would be located below the proposed cuttings invert levels or that the groundwater receptor would be unlikely to be substantially affected. If impacts were determined to be significant, then mitigation measures could include but are not limited to the following:
- Water user pump lowering; whereby local groundwater abstraction pumps were lowered below any potentially revised groundwater table

- Re-drilling of water well(s); where water user abstraction wells were not deep enough to accommodate pump lowering, needing to be re-drilled
- Water recycling practices; whereby dewatered groundwater was recycled into the aquifer, maintaining groundwater contributions to groundwater users
- The provision of water during completion of the construction phase

#### 14.5 Description of likely significant effects

14.5.1 The Proposed Scheme has the potential to significantly affect the water environment if appropriate and adequate mitigation (as outlined in the previous section of this Chapter) is not implemented during both the construction and operational phases.

14.5.2 The Nun's Walk Stream, listed above in the Surface Water Features section, is considered to be of Very High importance based on its location within the River Itchen SAC. Although the stream may not receive any surface water flows or discharges from the Proposed Scheme, considering its position and that of the proposed northern (satellite) construction compound, it will be scoped into the assessment, even if no significant effects are envisaged. This will, however, be further confirmed when the drainage strategy has been developed. If the decision is taken to scope this effect out of the ES, it will be fully justified and explained within the ES.

14.5.3 Given the sensitivity and importance of the environmental attributes in the study area, including the River Itchen, the River Itchen Chalk, water users of the Chalk and the SSSI and SAC, the potential impacts from construction works, pollution, changes to groundwater resources, accidental spillages and flood risk are all considered to result in effects would could potentially be significant. Potential impacts of the River Itchen SAC will be assessed through the Habitats Regulations Assessment, in accordance with DMRB LA115 (Highways England, 2020). Information to inform the assessment will be included within **Chapter 9 Biodiversity**.

14.5.4 It is anticipated that with appropriate mitigation measures in place (including undertaking consultation) the Proposed Scheme would not have a significant residual adverse effect on the water environment.

#### 14.6 Assessment methodology

##### Policies and Plans

14.6.1 Planning policies and guidance that are relevant to the Proposed Scheme included:

- National Policy Statement for National Networks (NPS NN) (DfT, 2014): Paragraphs 4.36-4.47 (Climate Change adaptation), paragraphs 4.48 to 4.56 (Pollution Control and other environmental protection regimes); 5.90-5.115 (Flood Risk); and 5.219-5.231 (Water quality and resources)



- National Planning Policy Framework (NPPF) (2019): Paragraph 8 (Achieving Sustainable Development); and, Paragraph 148, 150, 155 158 159 160 and 161, 163 and 165 (Meeting the challenge of climate change, flooding and coastal change), and the associated Planning Practice Guidance: Flood risk and coastal change (2014), climate change (2019), land affected by contamination (2019), natural environment (2019), and Water supply, wastewater and water quality (2019)
- DMRB (2020a) CD 356 Design of Highway Structures for Hydraulic Action
- Winchester District Local Plan Part 1 – Joint Core Strategy (2013): Policy DS1 (Development Strategy and Principles) and Policy CP17 (Flooding, Flood Risk and the Water Environment)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (2017): Policy DM17 (Site Development Principles) and Policy DM19 (Development and Pollution)
- South Downs Local Plan 2014- 2033 (2019): Strategic Policy SD17 (Protection of the water environment); Policy SD49 (Flood risk management), Policy SD50 (Sustainable drainage systems)
- Winchester District Draft Local Plan 2018 – 2038 (Emerging)
- Environment Agency (EA, 2018): The Environment Agency’s approach to groundwater protection
- Environment Agency (EA, 2020d): Flood Risk Assessments: Climate Change Allowances.

14.6.2 The following approach will be adopted during the preparation of the ES chapter and ‘detailed’ assessment:

- Review of international, national and local legislation, policies and guidelines in relation to water resources, water quality and flood risk. This will also include a review of the requirements for the WFD
- Establish baseline conditions within the study area through review of desk based sources of information, and also through obtaining proportionate winter hydrometric data-logged monitoring data as recommended in CIRIA 753, the SuDS Design Manual, BRE 365 (2016), the SuDS Guidance and the ICE Earthworks Guide 2nd Edition, 2015. Important sources of information include an Envirocheck Report (or similar), consultation with relevant authorities (the EA, HCC and WCC) and discipline specialists. A site walkover will be completed as part of the EIA to inform assessments reported within the ES
- Identify the importance of sensitive receptors and likely key issues

- Identify potential risks to surface water quality, groundwater quality and all forms of flood risk from the Proposed Scheme and hence the likely significant impacts during both the construction and operation phases
- Identify potential cumulative impacts associated with other planned schemes in the area
- Recommend appropriate mitigation and assess residual effects

14.6.3 The method of assessment and reporting of significant effects will be based on guidance contained in DMRB LA 113 (Highways England, 2020). The DMRB promotes the following approach:

- Estimation of the importance of the attribute
- Estimation of the magnitude of the impact
- Assessment of the significance of the impact based on the importance of the attribute (**Table 14-1**) and magnitude of the impact (**Table 14-2**).

*Table 14-1: Estimating the Importance of the Water Environment Attributes (extract)*

Importance	Typical Criteria	Typical Examples	
Very high	Nationally significant attribute of high importance	Surface water	Watercourse having a WFD classification shown in a RBMP and $Q_{95} \geq 1.0\text{m}^3/\text{s}$  Site protected/designated under EC or UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water)/Species protected by EC legislation LA 108 [Ref 1.N]
		Groundwater	Principal aquifer providing a regionally important resource and/or supporting a site protected under EC and UK legislation LA 108 [Ref 1.N]  Groundwater locally supports GWDTE SPZ1
		Flood risk	Essential infrastructure or highly vulnerable development
High	Locally significant attribute of high importance	Surface water	Watercourse having a WFD classification shown in a RBMP and $Q_{95} < 1.0\text{m}^3/\text{s}$  Species protected under EC or UK legislation LA 108 [Ref 1.N]



Importance	Typical Criteria	Typical Examples	
		Groundwater	Principal aquifer providing a locally important resource or supporting a river ecosystem Groundwater locally supports GWDTE SPZ2
		Flood risk	More vulnerable development
Medium	Of moderate quality and rarity	Surface water	Watercourses not having a WFD classification shown in a RBMP and $Q_{95} > 0.001 \text{m}^3/\text{s}$
		Groundwater	Aquifer providing water for agricultural or industrial use with limited connection to surface water SPZ3
		Flood risk	Less vulnerable development
Low	Lower quality	Surface water	Watercourses not having a WFD classification shown in a RBMP and $Q_{95} \leq 0.001 \text{m}^3/\text{s}$
		Groundwater	Unproductive strata
		Flood risk	Water compatible development

Table 14-2: Estimating the Magnitude of an Impact(extract)

Magnitude	Criteria	Typical example	
Major adverse	Results in loss of attribute and/or quality and integrity of the attribute	Surface water	<p>Failure of both acute-soluble and chronic sediment related pollutants in HEWRAT and compliance failure with EQS values.</p> <p>Calculated risk of pollution from a spillage <math>\geq 2\%</math> annually (spillage assessment).</p> <p>Loss or extensive change to a fishery.</p> <p>Loss of regionally important public water supply.</p> <p>Loss or extensive change to a designated nature conservation site.</p>

Magnitude	Criteria	Typical example	
			Reduction in water body WFD classification.
		Groundwater	<p>Loss of, or extensive change to, an aquifer.</p> <p>Loss of regionally important water supply.</p> <p>Potential high risk of pollution to groundwater from routine runoff - risk score &gt;250 (Groundwater quality and runoff assessment).</p> <p>Calculated risk of pollution from spillages <math>\geq 2\%</math> annually (Spillage assessment).</p> <p>Loss of, or extensive change to GWDTE or baseflow contribution to protected surface water bodies.</p> <p>Reduction in water body WFD classification.</p> <p>Loss or significant damage to major structures through subsidence or similar effects.</p>
		Flood risk	Increase in peak flood level (100mm)
Moderate adverse	Results in effects on integrity of attribute, or loss of part of attribute	Surface water	<p>Failure of both acute-soluble and chronic-sediment related pollutants in HEWRAT but compliance with EQS values.</p> <p>Calculated risk of pollution from spillages <math>\geq 1\%</math> annually and <math>&lt; 2\%</math> annually.</p> <p>Partial loss in productivity of a fishery.</p> <p>Degradation of regionally important public water supply or loss of major commercial/industrial/agricultural supplies.</p> <p>Contribution to reduction in water body WFD classification.</p>
		Groundwater	<p>Partial loss or change to an aquifer.</p> <p>Degradation of regionally important public water supply or loss of</p>

Magnitude	Criteria	Typical example	
			<p>significant commercial/ industrial/ agricultural supplies.</p> <p>Potential medium risk of pollution to groundwater from routine runoff - risk score 150-250.</p> <p>Calculated risk of pollution from spillages <math>\geq 1\%</math> annually and <math>&lt; 2\%</math> annually.</p> <p>Partial loss of the integrity of GWDTE.</p> <p>Contribution to reduction in water body WFD classification.</p> <p>Damage to major structures through subsidence or similar effects or loss of minor structures.</p>
		Flood risk	Increase in peak flood level ( $> 50\text{mm}$ ).
Minor adverse	Results in some measureable change in attributes, quality or vulnerability	Surface water	<p>Failure of either acute soluble or chronic sediment related pollutants in HEWRAT.</p> <p>Calculated risk of pollution from spillages <math>\geq 0.5\%</math> annually and <math>&lt; 1\%</math> annually.</p> <p>Minor effects on water supplies.</p>
		Groundwater	<p>Potential low risk of pollution to groundwater from routine runoff - risk score <math>&lt; 150</math></p> <p>Calculated risk of pollution from spillages <math>\geq 0.5\%</math> annually and <math>&lt; 1\%</math> annually</p> <p>Minor effects on an aquifer, GWDTEs, abstractions and structures</p>
		Flood risk	Increase in peak flood level ( $> 10\text{mm}$ )
Negligible	Results in effect on attribute, but of insufficient magnitude to affect the use or integrity	The proposed project is unlikely to affect the integrity of the water environment	
		Surface water	<p>No risk identified by HEWRAT (pass both acute-soluble and chronic-sediment related pollutants).</p> <p>Risk of pollution from spillages <math>&lt; 0.5\%</math>.</p>

Magnitude	Criteria	Typical example	
		Groundwater	No measurable impact upon an aquifer and/or groundwater receptors and risk of pollution from spillages <0.5%.
		Flood risk	Negligible change to peak flood level ( $\leq$ +/- 10mm).
Minor beneficial	Results in some beneficial effect on attribute or a reduced risk of negative effect occurring	Surface water	HEWRAT assessment of either acute soluble or chronic-sediment related pollutants becomes pass from an existing site where the baseline was a fail condition.  Calculated reduction in existing spillage risk by 50% or more (when existing spillage risk is <1% annually).
		Groundwater	Calculated reduction in existing spillage risk by 50% or more to an aquifer (when existing spillage risk <1% annually).  Reduction of groundwater hazards to existing structures.  Reductions in waterlogging and groundwater flooding.
		Flood risk	Creation of flood storage and decrease in peak flood level (> 10mm).
Moderate beneficial	Results in moderate improvement of attribute quality	Surface water	HEWRAT assessment of both acute-soluble and chronic-sediment related pollutants becomes pass from an existing site where the baseline was a fail condition.  Calculated reduction in existing spillage by 50% or more (when existing spillage risk >1% annually).  Contribution to improvement in water body WFD classification.
		Groundwater	Calculated reduction in existing spillage risk by 50% or more (when existing spillage risk is >1% annually).

Magnitude	Criteria	Typical example	
			<p>Contribution to improvement in water body WFD classification.</p> <p>Improvement in water body catchment abstraction management Strategy (CAMS) (or equivalent) classification.</p> <p>Support to significant improvements in damaged GWDTE.</p>
		Flood risk	Creation of flood storage and decrease in peak flood level1 (>50mm).
Major beneficial	Results in major improvement of attribute quality	Surface water	<p>Removal of existing polluting discharge, or removing the likelihood of polluting discharges occurring to a watercourse.</p> <p>Improvement in water body WFD classification.</p>
		Groundwater	<p>Removal of existing polluting discharge to an aquifer or removing the likelihood of polluting discharges occurring.</p> <p>Recharge of an aquifer.</p> <p>Improvement in water body WFD classification.</p>
		Flood risk	Creation of flood storage and decrease in peak flood level (> 100mm).
No change		No loss or alteration of characteristics, features or elements; no observable impact in either direction.	

14.6.4 The findings of the environmental impact assessment are expected to contribute to the assessment of potential biodiversity effects. It is proposed that this assessment regarding biodiversity is qualitative and informed by desk-based study, site walkover and consultation with the project ecologists.

14.6.5 Paragraphs 5.221-5.223 of the NPSNN set out how water quality and resources should be assessed for nationally significant road schemes. In accordance with this policy, the ES will describe:

- The existing quality of waters affected by the Proposed Scheme

- Existing water resources affected by the Proposed Scheme and the impacts of the proposed project on water resources
- Existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the Proposed Scheme, and any impact of physical modifications to these characteristics
- Any impacts of the Proposed Scheme on water bodies or protected areas under the Water Framework Directive and source protection zones (SPZs) around potable groundwater abstractions
- Any cumulative effects

14.6.6 The assessment of potential effects to the water environment (surface water features, groundwater features and flood risk) during construction and operation will be undertaken in accordance with DMRB LA 113 (Highways England, 2020). The assessment will involve a desk-based review of existing information and assessment of the potential Scheme effects, in relation to flood risk and water quality.

14.6.7 Temporary groundwater control activities that could be required to construct particular road features, such as cuttings, should be assessed against their potential to generate negative impacts on the local environment. A dewatering assessment will be undertaken and reported within the ES if the level of risk from such activities was deemed high.

14.6.8 The assessment of potential effects that could arise during construction will consider risks to the chemical quality of surface and groundwater features associated with pollutants typically experienced during construction. The construction and operational impacts on flood risk will be addressed within the FRA. Direct impacts on river morphology would be assessed within the WFD compliance statement.

14.6.9 When assessing risks to groundwater resources during construction, particular attention will be given to assessing winter groundwater conditions, and any deep excavations or retaining features that could negatively interact with groundwater resources.

14.6.10 The significance of any identified groundwater abstractions will be further assessed against proposed soakaway or surface water drainage features, as these have the potential to act as preferential mechanisms for the transmission of road contaminants. Additionally, surface water discharge features can also facilitate the movement of chemicals arising from catastrophic spills. Spillage risk assessments and assessments of the effects of routine runoff will be carried out in accordance with the methods set out in DMRB LA 113 (Highways England, 2020) (see below).

14.6.11 The potential impacts from catastrophic spills, where SPZs exist and groundwater wells are currently operating, are given heightened significance and require due consideration. Particular emphasis should be placed on

groundwater monitoring to be conducted in accordance with CIRIA 753, the SuDs Design Manual 2015 BRE 365, SuDs guidance 2016 and the ICE Earthworks Guidance, 2nd Edition, 2015. This will provide meaningful information with respect to the thickness and variability of the unsaturated zone over time between the base of soakage features and maximum groundwater levels.

14.6.12 When assessing risks to surface water features during construction, particular attention will be given to features located within close proximity of the works or proposed compound areas (c. 100m) that are most likely to experience direct impacts from flood risk, accidental spillages and pollution. Monitoring of water quality during the construction phase may be required for ecologically sensitive areas. The need for monitoring will be determined and reported within the ES and agreed with statutory bodies.

14.6.13 The assessment of potential effects that may arise during operation will also be undertaken in accordance with the methods outlined in the DMRB LA 113 (Highways England 2020). This includes HEWRAT for operational effects, the DMRB states the following impacts should be considered:

- Potential effects of routine runoff on surface water
- Potential effects of routine runoff on groundwater
- Pollution impacts from spillages
- Impacts from flooding

14.6.14 In addition to the core aspects of assessment as defined within DMRB LA 113 (Highways England 2020), the assessment of potential impacts to the water environment will also consider the potential impacts to the hydromorphological quality of surface water features. This would be likely to be associated with potential changes to catchment hydrology, associated with cuttings, which may affect baseflow to rivers. An assessment will be undertaken to determine the degree of hydromorphological change and its acceptability, based on methodology agreed by the EA and other relevant consultation bodies.

14.6.15 A review of the existing drainage system will be conducted using the HADDMS. The status of priority drainage assets (outfalls, soakaways and culverts) identified on HADDMS and any associated risk to receiving water bodies (or flood risk) will be used to inform the ES.

14.6.16 Hydraulic modelling of the River Itchen will be undertaken as part of the assessment, the outcome of which will indicate if the Proposed Scheme changes the flood risk profile within the study area and if there are any detectable effects offsite. The need for further, more detailed modelling of the Proposed Scheme will be discussed with the EA and HCC. A review of the available 2019 River Itchen modelling studies hydrological analysis and hydraulic modelling will be completed using software that is considered



appropriate for use for this type of hydraulic modelling. The assessment and modelling methodology will be agreed with the EA and HCC and would account for any other proposed flood alleviation schemes, specifically the North Winchester Flooding Alleviation Scheme, either upstream or downstream of the study area, which could have a bearing on flood risk within the study area.

14.6.17 An FRA and standalone WFD Compliance Statement will be prepared to accompany the ES. The flood risk design criteria and approach for the FRA will be developed through consultation with the EA, LLFA and other relevant stakeholders. The FRA will be carried out in accordance with the NPS NN and in accordance with the technical guidance provided by the National Planning Policy Framework (NPPF). As part of this assessment, and to comply with the NPPF, the FRA will seek to demonstrate compliance with the requirements of the NPPF, specifically that the Proposed Scheme would:

- remain operational and safe for users in times of flood
- result in no net loss of floodplain storage
- not impede water flows
- not increase flood risk elsewhere

14.6.18 Requirements for the FRA and WFD will be confirmed through consultation with the EA and other relevant stakeholders and are anticipated to include:

- Assessment of flood risk to the Proposed Scheme due to fluvial, surface water and groundwater flood risk, as well as the potential for flooding from water retaining, water supply or drainage infrastructure
- Assessment of change in flood risk from all sources due to the Proposed Scheme
- Possible hydraulic modelling of main rivers where significant impacts are envisaged
- Design of mitigation measures to prevent adverse impact to flood risk
- The completion of the Sequential and Exception Tests (if required)

## 14.7 Assessment assumptions and limitations

14.7.1 The assessment of potential effects is currently based on Proposed Scheme. This is of particular importance when considering the potentially significant impacts of the Proposed Scheme. Details regarding the proposed design of drainage and mitigation measures, for instance, have not been available in advance of preparing this scoping report.

14.7.2 Many of the identified risks during construction and operation will be dependent on the existing and proposed surface water drainage systems and



the findings from winter hydrometric monitoring. Limited information is currently known about the existing drainage system: however, will be identified and prepared during ongoing assessment work and reported within the ES. This information will be used to inform the detailed assessment of risks associated with water quality and increased flood risk.

14.7.3 Information regarding baseline flood risks has been obtained from desk-based sources. Further analysis using site specific data is proposed to be undertaken to fully understand the potential risks posed by the Proposed Scheme including potential impacts to the environment, people and existing property and infrastructure.

14.7.4 At present fluvial flood risk is based on the EA’s Flood Map for Planning (EA, 2020a). Whilst this provides flood risk associated with Main Rivers, the risk of flooding from ordinary watercourses has not been accounted for. Such risks are unlikely to be determined without specific modelling by the local authority, however the Risk of Flooding from Surface Water Map (EA, 2020b) is considered to give a reasonable representation of the risk and is assumed to be sufficient given the limited impact of the Proposed Scheme on the minor watercourses.

14.7.5 It will be possible to undertake a robust assessment despite the limitations identified above.

### 14.8 Elements to be scoped in/out

14.8.1 The elements to be scoped into the EIA for Road Drainage and the Water Environment are in **Table 14-3**.

*Table 14-3: Elements to be scoped in to the EIA for Road Drainage and the Water Environment*

Elements scoped in	Justification
	Potential for increased physical contamination of surface water runoff from ground disturbance
	Potential for increased pollution risks from runoff during construction activities, including the risk of accidental spillages, which may migrate into surface water and groundwater bodies
	Impacts to the hydromorphological and ecological quality of watercourses associated with works in close proximity to them

<p>Potential impacts on surface water, flooding and groundwater resources, due to construction activities</p>	<p>Local groundwater level changes as a result of temporary groundwater control and/or below ground structures</p>
	<p>Increased flood risk within the study area due to the introduction of new impermeable surfaces; reduction in floodplain area, the interception of overland flows, the potential blocking of drainage systems with construction debris, and the possible interception of the groundwater table by cutting activities</p>
<p>Potential impacts on surface water resources, groundwater resources and flood risk, during the operational lifetime of the Proposed Scheme</p>	<p>Increased pollution risks from routine runoff, including silts, hydrocarbons and dissolved heavy metals</p>
	<p>Increased groundwater pollution risks from new/modified drainage features such as soakaways</p>
	<p>Increased pollution risks from accidental spillages, primarily from road collisions involving HGVs and subsequent fuel spillages</p>
	<p>Permanent impacts to the hydromorphological and ecological quality of water features associated with works within or in close proximity to water features</p>
	<p>Permanent alterations to catchment hydrology and the existing drainage regime</p>
	<p>Potential increases in flood risk within the study area, as a consequence of the introduction of new impermeable surfaces, reduction in floodplain area, the interception of overland flows, and the prolonged possible interception of the groundwater table by below-ground features (i.e. cuttings)</p>
	<p>Potential changes to groundwater levels/resource due to the presence of below ground structures/drainage, that may affect water dependent sensitive habitats (i.e. the River Itchen SSSI), and local water abstractors</p>

14.8.2 The elements to be scoped out of the EIA for Road Drainage and the Water Environment are in **Table 14-4**.

*Table 14-4: Elements to be scoped out of the EIA for Road Drainage and the Water Environment*

Elements scoped out	Justification
Assessment of nutrient neutrality	The Proposed Scheme would not generate new overnight stays (i.e. would not result in the development of new accommodation) based on WCC's position statement and Natural England guidance. It is therefore not considered that there is the potential for a likely significant effects in relation to nutrient loading.

## 15 Climate

15.1.1 The climate assessment will cover the following two elements as required by the Infrastructure Planning (EIA) Regulations 2017 (as amended) (the Regulations) and the latest Design Manual for Roads and Bridges (DMRB) guidance 'LA 114 Climate' (Highways England, 2019):

- Impact of the project on climate change (from greenhouse gas (GHG) emissions – 'carbon')
- Vulnerability of the project to climate change

### 15.1 Study area

#### Spatial Scope

15.1.1 For construction and operational maintenance, the study area shall comprise Greenhouse Gas (GHG) emissions associated with temporary and permanent construction related activities / materials and their associated transport. For operational road user GHG emissions, the study area shall be consistent with the affected road network defined in the traffic model and the air quality study of affected roads (see **Chapter 7 Air Quality**). It should be noted that GHGs are released into the Earth's atmosphere and are not limited to geographic boundaries.

15.1.2 The study area for assessing the Proposed Scheme's vulnerability to climate change shall be based on the Indicative Application Boundary (IAB) (including compounds and temporary land take).

15.1.3 The geographical extent of the two study areas will be clearly justified and identified on a plan within the Environmental Statement (ES).

#### Temporal Scope

15.1.4 Assessment of the Proposed Scheme's impacts on climate change will be carried out in life cycle stages. The key overarching life cycle stages proposed to be assessed for the Proposed Scheme are as follows:

- Construction – Timescales for the construction period will be confirmed within the ES
- Operation – The assessment the Proposed Scheme's vulnerability to climate change will consider the 2080s as the timeline for analysis in line with DMRB LA 114 Climate (Highways England, 2019) which states the assessment should take the life span of the project to be 60 years. This choice is informed by the long lifespan of the key structures within the Proposed Scheme.

15.1.5 Emissions associated with the end of life stage will not be considered due to the long design life of the asset (i.e. there is no date for decommissioning) for which there is insufficient certainty about the likelihood, type or scale of

emissions activity. The scope of the assessment and justification for elements scoped out is further explained in **Section 15.8**.

## 15.2 Baseline conditions

### Effects of the Proposed Scheme on Climate

15.2.1 This section establishes the existing GHG emissions at a national and district-wide level. The following GHG baseline information is based on national and district-wide data. GHG emissions do not have a local receptor as, once they are emitted, they are not limited to geographic boundaries.

15.2.2 The total emissions for the UK over the last two carbon budgets are shown in **Table 15-1** below. Both the 2008-2012 and 2013-2017 budgets were successfully met.

*Table 15-1 2008-2017 UK Carbon Budgets*

UK Budget	Carbon budget level (million tonnes carbon dioxide equivalents - MtCO <sub>2</sub> e)	Reduction below 1990 levels	UK Emissions
1st carbon budget (2008 to 2012)	3,018 MtCO <sub>2</sub> e	25%	2,982 MtCO <sub>2</sub> e
2nd carbon budget (2013 to 2017)	2,782 MtCO <sub>2</sub> e	31%	2,398 MtCO <sub>2</sub> e

15.2.3 From a national perspective, in 2018, UK net GHG emissions were estimated to be 451.5 million tonnes carbon dioxide equivalents (MtCO<sub>2</sub>e), a decrease of 2.1% compared to 2017 (DBEIS, 2020a). National GHG emissions in 2018 have decreased by 43.1% since 1990 (DBEIS, 2020).

15.2.4 Statistics for the transport sector are composed of road transport, rail, shipping, and aviation. Despite a 1.4% decrease in emissions in 2018, the sector continues to be the largest emitting sector in the UK. An estimated 124.4 MtCO<sub>2</sub>e, or 28% of net UK GHG emissions, are attributed to the transport sector.

15.2.5 The Department for Business, Energy & Industrial Services (DBEIS, 2020b) sets out a current emissions breakdown for Winchester District from a number of sources and these are presented in **Table 15-2** below. Transport was the greatest source of emissions in 2018 comprising 59% of the area's emissions in kilotonnes (ktCO<sub>2</sub>) of Carbon Dioxide (CO<sub>2</sub>).

Table 15-2 Winchester CO<sub>2</sub> estimates for 2018

Winchester CO <sub>2</sub> estimates (ktCO <sub>2</sub> )					
	Industry and Commercial	Domestic	Transport (including Motorways)	Land Use, Land Use Change and Forestry	Total
ktCO <sub>2</sub>	191.2	192.5	484.1	-49.1	818.8
%	23.3%	23.5%	59.1%	-6%	100%

15.2.6 The current and future UK Carbon Budgets are set out below in **Table 15-3**. The carbon budgets are legally binding and UK GHG emissions will need to be reduced to meet them.

Table 15-3 UK Carbon Budgets for 2018-2032

Budget	Carbon budget level	Reduction below 1990 levels
3rd carbon budget (2018 to 2022)	2,544 MtCO <sub>2</sub> e	37% by 2020
4th carbon budget (2023 to 2027)	1,950 MtCO <sub>2</sub> e	51% by 2025
5th carbon budget (2028 to 2032)	1,725 MtCO <sub>2</sub> e	57% by 2030

15.2.7 A climate emergency was declared by Winchester City Council (WCC) in June 2019 and WCC is now committed to being carbon neutral by 2024, with a wider goal of carbon neutrality in the district by 2030. The target takes into account both production and consumption emissions, with a focus on the biggest sources of carbon emissions – transport, property and energy. The Action Plan excludes motorway emissions “as these are national infrastructure and will require a national response” (WCC, 2019). WCC will work with partners across the district to deliver this goal.

15.2.8 In the baseline (do nothing) scenario, GHG emissions occur constantly and widely as a consequence of human and natural activity including energy consumption (fuel, power), industrial processes, land use and land use change. The GHG assessment will only consider situations where the Proposed Scheme results in additional or avoided emissions in comparison to the baseline scenario and its assumed evolution. As there is no construction currently taking place on the M3 J9 Improvement site the baseline position for construction phase GHG emissions is therefore considered to be zero.

15.2.9 The total end-user GHG emissions from traffic flows in the baseline scenario will be modelled in accordance with DMRB LA 114 Climate (Highways England, 2019). The modelling includes the total GHG emissions for all existing traffic using the strategic and Affected Road Network (covered by the traffic model) in the vicinity of the Proposed Scheme and its surrounding region. At present, however, data for the end-user emissions is not available for inclusion in the baseline conditions. The ES will present this information.

### **Vulnerability of the Proposed Scheme to Climate Change**

15.2.10 Institute of Environmental Management and Assessment (IEMA) Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation guidance (IEMA, 2020) recommends that the climatic baseline should consider extremes in short-term weather events, such as heatwaves; long-term climatic variability, such as seasonal changes in precipitation; and average climate norms, such as ambient temperature.

15.2.11 The current climatic baseline has been defined by historic climate conditions and the prevailing conditions. The future climate conditions, identified as part of the emerging baseline, have been defined by UK Climate Projections 18 (UKCP18) and a literature review of relevant publications. UKCP18 builds upon previous projections to provide information on how the climate of the UK may change over the rest of this century.

#### *UK Observations*

15.2.12 For the nation as a whole, observed changes in climate in the UK in the last decade compared with the last seven decades include:

- The most recent decade (2009-2018) has been on average 0.3 °C warmer than the 1981-2010 average and 0.9 °C warmer than 1961-1990. All of the top ten warmest years have occurred since 2002 (Kendon et al., 2019)
- The warm spell duration index in the most recent decade (2008-2017, 13.2 days) is more than double that of the 1961-1990 reference (5.3 days) (Kendon et al., 2019)
- Winters in the UK, for the most recent decade (2009-2018), have been on average 5% wetter than 1981-2010 and 12% wetter than 1961-1990. Summers in the UK have also been wetter, by 11% and 13% respectively (Met Office, 2019a)
- There are no compelling trends in storminess as determined by maximum gust speeds from the UK wind network over the last five decades (Kendon et al., 2019).

#### *Regional Observations*

15.2.13 Historic climate averages during the period 1981-2010 for the closest climate station to the M3 J9 Improvement site (Martyr Worthy), obtained from the Met Office website (Met Office, N.Db), indicates the following:



- Average annual maximum temperature was 14.6°C
- Warmest month on average was July (mean maximum temperatures of 22.7°C)
- Coldest month on average was January (mean minimum temperature of 1.3°C)
- Total annual rainfall was 746.5 mm
- Wettest month on average was November (average monthly rainfall of 88.6 mm)
- Driest month on average was April (average monthly rainfall of 50.1 mm)

### Baseline evolution

15.2.14 **Appendix 15.1** shows the projections for 25 km UK grid squares that surround the M3 J9 Improvement site for average summer, winter and annual precipitation, maximum average summer temperature, minimum average winter temperature and annual mean temperature. A summary of the projections is provided below in **Table 15-4**.

*Table 15-4 Summary of 50th Percentile Climate Projections for 25km grid square using baseline 1981-2000 scenario RCP 8.5 (Grid Squares 437500.0 East, 137500.0 North and 462500.0 East, 137500.0 North)*

Climate Variable at 50th Percentile						
Date	Mean Annual air temperature anomaly at 1.5m (°C)	Annual Precipitation rate anomaly (%)	Maximum Summer air temperature anomaly at 1.5m (°C)	Average Summer Precipitation rate anomaly (%)	Minimum Winter air temperature anomaly at 1.5m (°C)	Average Winter Precipitation rate anomaly (%)
2020	0.78	1.39	0.93	-5.76	0.67	12.35
2025	0.88	1.04	1.54	-9.19	0.65	5.25
2050	1.88	0.98	2.75	-26.69	1.59	10.94
2075	3.30	1.60	5.09	-34.07	2.84	25.78
2099	5.12	-4.78	8.22	-47.56	4.26	27.70

15.2.15 The projections show an almost continuous increase in annual average temperature over the next 80 years. Annual precipitation is shown to vary year on year, with some years being dryer or wetter than previous years.

15.2.16 The projections suggest that summers will become warmer and drier, and winters may become milder and wetter.

### Extreme Weather Events



- 15.2.17 Heatwave events could become more frequent across the UK, with rising temperatures ((Vautard R. et al., 2019)). A heatwave is defined as an extended period of hot weather relative to the expected conditions of the area at that time of year, which may be accompanied by high humidity.
- 15.2.18 Changes in rainfall could result in both drought and flooding. Drought can have a detrimental impact on the environment, agriculture and water supply. The UKCP18 projections show a trend toward drier summers on average, although the uncertainties of these are wide ranging. On the other hand, heavy rainfall may lead to increased flooding events.

### 15.3 Potential impacts

#### Effects of the Proposed Scheme on Climate

- 15.3.1 The Proposed Scheme would be likely to have an effect on climate change through increased GHG emissions in two ways. Firstly, GHG emissions would be generated during the construction phase as a consequence of extracting raw materials, processing materials for use in construction, operation of the construction plant and the movement of vehicles during the construction phase.
- 15.3.2 Secondly, GHG emissions would be generated from vehicle movements during the operational phase through use of the Proposed Scheme. These emissions will be assessed in the context of the existing baseline vehicle emissions for the M3 J9 Improvement site. There would also be GHG emissions associated with energy use and maintenance of the Proposed Scheme in terms of lighting and signage during the operation phase.

#### Vulnerability of the Proposed Scheme to Climate Change

- 15.3.3 The Proposed Scheme may be vulnerable to varying future climate conditions, relating to high temperatures and heat waves, extreme precipitation events, water shortage in drought conditions and other extreme weather events which could result in adverse effects during the operation of the Proposed Scheme.
- 15.3.4 Due to the temporary short-term nature of the construction phase, it is anticipated that changes in climate would not significantly affect the workforce, location of construction compounds or type of machinery. Therefore, vulnerability of the Proposed Scheme to climate change during construction is proposed to be scoped out of the assessment for the ES.
- 15.3.5 There is also the potential for climate change, and in particular changes to seasonal patterns, to exacerbate the effects on environmental receptors to an extent that a new or previously identified effect in other topic chapters becomes significant. These are referred to as in-combination climate change impacts and are discussed further in **Chapter 16 Cumulative Effects**.
- 15.3.6 A simple assessment was undertaken in the Project Control Framework (PCF) Stage 2 Environmental Assessment Report (WSP, 2018) to identify key

potential impacts of climate change and its effect on the Proposed Scheme, outlined in **Table 15.5**. Further details on flooding and surface water impacts on the Proposed Scheme can be found in **Chapter 14 – Road Drainage and the Water Environment**.

*Table 15-5 Potential impacts during construction and operation*

Phase of Proposed Scheme	Climate Variable	Impact (hazards or benefits)
Construction	Increased temperatures, prolonged periods of hot weather	Warm and dry conditions exacerbate dust generation and dispersion, health risks to construction workers.
	Increased precipitation, and intense periods of rainfall	Flooding of works and soil erosion.  Increased risk of contamination of waterbodies.  Disruption to supply of materials and goods.
Operation	Increased precipitation, especially in winter and extreme rainfall events	Flooding.  Water scour causing structural damage.  Weakening or wash-out of structural soils.  Change in groundwater level and soil moisture.
	Temperature extremes	Stress on structures.  Stress on surfaces e.g. difficulties with maintaining required texture depth.  Stress on planting

		Challenges for maintenance regimes.
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## 15.4 Design, mitigation and enhancement measures

### Effects of the Proposed Scheme on Climate

15.4.1 Strategically, emissions are mitigated by applying the carbon reduction hierarchy PAS 2080:2016 (BSI, 2016). The design of the Proposed Scheme will be progressed to reduce GHG emissions through developing and incorporating mitigation measures. Potential measures for the reducing emissions at different lifecycle stages are provided in **Table 15-6**.

*Table 15-6: GHG emissions mitigation opportunities/enhancement*

Lifecycle Stage	Mitigation Opportunities
Temporary and permanent construction materials	<p>Designing, specifying and constructing the Proposed Scheme with a view to maximising the operational lifespan of surfaces and structures and minimising the need for maintenance and refurbishment.</p> <p>Designing, specifying and constructing the Proposed Scheme with a view to maximising the potential for reuse and recycling of materials/elements at the end-of- life stage</p> <p>Reduction of materials consumption would be carried out in accordance with mitigation measures outlined in <b>Chapter 11 – Material Assets and Waste</b></p> <p>Use of more efficient construction plant and delivery and/or those powered by electricity from alternative/lower carbon fuels</p>
Construction/installation process	<p>Construction plant emissions would be managed via the Environmental Management Plan (EMP), specifying plant operator efficiency requirements</p> <p>Specifying high efficiency mechanical and electrical equipment such as Light Emitting Diode (LED) lighting and signal gantries</p>

	Making adequate provision to support up and coming new clean vehicle technologies where appropriate
In-use traffic on the Proposed Scheme	The junction improvements seek to provide enhancements to operational traffic in relation to improving congestion. The potential to reduce GHG emissions through the operation of the scheme will be explored within the assessment presented in the ES.

### Vulnerability of the Proposed Scheme to Climate Change

15.4.2 Opportunities to increase the resilience and adaptive capacity of the Proposed Scheme to climate risk will be investigated as part of the detailed design. Potential mitigation measures to reduce impacts of climate change on the Proposed Scheme include:

- Making sure that the Proposed Scheme design (in particular the bridge soffit levels and any flood compensation) complies with Environment Agency guidance regarding peak flows and requirements set out in DMRB CD 356
- Designing and specifying pavement construction, expansion joints and other elements that would be resilient to anticipated increases in peak summer temperatures and increased UV exposure. The pavement design will be in accordance with the DMRB
- Building future climate scenarios flood projections into the Proposed Scheme, as outlined in Chapter 15 Road Drainage and the Water Environment
- Careful selection of materials used for structures, foundations and surfacing, to increase the resilience of the Proposed Scheme to extremes of temperature and rainfall. The selected materials will be in accordance with DMRB specified materials
- Implementation of drought resistant, native species planting strategy

## 15.5 Description of likely significant effects

### Effects of the Proposed Scheme on Climate

15.5.1 Effects of the Proposed Scheme on climate change would be unlikely to be significant according to the statement from the National Policy Statement for National Networks (NPSNN) (DfT, 2014) that *‘the impact of road development on aggregate levels of emissions is likely to be very small’*. However, IEMA guidance (2020) states that all projects create GHG emissions which

contribute to climate change and are therefore significant. Thus, effects of the Proposed Scheme on climate change during the construction and operation phases will be scoped in for further assessment. GHG calculations will be undertaken and reported within the ES to draw definitive conclusions regarding the significance of the Proposed Scheme's effects on climate change. In accordance with DMRB LA 114 Climate (Highways England), an assessment of GHG emissions from the Proposed Scheme will be undertaken against UK government emissions.

15.5.2 GHG emissions do not have a local receptor as, once they are emitted, they are not limited to geographic boundaries.

### **Vulnerability of the Proposed Scheme to Climate Change**

15.5.3 Impacts of climate change on the Proposed Scheme will be considered for the following receptors:

- The assets and their operation, maintenance and refurbishment (e.g. pavements, structures, earthworks & drainage, technology assets, etc.)
- End-users (e.g. members of the public, commercial operators etc.)

15.5.4 The changes in average climate norms over the construction period are relatively small compared to later years of the study period. It is unlikely to adversely affect construction workers or equipment and thus is proposed to be scoped out of further assessment. The impact of climate hazards would be managed through standard construction and health and safety practices, such as securing material/equipment and not undertaking works during periods of extreme rainfall, which will be reported within the EMP.

## **15.6 Assessment methodology**

### **Policies and Plans**

15.6.1 Planning policies and guidance that are relevant to the Proposed Scheme include:

- Climate Change Act (2008) as amended
- National Policy Statement for National Networks (NPSNN) (DfT, 2014): Paragraphs 5.16 to 5.19 (Carbon emissions)
- National Planning Policy Framework (NPPF) (2019): Paragraph 8 (Achieving sustainable development), Paragraphs 148 to 169 (Meeting the challenge of climate change, flooding and coastal change), and the associated Planning Practice Guidance: Climate change (2019).
- Winchester District Local Plan Part 1 – Joint Core Strategy (2013): Policy DS1 (Development Strategy and Principles) and Policy CP13 (High Quality Design)

- Winchester District Local Plan Part 2 – Development Management and Site Allocations (2017): Policy WIN1 (Winchester Town)
- Winchester District Draft Local Plan 2018 – 2038 (Emerging)
- South Downs Local Plan (2019): Policy SD2 (Ecosystem Services); Policy SD45 (Green Infrastructure); and, Policy SD48 (Climate Change and Sustainable Use of Resources).

### **Guidance**

15.6.2 The assessments will be based on the following guidance:

- DMRB, Sustainability and Environment Appraisal, LA 114 Climate (Highways England, 2019)
- IEMA's Environmental Impact Assessment guide to assessing greenhouse gas emissions and evaluating their significance (IEMA, 2020)
- IEMA's Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation (IEMA, 2020)
- PAS 2080:2016 Carbon management in Infrastructure (BSI 2016)
- Highways England's Carbon emissions calculation tool (Highways England, 2019).

15.6.3 In accordance with the above guidance, particularly DMRB LA 114 Climate (Highways England, 2019), the assessment will consider likely significant environmental effects in relation to the impact of the Proposed Scheme on climate change and a risk assessment shall be undertaken to assess the impact of climate change on the development.

### **Effects of the Proposed Scheme on Climate**

#### *Baseline*

15.6.4 A high-level review of existing land use and associated activities on the M3 J9 Improvement site has been undertaken to identify the baseline GHG emissions. This includes a review of existing land use, along with the UK Carbon Budgets and UK local authority GHG inventory data (DBEIS, 2020).

#### *GHG Emissions Assessment*

15.6.5 The goal of this assessment is to identify the main sources of GHG emissions during the construction and operation of the Proposed Scheme and the mitigation measures that will seek to reduce these emissions.

15.6.6 The assessment and reporting of GHG emissions associated with the Proposed Scheme will consider the following project stages:

- Construction (of the Proposed Scheme) – including the material supply (embodied carbon) and recycling, transport, manufacturing and construction processes
- Operation – assessing the carbon associated with additional road users carbon, and emissions associated with the maintenance/refurbishment requirements and lighting.

15.6.7 In line with the latest Highways England guidance (Highways England, 2019), the assessment of projects on climate shall only report significant effects where increases in GHG emissions will have a material impact on the ability of Government to meet its carbon reduction targets.

15.6.8 GHG emissions associated with the decommissioning of the Proposed Scheme will not be considered. This is because the long design life of the Proposed Scheme (more than 60 years) means there isn't enough certainty about the likelihood, type or scale of emissions activities that could occur.

15.6.9 Information regarding construction, activities will be obtained from the design team. GHG emissions related with construction, raw material supply, transport and manufacture will be calculated using the Highways England Carbon Tool carbon factors (Highways England, 2015).

15.6.10 Information regarding vehicle movements during the operational phase of the Proposed Scheme will be obtained from the transport forecasting package, where the methodology and the calculations will be detailed. The road user GHG emissions will be calculated using the Emissions Factors Toolkit (EFT) published by Defra. The GHG assessment, following the relevant latest Highways England guidance (Highways England, 2019) and previous Scoping Opinion (Planning Inspectorate, 2019) for the Proposed Scheme, will include a comparison of the GHG emissions for the Do-Minimum (baseline) and Do-Something scenarios for the opening year (2026) and design (future) years (2041) in line with DMRB LA 114 Climate (Highways England, 2019).

15.6.11 Previously undertaken simple assessments of GHG emissions for construction were undertaken without information such as a materials Bill of Quantities. Updated calculations will be undertaken and reported within the ES.

15.6.12 GHG emissions associated with land use change and vegetation/ soil loss during construction and carbon sequestration resulting from proposed planting during operation is anticipated to be insignificant compared to the rest of the Proposed Scheme and are therefore proposed to be assessed qualitatively.



Table 15-7: Key information on GHG emission sources for the Proposed Scheme

Construction	Lifestyle stage	Potential sources of emissions
Construction	Product stage (manufacture and transport of raw materials to suppliers)	Embodied emissions associated with the required raw materials. For example: <ul style="list-style-type: none"> <li>■ Pavement: asphalt, aggregate</li> <li>■ New roundabout construction at junction 9; steel concrete</li> <li>■ New bridge connecting the roundabout above M3; steel, concrete.</li> <li>■ New bridges under M3 carrying A34 Southbound Link; steel, concrete</li> </ul>
	Construction process stage (transport of materials and arisings to/from site; construction process, earth movements)	Activities for organisations conducting construction work (i.e. fuel/electricity construction) Delivery of materials for new bridge and grade-separated junctions <ul style="list-style-type: none"> <li>■ Disposal of site excavations</li> <li>■ Delivery of materials for new roundabout and bridges.</li> <li>■ Installation of major structures</li> </ul>
	Land use, land use change and forestry	Change in emissions associated with loss of agricultural grassland and trees.
Operation	End-user emissions (regional traffic flows)	Additional vehicles using highways infrastructure
	Operation and maintenance	Fuel and energy consumption for infrastructure operation, including lighting, and activities of organisations conducting routine maintenance.
	Land use, land use change and forestry	Carbon sequestration from proposed planting

15.6.13 There is an absence of significance criteria or defined threshold for determining the significance of effects resulting from GHG emissions in EIA.



IEMA guidance identifies three underlying principles to inform the assessment of significance and conclude that:

- all projects create GHG emissions that contribute to climate change
- climate change has the potential to lead to significant environmental effects
- there is a GHG emission budget that defines a level of dangerous climate change whereby any GHG emission within that budget can be considered as significant.

15.6.14 Therefore, in the absence of any significance criteria or a defined threshold, IEMA recommends that all GHG emissions are considered as significant and that the EIA should ensure the project addresses their occurrence through mitigation. Due to the subjectivity of defining the magnitude of significance (i.e. major, moderate, minor) for GHG assessments, significance has been determined by professional judgement in the context of sectoral, local or national carbon budgets, as recommended by IEMA. The DMRB LA 114 (Highways England, 2019) also states that project GHG emissions should be assessed against UK Government carbon budgets.

### **Vulnerability of the Proposed Scheme to Climate Change**

15.6.15 The assessment of the vulnerability of the Proposed Scheme to climate change will consider future climate projections and the Proposed Scheme receptors which could be vulnerable to climate changes.

15.6.16 Although certain receptors have been identified during the option selection stage, a reassessment of the vulnerable receptors will be carried out to include any potential design and construction updates and will be explained and justified within the ES.

15.6.17 Future climate projections, as presented in the baseline evolution section, consider the lifespan of the Proposed Scheme (including timescales for construction and operations). In line with the latest Highways England guidance (Highways England, 2019) requirements, the assessment of the Proposed Scheme's vulnerability to climate change should take the life span of 60 years. Lifecycle stages can then be assessed in the short, medium and long term (i.e. 2030, 2050 and 2080). The climate trends associated with the UKCP high emissions scenario (RCP 8.5 – 50% probability) projections will be considered in this assessment, in line with the latest Highways England guidance requirements (Highways England, 2019), as a conservative approach due to the uncertainties that exist around climate projections.

15.6.18 The Proposed Scheme receptors vulnerable to climate change will be identified based on the construction process, assets and their operation, maintenance and refurbishment, and end users, including the public and commercial operators. Impacts will be described in terms of hazards and opportunities using the climate projection data, together with the vulnerability of the Proposed Scheme to both normal and extreme weather-related scenarios.

15.6.19 In line with the latest Highways England guidance requirements (Highways England, 2019) , the likelihood and consequence of the impact occurring at receptors will be assessed, and an evaluation of the significance of effects will be presented based on the latest Highways England’s guidance (Highways England, 2019) significance matrix which is provided below in **Tables 15.8 – 15.10**.

Table 15.8: Likelihood Categories (DMRB LA 114)

Likelihood Category	Description (probability and frequency)
Very High	The event occurs multiple times during the lifetime of the project (60 years) e.g. approximately annually, typically 60 events.
High	The event occurs several times during the lifetime of the project (60 years) e.g. approximately once every five years, typically 12 events.
Medium	The event occurs limited times during the lifetime of the project (60 years) e.g. approximately once every 15 years, typically 4 events.
Low	The event occurs during the lifetime of the project (60 years) e.g. once in 60 years.
Very Low	The event can occur once during the lifetime of the project (60 years).

Table 15.9: Measure of Consequence (DMRB LA 114)

Consequence of Impact	Description
Very Large Adverse	Operation - national level (or greater) disruption to strategic route(s) lasting more than 1 week.
Large Adverse	Operation - national level disruption to strategic route(s) lasting more than 1 day but less than 1 week or regional level disruption to strategic route(s) lasting more than 1 week.
Moderate Adverse	Operation - regional level disruption to strategic route(s) lasting more than 1 day but less than 1 week.
Minor Adverse	Operation - regional level disruption to strategic route(s) lasting less than 1 day

Negligible	Operation - disruption to an isolated section of a strategic route lasting less than 1 day.
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Table 15.10: Significance Matrix (DMRB LA 114)

	Measure of likelihood					
		Very Low	Low	Medium	High	Very High
Measure of Consequence	Very Large	NS	S	S	S	S
	Large	NS	NS	S	S	S
	Moderate	NS	NS	S	S	S
	Minor	NS	NS	NS	NS	NS
	Negligible	NS	NS	NS	NS	NS

NS = Not significant; S = Significant

15.6.20 In considering the elements of climate, professional judgements, following a proportionate approach, will be used in providing a qualitative description of the nature of the impacts. Where professional judgement is applied, it will be explained and justified within the ES.

## 15.7 Assessment assumptions and limitations

15.7.1 Due to the uncertainties that exist around the subject of climate, there are limitations associated with predicting the impacts of climate change into the future, which could result in this assessment either over or under estimating the impacts of the Proposed Scheme on climate, and of climate on the Proposed Scheme. These limitations include:

- Uncertainty around climate change projections
- Limited methodological guidance on how a climate change assessment should be carried out
- Limited literature describing climate change impacts on infrastructure and assets.

15.7.2 Although uncertainties and limitations exist around predicting climate change into the future, the NPSNN (Department for Transport, 2014) states that “*it is very unlikely that the impact of a road project will, in isolation, affect the ability of the government to meet its carbon reduction plan targets*”. Therefore, based

on the size of the Proposed Scheme in relation to the area and background emissions, it is anticipated that a robust assessment will be undertaken.

## 15.8 Elements to be scoped in/out

15.8.1 The lifecycle stages included within the scope of this assessment, and the reasons why they have been scoped in are presented in **Table 15-11**. Elements that have been scoped out have been listed in **Table 15-12** along with a justification for doing so.

*Table 15-11: Elements to be scoped in to the EIA for Climate Change*

Elements scoped in	Justification
Products and Materials – permanent construction materials within the construction site boundary	Primary raw material extraction, manufacturing, and transportation within the supply chain, is likely to form a large proportion of the scheme’s emissions. The baseline position for construction phase GHG emissions is therefore considered to be zero. Therefore, the construction GHG emissions will result in an increase of >1%. In line with DMRB LA 114 (Highways England 2019), further assessment will therefore be undertaken.
Construction process stage- including transport to/from works site and construction/installation processes.	Emissions from the construction stage typically form a large proportion of a scheme’s emissions and would include such emissions sources as fuel/energy consumption.
Construction - Land use change	It is considered that the likely proportion of emissions associated with land use change will be insignificant compared to the rest of the Proposed Scheme emissions. Therefore, it is proposed that this is assessed qualitatively.
Operation - Use of the infrastructure by the end-user	DMRB LA 114 (Highways England 2019) sets out that if roads meet or exceed a change of more than 10% Annual Average Daily Traffic (AADT), a change of more than 10% to the number of heavy-duty vehicles, further assessment should be undertaken. The total additional traffic and end-user GHG emissions from traffic flows have not yet been assessed, and it is not known if the project will meet these LA 114 (2019) criteria. It is considered unlikely to result in changes of more than 10%, however using a conservative approach,

	<p>further assessment will be undertaken to assess the operational impacts of the scheme. Should this be proposed to be scoped out due to a lack of change in AADT, this would be confirmed through consultation with statutory bodies.</p>
<p>Operation - Repair and refurbishment</p>	<p>It is considered that the likely proportion of emissions associated with repair and refurbishment will be insignificant compared to the rest of the Proposed Scheme emissions. Therefore, it is proposed that this is assessed qualitatively.</p>
<p>Operation - Maintenance</p>	<p>It is considered that the likely proportion of emissions associated with maintenance will be insignificant compared to the rest of the Proposed Scheme emissions. Therefore, it is proposed that this is assessed qualitatively.</p>
<p>Operation - Replacement</p>	<p>It is considered that the likely proportion of emissions associated with maintenance will be insignificant compared to the rest of the Proposed Scheme emissions. Therefore, it is proposed that this is assessed qualitatively.</p>
<p>Operation - Land use change (including planting)</p>	<p>It is considered that the likely proportion of emissions associated with land use change will be insignificant compared to the rest of the Proposed Scheme emissions. Therefore, it is proposed that this is assessed qualitatively.</p>
<p>Operation - Vulnerability of the Proposed Scheme to climate change</p>	<p>There is potential for significant effects on the Proposed Scheme, including on assets and their operation, and on end-users. These potential effects will therefore be further assessed.</p>

Table 15-12: Elements to be scoped out of the EIA for Climate Change

Elements scoped out	Justification
Construction- vulnerability of the proposed scheme to climate change	Due to the temporary short-term nature of the construction phase, it is anticipated that changes in climate would not significantly affect the workforce, location of construction compounds or type of machinery. Therefore, vulnerability of the Proposed Scheme to climate change during construction will be scoped out of the assessment for the ES.
Decommissioning	Decommissioning would happen several decades into the future and well beyond the period for which the UK Government has set agreed carbon budgets. Uncertainty about the future decommissioning process and associated emissions is sufficient to scope this lifecycle stage out of the emissions assessment.

## 16 Cumulative Effects

### 16.1 Cumulative Assessment Methodology

16.1.1 Paragraph 4.16 of the National Policy Statement for National Networks (NPSNN) (DfT, 2014) states:

*“When considering significant cumulative effects, any ES should provide information on how the effects of the proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence).”*

16.1.2 Cumulative effects occur either as a result of changes caused by other reasonably foreseeable developments acting cumulatively with the effects of the Proposed Scheme ('inter-project cumulative effects'); or from the combined effect of several different impacts, acting together on a single receptor, such that the combined effect would be more significant than the sum of the individual effects.

16.1.3 Cumulative effects could therefore arise from multiple projects (inter-project) or from within the same project (intra-project). For two impacts to have a cumulative effect, the impacts would need to have a temporal relationship (i.e. arise at broadly the same time) and a spatial relationship (i.e. occur in broadly the same geographic area).

16.1.4 As cumulative effects would arise from two or more impacts acting together, an impact without a significance on its own could combine with another to result in a significant cumulative effect.

16.1.5 This chapter has been prepared with reference to the Planning Inspectorate's Advice Note 17: Cumulative Effects Assessment (Planning Inspectorate, 2019) and guidance on cumulative effects contained in Design Manual for Roads and Bridges (DMRB) LA104 (Highways England, 2019). This assessment is also informed by NPSNN.

### 16.2 Assessment of interrelationships between topics

16.2.1 Assessment of interrelationships between topics addresses the ways in which a single receptor, group of receptors or receptor type is affected in more than one different way by a project.

16.2.2 Each technical chapter will assess the categories of receptors and specific named receptors relevant to that topic's methodology. In some instances, the same receptor or resource could be assessed in more than one technical chapter or more than once within the same technical chapter. In these cases, there is the possibility that several individual effects on the same receptor could add up to create a significant cumulative effect.

16.2.3 Once the Environmental Impact Assessment (EIA) has been undertaken and the Environmental Statement drafted, an assessment of interrelationships between topics will be undertaken and explicitly detailed in the cumulative chapters of the ES.

16.2.4 Potential interrelationships between topics occurring during construction (C) and operation (O) are outlined below in **Table 16-1**. These will be reviewed during the EIA to ensure all common receptors are assessed.



Table 16-1 Potential interrelationships between topics

Potential receptors	Air Quality and Carbon Emissions		Cultural Heritage		Landscape and arboriculture		Biodiversity		Geology and Soils		Materials		Noise and Vibration		Population and Health		Road Drainage and the Water environment		Climate	
	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O
Residents along the existing Road Network	✓	✓			✓	✓							✓	✓	✓	✓				
Residents close to the proposed Scheme	✓	✓			✓	✓			✓				✓	✓	✓	✓				
Archaeological Remains			✓																	

Potential receptors	Air Quality and Carbon Emissions		Cultural Heritage		Landscape and arboriculture		Biodiversity		Geology and Soils		Materials		Noise and Vibration		Population and Health		Road Drainage and the Water environment		Climate	
	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O
Listed Buildings			✓	✓																
Scheduled Monuments			✓										✓	✓						
Registered Parks and Gardens			✓	✓																
Conservation Areas			✓	✓	✓	✓														
Landscape Character			✓	✓	✓	✓							✓	✓						

Potential receptors	Air Quality and Carbon Emissions		Cultural Heritage		Landscape and Arboriculture		Biodiversity		Geology and Soils		Materials		Noise and Vibration		Population and Health		Road Drainage and the Water environment		Climate	
	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O
Statutory Designated Sites	✓	✓			✓	✓	✓	✓					✓	✓			✓	✓		
Non-statutory Designated Sites	✓	✓			✓	✓	✓	✓					✓	✓			✓	✓		
Habitats & Species of Principal Importance	✓	✓			✓	✓	✓	✓					✓	✓			✓	✓		
Protected Species	✓	✓			✓	✓	✓	✓					✓	✓			✓	✓		

Potential receptors	Air Quality and Carbon Emissions		Cultural Heritage		Landscape and Arboriculture		Biodiversity		Geology and Soils		Materials		Noise and Vibration		Population and Health		Road Drainage and the Water environment		Climate	
	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O
River Itchen	✓	✓					✓	✓	✓	✓			✓	✓			✓	✓		
Designated Geological Sites									✓	✓										
Soil Quality									✓						✓					
Groundwater and Surface Water									✓	✓							✓	✓		

Potential receptors	Air Quality and Carbon Emissions		Cultural Heritage		Landscape and arboriculture		Biodiversity		Geology and Soils		Materials		Noise and Vibration		Population and Health		Road Drainage and the Water environment		Climate	
	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O
Land Contamination									✓	✓										
Mineral Resources									✓		✓									
Waste											✓									
Flood Risk																	✓	✓		
All travellers (inc. users of PRoWs)	✓	✓			✓	✓							✓	✓	✓	✓				

Potential receptors	Air Quality and Carbon Emissions		Cultural Heritage		Landscape and arboriculture		Biodiversity		Geology and Soils		Materials		Noise and Vibration		Population and Health		Road Drainage and the Water environment		Climate	
	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O	C	O
Community and Private Assets	✓	✓							✓				✓	✓	✓	✓				
Workers and visitors to the area	✓	✓			✓	✓			✓				✓	✓	✓	✓				
Human Health	✓	✓							✓				✓	✓	✓	✓				
Road Drainage and the Water Environment																				
Climate	✓	✓									✓							✓	✓	

### 16.3 Assessment of cumulative effects

#### Policies and plans

16.3.1 Planning policies and guidance relevant to the Proposed Scheme include:

##### National Planning Policy and Guidance

- National Policy Statement for National Networks (NPSNN) (DfT, 2014): Paragraph 3.8 (Emissions), Paragraphs 5.3 to 5.15 (Air Quality), Paragraphs 5.16 to 5.19 (Carbon emissions), Paragraphs 5.81 to 5.89 (Dust, odour, artificial light, smoke, steam), Paragraphs 5.143 to 5.161 (Landscape and visual impacts), Paragraphs 5.186 to 5.200 (Noise and vibration), Paragraphs 5.201 to 5.218 (Impact on transport networks), Planning Practice Guidance: Climate change (2019) and Renewable and low carbon energy (2015)
- National Planning Policy Framework (NPPF) (2019): Paragraph 8 (Achieving sustainable development), Paragraph 91 (Promoting healthy and safe communities), Paragraph 102 (Promoting sustainable transport), Paragraph 148 (Meeting the challenge of climate change, flooding and coastal change), Paragraphs 170 and 172 (Conserving and enhancing the natural environment), Paragraphs 175, 176, 177 and 178 (Conserving and enhancing the natural environment - habitats and biodiversity), Paragraphs 179 (Conserving and enhancing the natural environment, Ground conditions and pollution) Paragraphs 189 (Conserving and enhancing the historic environment) and 193, 194, 195, 196, 197, 199, 200 and 201 (Conserving and enhancing the historic environment – Considering potential impacts).

##### Local Planning Policy and Guidance

- Winchester District Local Plan Part 1 – Joint Core Strategy (2013): Policy DS1 (Development Strategy and Principles), Policy CP10 (Transport), CP13 (High Quality Design), Policy CP15 (Green Infrastructure), Policy CP16 (Biodiversity), Policy CP17 (Flooding, Flood Risk and the Water Environment), Policy CP19 (South Downs National Park), Policy CP20 (Heritage and Landscape Character)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (2017): Policy WIN1 (Winchester Town), Policy DM16 (Site Design Criteria), Policy DM17 (Site Development Principles), Policy DM19 (Development and Pollution), Policy DM20 (Development and Noise), Policy DM21 (Contaminated Land), Policy DM24 (Special Trees, Important Hedgerows and Ancient Woodlands), Policy DM25 (Historic Parks and Gardens), DM26 (Archaeology) and DM29 (Heritage Assets).

##### *Winchester District Council Policies Maps*

- South Downs Local Plan (2019): Core Policy SD1 (Sustainable Development), Core Policy SD2 (Ecosystems Services), Core Policy SD3 (Major Development), Strategic Policy SD4 (Landscape Character), Strategic Policy SD5 (Design),

Strategic Policy SD6 (Safeguarding Views), Strategic Policy SD9 (Biodiversity and Geodiversity), Development Management Policy SD11 (Trees, Woodland and Hedgerows), Policy SD12 (Historic Environment) and SD13 (Listed Buildings), Strategic Policy SD42 (Infrastructure), Strategic Policy SD45 (Green Infrastructure), Development Management Policy SD54 (Pollution and Air Quality) and Development Management Policy SD55 (Contaminated Land).

*South Downs Policies Map*

*Hampshire County Council*

- Hampshire Local Transport Plan 2011-2031 (2011)
- City of Winchester Movement Strategy (2019)
- Hampshire Minerals and Waste Plan (2013)

**Emerging Local Planning Policy and Guidance**

*Winchester District Draft Local Plan 2018 – 2038 (Emerging)*

16.3.2 Winchester District Council is preparing a Local Plan which will provide a planning policy framework to direct growth and change to appropriate locations up to 2038. The Local Plan Launch consultation took place between the 24<sup>th</sup> July and 21<sup>st</sup> September 2018. The next round of consultation on the Strategic Issues and Options Document is due to take place in September/October 2020.

16.3.3 Where other major improvement and construction projects are delivered at the same time as, and in proximity to the Proposed Scheme, a potential for cumulative adverse impacts and effects would exist. Conversely, beneficial opportunities to maximise synergies between major projects (balancing cut and fill across different schemes, for example) could also present themselves.

16.3.4 Inter-project cumulative effects require a separate scoping procedure and assessment method. It is therefore necessary to address these separately from other impacts and this will be done as part of the cumulative effects chapter within the EIA.

16.3.5 Assessment of inter-project effects will follow the step-by-step approach outlined in the PINS Advice Note 17 (Planning Inspectorate, 2019). Guidance from DMRB LA104 (Highways England, 2019) will also be taken into consideration.

**Traffic related cumulative effects**

16.3.6 Some environmental topics will base part of their impact assessment on information about the quantity of traffic on the road network in areas adjacent to the Proposed Scheme including its distribution, speed and movement. This information is derived from a computer-based model.



16.3.7 In accordance with standard guidelines the traffic model relies on assumptions about traffic growth over time. The model takes into account proposed development and infrastructure projects in the region. This means that inter-project cumulative effects are inherently built into these assessments.

16.3.8 Topics basing their impact assessment primarily on traffic-based modelling or calculations are air quality and noise and vibration, it is therefore intended to scope out traffic related cumulative air quality and traffic related cumulative noise and vibration effects. Non-traffic related air quality and noise and vibration effects will be considered through the methodology outlined below.

### **Climate related cumulative effects**

#### *Greenhouse Gases (GHGs)*

16.3.9 The global concentration of GHGs in the atmosphere, rather than the flow of emissions, is what causes effects on climate change and therefore all GHG emissions are essentially cumulative. This will be taken into account in the non-cumulative assessment through defining the high sensitivity of the global climate as a receptor and through the consideration of emissions in the context of UK emissions.

16.3.10 As effects are inherently provided for within the non-cumulative assessment, it is intended to scope out cumulative GHG assessments from the EIA.

#### *Climate Vulnerability*

16.3.11 No inter-project cumulative effects are anticipated on the basis that climate change adaptation effects and impacts are specific to the Proposed Development and will not result in impacts to neighbouring development. It is therefore intended to scope out specific climate vulnerability cumulative assessment.

### **Material Assets and Waste related cumulative effects**

16.3.12 The estimated waste capacity and materials availability used within this assessment, are generated through consideration of both the relevant authorities minerals and waste local development frameworks, together with consideration of the latest published data on landfill void capacity (provided by the Environment Agency). The minerals and waste local development frameworks are developed based on future regional demand projections including consideration for other significant projects within the locality and therefore by their nature, provide a cumulative approach. It is therefore proposed to scope a standalone cumulative assessment for Materials and Waste out of the EIA.

### **Establishing the proposed Scheme's Zone of Influence**

16.3.13 In accordance with PINS Advice Note 17 (Planning Inspectorate, 2019) and DMRB LA104 (Highways England, 2019), the first stage of the assessment of

inter-project effects will be to establish a likely spatial Zone of Influence (Zoi) for each topic area within the ES. **Table 16-2** below identifies the Zoi for environmental disciplines where possible at this stage. It should be noted that as assessments progress, the Zois may be refined to reflect the understanding of scheme impacts.

Table 16-2: Zones of influence

Environmental aspect	Zone of Influence	Justification
Air Quality	Construction – 200m from Indicative Application Boundary (IAB)	Beyond 200m of the IAB, construction effects are not anticipated to occur.
	Operation – Scope out	The assessment inherently provides for the assessment of cumulative effects through use of the traffic model. The Proposed Scheme in operation would not introduce a specific emission point source (i.e. an energy generation facility stack).
Cultural Heritage	Construction – 1km from IAB	1km relates to industry standard study areas, to be confirmed through the Zone of Theoretical Visibility (ZTV).
	Operation – 1km from IAB	1km relates to industry standard study areas, to be confirmed through the Zone of Theoretical Visibility (ZTV).
Landscape and Visual	Construction - 3km north to south and 2km east to west from the IAB	In lieu of the ZTV being available, construction related visual impacts from the Proposed Scheme are considered to be limited to within the ZoI.
	Operation - 3km north to south and 2km east to west from the IAB	In lieu of the ZTV being available, operational related visual impacts from the Proposed Scheme are considered to be limited to within the ZoI.
Biodiversity	Construction – 10km from the IAB	Beyond this distance, there are no mechanisms for cumulative effects to occur.
	Operation – 10km from the IAB	Beyond this distance, there are no mechanisms for cumulative effects to occur.
Geology and Soils	Construction - 2km from IAB	Beyond this distance, effects are not anticipated to occur. This distance is based upon the ground water Source Protection Zone (SPZ) inner zone travel time of 50 days multiplied by the mean transmissivity of the chalk.
	Operation - 2km from IAB	Beyond this distance, effects are not anticipated to occur. This distance is

		based upon the ground water Source Protection Zone (SPZ) inner zone travel time of 50 days multiplied by the mean transmissivity of the chalk.
Noise and Vibration	Construction – 300m from IAB	Beyond this distance (as set out in the DMRB LA111 Noise and vibration guidance), effects are not anticipated to occur.
	Operation – 2km from IAB	Beyond this distance, effects are not anticipated to occur. However, major development in close proximity, but beyond the 2km buffer will be considered.
Population and Health	Construction – 2km from IAB	Beyond this distance, effects are not anticipated to occur.
	Operation – 2km from IAB	Beyond this distance, effects are not anticipated to occur.
Road Drainage and the Water Environment	Construction - 2km for major development and 200m for minor planning applications, from the IAB.	Beyond this distance, effects are not anticipated to occur.
	Operation - 2km for major development and 200m for minor planning applications, from the IAB.	Beyond this distance, effects are not anticipated to occur.

### Identification of a long list of “other developments”

16.3.14 At the next stage of assessment searches for ‘other development’ will be undertaken. Information will be gathered using the Planning Inspectorate website, Local Authority Planning websites and other relevant sources.

16.3.15 Guidance on the identification of ‘other development’ that should be taken into account in the consideration of cumulative effects, including the certainty to be attributed to each ‘other development’ is available in DMRB LA104 (Highways England, 2020) and from PINS Advice Note 17 (Planning Inspectorate, 2019) (Table 2), which is reproduced below.

Tier 1:

- projects under construction
- permitted application(s), whether under the PA 2008 or other regimes, but not yet implemented.

- submitted application(s) whether under the PA 2008 or other regimes but not yet determined.

Tier 2:

- projects on the Planning Inspectorate's Programme of Projects where a scoping report has been submitted.

Tier 3:

- projects on the Planning Inspectorate's Programme of Projects where a scoping report has not been submitted
- identified in the relevant Development Plan (and emerging Development Plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals would be limited
- identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

16.3.16 Where other past projects are already complete or are expected to be completed before construction of the Proposed Scheme, and the effects of those projects are fully determined, effects arising from them should be considered as part of the baseline. These could be considered as part of both the construction and operation assessment. The ES will clearly distinguish between projects forming part of the baseline and those included in the cumulative impact assessment.

16.3.17 The cumulative effects assessment will, therefore, focus primarily on interaction between the Proposed Scheme and other developments whose construction will not have commenced, or will not be complete, before construction of the Proposed Scheme. Relevant other developments will be identified through a staged process.

16.3.18 An initial 'long list' of potentially relevant other developments will be developed in accordance with PINS Advice Note 17 (Planning Inspectorate, 2019), using the Zols identified in **Table 16-2** and the tier structure outlined above.

16.3.19 The 'long list' will be cognisant of requests identified through previously adopted March 2019 Scoping Opinion:

- Inclusion of the strategic growth site in the Eastleigh Local Plan - the new link road to J10 of the M3
- The cumulative impact of M3 J9-14 smart motorway upgrades

16.3.20 It will also be cognisant of the July to August (2019) consultation exercise, which included the following request:

- Policy WT3, WIN4, WIN 5-7 as set out within the Winchester City Council 2017/2018 AMR.

16.3.21 The following will also be taken into account:

- Refused applications subject to appeal procedures not yet determined
- Any other relevant developments identified through consultation with developers and stakeholders.

16.3.22 The long list of 'other development' will be prepared for the next stage of assessment, and developments identified within the Zols referred to in **Table 16-2** and falling with the tiering structure identified above will be identified. To keep the assessment proportionate, only developments categorised as 'major applications' will be included. As defined in the Town and Country Planning (Development Management Procedure) (England) Order 2015 (TCPO), 'major applications' include:

- the winning and working of minerals or the use of land for mineral-working deposits
- waste development
- the provision of dwellings where
  - the number of dwellings to be provided is 10 or more or
  - the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i)
  - the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more
  - development carried out on a site having an area of 1 hectare or more

16.3.23 For permitted applications not yet implemented the assessment will cover the past five years and will take account of those applications that received planning consent over three years ago and are still valid but have not yet been completed.

16.3.24 The long list will continue to be updated throughout the EIA process as appropriate when new developments are proposed to make sure that all potential relevant developments are included in the cumulative assessment.

16.3.25 When considering significance criteria, the assessment will take into account the requirements set out in the National Policy Statement for National Networks (NPSNN) (DfT, 2014) and PINS Advice Note 17 (Planning Inspectorate, 2019).

### Identification of a shortlist of 'other development'

16.3.26 The final list of cumulative schemes will be agreed through consultation with the local authority and statutory bodies. It is likely that a proportion of the other developments in the long list will not be suitable for inclusion in the cumulative effects assessment, because:

- There is too much uncertainty about the project going ahead, and therefore of its impacts occurring, to justify its inclusion in the assessment or
- There is too little information available about the project, and its environmental effects, to allow an assessment.

16.3.27 Therefore, the long list will be filtered down to a short list of other developments that may act cumulatively with the Proposed Scheme and that can be included in the assessment. The factors to be taken into account in filtering down the long list to form the short list include:

- how certain it is that each development will go ahead
- the availability of environmental information regarding the developments
- potential temporal overlap between any of the effects of the Proposed Scheme and the effects of other developments
- potential spatial overlap between any of the effects of the Proposed Scheme and the effects of other developments.

16.3.28 Consideration of whether there is sufficient certainty of a project going ahead will be based on the 'tiers' identified above, as follows:

- Any Tier 1 and Tier 2 project will be deemed to have sufficient certainty to be taken into the short list
- For Tier 3 projects, there could be a great deal of variation in the level of confidence that a project will go ahead. Some individual projects could have public commitments with a defined timescale and identified funding, whilst others remain policy or commercial aspirations. These projects will be considered on a case-by-case basis to determine whether there is sufficient confidence to carry them forward into a short list.

16.3.29 Cumulative impact assessment cannot be undertaken unless there is sufficient information about the other developments included. As a minimum, this must include an environmental Scoping Report or other environmental report that enables:

- identification of the environmental Zone of Influence of the other project, overall and on a topic-by-topic basis



- identification of the time period over which impacts of the other project could occur.

16.3.30 Any projects with sufficient confidence that they will proceed, and provide sufficient environmental information, will be included in a shortlist.

16.3.31 The ES will provide full details of the derived long list and the rationale behind the filtering process undertaken to produce the final short list.

### **Gathering Information on the development in the short list**

16.3.32 The following information will be sought for each of the developments included on the short list for assessment, to inform the cumulative effects assessment:

- the location and extent of the development
- information on the design of the development
- the proposed programme for obtaining consent (if relevant), construction, operation and decommissioning
- environmental assessment information that will allow the identification of:
  - the environmental baseline
  - the environmental effects of the development
  - the environmental Zol of the development as a whole and on a topic by topic basis
  - the timescale over which effects would occur, overall and on a topic by topic basis

16.3.33 It is recognised that the extent to which this information is available, and the level of detail of the information, is likely to vary between developments, even where the minimum requirement for inclusion in the short list has been met.

16.3.34 The starting point for data gathering will be the websites of the relevant competent authorities (i.e. the local authorities and the Planning Inspectorate). Where required, this could be supplemented by direct liaison with the competent authorities and consultation with other stakeholders and statutory bodies. In some cases, information could be made available from the developers themselves, either from their websites or directly.

### **Identification of potential impacts**

16.3.35 The primary method for identification of potential impacts will be through the plotting of Zol on a topic-by-topic basis.

16.3.36 Where the geographic Zol of another development overlaps with the overall Zol of the Proposed Scheme, a check will be carried out for the presence of receptors relevant to that topic within the area of overlap. If such receptors



are present, and there is also an overlap between the time periods in which the impacts would occur, then there is the potential for cumulative effects.

16.3.37 The likely occurrence of a cumulative effect will be confirmed, in the first instance, through the examination of the environmental reports for both schemes, to determine whether the receptor is identified in both as being affected. This will be supplemented by professional judgement to determine the likelihood of any additional effects in the context of the cumulative effects assessment. Professional judgement used will be justified within the ES.

### **The nature of potential cumulative effects**

16.3.38 In identifying cumulative effects, consideration will be given to the various ways in which cumulative effects could occur. In particular:

- Cumulative effects can be 'additive', e.g. one source of pollution can add to another source of pollution to create a higher concentration of pollutant than would otherwise occur, or an area of habitat could suffer loss of land from one development and then further loss of land from another development
- Cumulative effects can also be 'synergistic', where, for instance, a habitat may be affected by loss of land from one development and pollution or noise from another, resulting in a combined significant impact
- It is important to recognise whether either or both impacts giving rise to the cumulative effect are temporary or permanent, and if temporary over what timescale
- What is the geographic extent of the cumulative effect relative to both the extent of the receptor and the extent of the individual effects
- If the effect is intermittent, what is its frequency
- What is the value/sensitivity of the receptor and how susceptible is the effect to being successfully mitigated.

## **16.4 Baseline conditions**

16.4.1 This section provides a summary of other nearby developments already identified as part of the Stage 2 assessment and discusses their relevance to the assessment of cumulative effects. This list of developments will be reviewed as part of the EIA.

### **Trunk Road Developments**

16.4.2 The following schemes are trunk road developments likely to be delivered at the same time and in proximity to the Proposed Scheme:

- M3 Smart Motorways (Junctions 9-14).

16.4.3 The list of trunk road developments to be considered during the EIA will be determined by the traffic model in addition to review of comparable and common receptors.

16.4.4 It is considered unlikely that trunk road developments beyond those outlined above will have cumulative effects with the Proposed Scheme as the Zones of Influence are unlikely to overlap. Trunk road developments likely to be scoped out of further assessment include:

- M271 and A35 Redbridge roundabout upgrade
- M27 Southampton junctions
- A31 Ringwood Road Widening
- A27 Worthing Lancing

16.4.5 The ES will provide robust reasoning for the inclusion, or exclusion of the above schemes once further assessment work has been undertaken.

## 17 Summary

### 17.1 Summary of assessment scope

#### Topics scoped in

17.1.1 The following topics have been scoped into the Project Control Framework (PCF) Stage 3 environmental assessment:

- Air quality
- Cultural heritage
- Landscape and visual
- Biodiversity
- Geology and soils
- Material assets and waste
- Noise and vibration
- Population and health
- Road drainage and the water environment
- Climate
- Cumulative effects
- Major accidents and disasters – reported within relevant topics

#### Topics scoped out

- Heat and radiation

### 17.2 Summary of DMRB assessment levels

17.2.1 The approach to the assessment of each of the scoped in topics is outlined below in Table 17-1.

Table 17-1 Assessment levels of topics scoped in to the assessment

Topic	Design Manual for Roads and Bridges (DMRB) assessment level	Justification
Air Quality	Detailed	Risk of exceedance of air quality standards and the nature of the Proposed Scheme (peak hour congestion relief)
Cultural Heritage	Detailed	Potential for significant effects on archaeological remains
	Detailed	Potential for adverse impacts on historic buildings and historic landscapes
Landscape and Visual	Detailed	Detailed Landscape and Visual Impact Assessment is required where there is the potential for significant landscape and visual effects
Biodiversity	Detailed	Potentially significant effects have been identified for the Proposed Scheme
Geology and Soils	Detailed	Sensitive receptors have been identified at and adjacent to the Proposed Scheme. These could have the potential to be impacted by contaminants arising from the Proposed Scheme construction and/or operation
Material Assets and Waste	Detailed	Detailed Material Assets and Waste Assessment is required where there is the potential for significant effects
Noise and Vibration	Detailed	Detailed Material Assets and Waste Assessment is required where there is the potential for significant effects
Population and Health	Detailed	Potential impacts to motorised users, people using cycle ways and Public Rights of Way (PRoW), communities and health
Road Drainage and the Water Environment	Detailed	The Proposed Scheme has the potential to significantly affect the water environment if appropriate and adequate mitigation (as outlined in the previous section of this Chapter) is not implemented during both the construction and operational phases.
Climate	Detailed	Potential effects on climate change

Topic	Design Manual for Roads and Bridges (DMRB) assessment level	Justification
Major accidents and disasters	Simple	Potential effects from major events will be considered at a proportionate level by each environmental discipline

### 17.3 Elements of topics to be scoped in/out

17.3.1 All DMRB topics are scoped into the environmental assessment at PCF Stage 3. However certain elements of each DMRB topic have been scoped in or out of the assessment. Elements that have been scoped in or out are outlined in **Table 17-2** and in the technical chapters above.

*Table 17-2 Elements to be scoped in or out of the EIA*

Topic	Elements scoped in	Elements scoped out
Air Quality	Further assessment of direct construction impacts The assessment of impacts due to traffic management measures during construction The assessment of operational traffic on local air quality	None
Cultural Heritage	Archaeological remains Historic buildings Historic landscapes	None
Landscape and Visual	Landscape character areas Setting of Winchester Views from Winchester Cathedral Visual receptors SDNP International Dark Skies Reserve	None

Topic	Elements scoped in	Elements scoped out
Biodiversity	<p>European designated sites</p> <p>Nationally designated sites</p> <p>Non-statutory designated sites</p> <p>Priority and notable habitats</p> <p>Non-priority or notable habitats</p> <p>Badger, bats, hazel dormice, otter, water voles, other notable mammal species, birds, reptiles, amphibians, fish, invertebrates.</p>	None
Geology and Soils	<p>Land stability</p> <p>Effects associated with ground contamination that could already exist</p> <p>Effects associated with the potential for polluting substances to cause new ground contamination issues, e.g. contaminants introduced during construction/operation</p> <p>Impact to agricultural land</p>	<p>Effects on geology as a valuable resource, i.e. sterilisation of mineral resources</p> <p>Effects on geology and designated geological sites</p>
Material Assets and Waste	<p>Consumption of materials and products including the generation and use of arisings recovered from site</p> <p>Production and management of waste to regional waste management facilities</p> <p>The potential impact on mineral safeguarding resources and peat resources</p>	Materials consumption and waste generation and management during operation
Noise and Vibration	<p>Construction noise</p> <p>Construction vibration</p> <p>Operation road traffic noise</p>	--
Population and Health	<p>Community land and assets</p> <p>Walking, cycling and horseriding</p> <p>Private property and housing</p> <p>Development land and businesses</p> <p>Health</p>	Agricultural land (addressed within Geology and Soils)
Road Drainage and the Water Environment	Potential impacts on surface water, flooding and groundwater resources due to construction activities	Assessment of nutrient neutrality

Topic	Elements scoped in	Elements scoped out
	Potential impacts on surface water resources, groundwater resources and flood risk during the operational lifetime of the Proposed Scheme	
Climate	Products and Materials – permanent construction materials within the construction site boundary Construction process stage - including transport to/from works site and construction/installation processes. Construction – Land use change Operation - Use of the infrastructure by the end-user, Repair and refurbishment, Maintenance, Replacement, Land use change (including planting), Vulnerability of the Proposed Scheme to climate change	Construction-vulnerability of the proposed scheme to climate change Decommissioning
Major accidents and disasters	Storms Floods Transport accidents	--

## 18 Glossary of terms

Term	Definition
Affected Road Network	All roads that trigger the traffic screening criteria and adjoining roads within 200m.
Agricultural Land Classification	A system used to grade agricultural land according to versatility, quality and suitability for growing crops as set out in the ALC for England and Wales issued by the Department for Environment, Food and Rural Affairs (Defra). The top three grades, Grades 1, 2 and Subgrade 3a, are referred to as “Best and Most Versatile” (BMV) land.
Air Quality Dispersion modelling	The mathematical simulation of how air pollutants disperse in the ambient atmosphere. A dispersion model is used to estimate or predict the downwind concentration of air pollutants emitted from sources such as industrial facilities or road traffic.
Air Quality Management Area	Areas within a local authority's boundary that are identified as areas where Air Quality Objectives are not likely to be achieved.
Air Quality Objective	Defined levels of air quality and maximum pollution limits as specified in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2007.
Air Quality Threshold	Generic term to represent the relevant pollutant averaging period and concentration value described by the air quality strategy objectives or EU limit values.
Annual Average Daily Traffic	Total volume of vehicle traffic on a road flowing past a certain point over a year divided by 365 days.
Annual Average Weekday Traffic	The average 24-hour traffic volume occurring on weekdays throughout a full year.
Anticipated Air Quality Study Area	The likely extent of the Study Area prior to confirmation of Affected Road Network in the opinion of the competent expert for air quality.
Base year traffic data	The outputs of the traffic model coinciding with the year the traffic data was collected.
Basic Noise Level	The basic noise level (BNL) is a measure of source noise as defined in Appendix A1 of DMRB LA 111.
Best Practicable Means	A term used by the Environment Agency's requiring operators to take all reasonably practicable measures in the design and management of their facilities to minimise charges and disposals of radio-active waste so as to achieve a high standard of environmental protection of the environment and the public.



Bifurcate	To divide into two, or split.
Conceptual site model	A tool which sets out the information gained gathered through a site investigation is and is used to characterise the physical, biological, and chemical systems existing at a site.
Conservation Area	An area designated under Section 69 of the Planning (Listed Buildings and Conservation Areas) Act 1990 as being an area of “special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance”.
Contaminated Land: Applications in Real Environments	An independent not-for-profit organisation established in 1999 to stimulate the regeneration of contaminated land in the UK. It aims to raise awareness of, and confidence in, practical and sustainable remediation technologies.
Critical level	An air quality standard or guideline for ambient concentrations of a pollutant which applies at ecological receptors.
Critical load	A quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge. This is used to assess modelled nitrogen.
Cumulative Effects Assessment	An assessment to identify the potential significant effects caused by the interactions of the effects on the environment from different aspects of the same project and from other projects.
Design Manual for Roads and Bridges	A manual, prepared by Highways England that sets out all current standards, advice notes and other published documents relating to the design, assessment and operation road schemes.
Designated habitats	Internationally, nationally and locally designated sites of ecological conservation importance on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity.
Development Consent Order	The consent for a Nationally Significant Infrastructure Project required under the Planning Act 2008.
Diffusion Tube	A passive sampler used for collecting Nitrogen Dioxide (NO <sub>2</sub> ) in the air
Dispersion modelling	The mathematical simulation of how air pollutants disperse in the ambient atmosphere. A dispersion model is used to estimate or predict the downwind concentration of air pollutants emitted from sources such as industrial facilities or road traffic.
Do-Minimum	The scenario that represents the situation that would occur without the project in operation, which includes permitted developments.

Ecological Status	From the Water Framework Directive; ecological status is classified in all Water Bodies and expressed in terms of five classes (high, good, moderate, poor or bad). These classes are established on the basis of specific criteria and boundaries defined against biological, physico-chemical and hydromorphological elements.
Embedded mitigation	Design measures which are integrated into a project for the purpose of minimising environmental effects
Energy Average Sound Level (or equivalent continuous sound level)	The sound level of a steady sound having the same energy as a fluctuating sound over the same period. It is possible to consider this level as the ambient noise encompassing all noise at a given time. LAeq is considered the best general purpose index for environmental noise.
Essential mitigation	Measures required to reduce and if possible offset likely significant adverse environmental effects, in support of the reported significance of effects in the environmental assessment
Evening peak period (PM)	Period of time representing traffic characteristics in the evening, normally between 4pm and 7pm
Ground Investigation	An intrusive investigation undertaken to collect information relating to the ground conditions, normally for geotechnical or land contamination purposes.
Habitats and Species of Principal Importance	Habitats and Species of Principal Importance as listed under the NERC (Natural Environment Research Council) Act 2006 are those habitats that require conservation action.
Hampshire Biodiversity Information Centre	Hampshire Biodiversity Information Centre (HBIC) provides an independent and impartial data service. Data maintained by HBIC and covers designated sites, habitats and species.
Heavy duty vehicle	Heavy duty vehicles include a vehicle with a gross weight of more than 3.5 tonnes and buses.
Heavy goods vehicle	A goods vehicle with a gross weight of more than 3.5 tonnes.
Heritage asset	A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions because of its heritage interest. Heritage assets include designated heritage assets and assets identified by the local planning authority (including local listing).
Historic Environment Record	The record of heritage assets which provides information to members of the public, statutory bodies and developers about the archaeological resource in an area.

Inter peak period (IP)	Period of time representing traffic characteristics during the day, normally between 10am, and 4pm.
Key characteristics (landscape)	The combination of elements that are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.
LA10	The level exceeded for 10% of the measurement time. This has been shown to correlate well with human responses to road traffic noise.
L <sub>Aeq</sub> T	The equivalent continuous (time-averaged) A-weighted sound level. This is commonly referred to as the average noise level. The suffix "T" represents the time period to which the noise level relates. For example, L <sub>Aeq</sub> 1 hr is the L <sub>Aeq</sub> level determined over a period of one hour.
Landscape and Visual Impact Assessment	An assessment to identify and assess the significance of change on the landscape including specific views and general visual amenity resulting from a proposed development.
Landscape Character Area	A discrete geographical area of a particular landscape type.
Landscape character assessment	The process of identifying and describing variation in the character of the landscape and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscapes distinctive.
Landscape Element	Landscape features found within the highway estate, which can encompass both hard landscape features and elements the soft estate.
Lead Local Flood Authorities	Unitary authorities or county councils who are responsible for developing, maintaining and applying a strategy for local flood risk management in their areas and for maintaining a register of flood risk assets.
Listed Building	A building or structure designated under the Planning (Listed Buildings and Conservation Areas) Act 1990 as being of 'special architectural or historic interest'.
Local Air Quality	Assessment of the impact of pollutant concentrations on sensitive receptors within 200m of a road.
Local Air Quality Management	A process that requires local authorities across the UK to review, assess and manage the air quality within their geographical areas.

Local Biodiversity Action Plan Habitats or Species	Habitats or Species which are included in the Hampshire Biodiversity Action Plan.
Local Nature Reserves	Sites that are designated by the local authority under Section 21 of the National Parks and Access to the Countryside Act 1949 for nature conservation which have wildlife or geological features that are of special interest locally.
Lowest Observable Adverse Effect Level (noise)	This is the level above which adverse effects on health and quality of life can be detected
Morning period (AM)	Period of time representing traffic characteristics in the morning, normally between 7am and 10am.
National Cycle Network	A series of traffic-free paths and quiet, on-road cycling and walking routes that connect towns and cities. These routes are promoted for both recreational and active travel purposes.
National Nature Reserve	Sites that are dedicated by the statutory country conservation agencies, under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981, for nature conservation and which have wildlife or geological features that are of special interest nationally.
National Trails	Long distance footpaths and bridleways in England and Wales. In Scotland the equivalent trails are called long distance routes.
National Vegetation Classification	A system of classifying natural habitat types in Great Britain according to the vegetation they contain.
No Observed Effect Level	This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise
Open space	Land where the public have access either by legal right or by informal agreement.
Overnight period (OP)	Period of time representing traffic characteristics over night, normally between 7pm and 7am.
Particulate matter	Airborne particulate matter is made up of a collection of solid and/or liquid materials of various sizes that range from a few nanometres in diameter (about the size of a virus) to around 100 micrometres (about the thickness of a human hair).
Pollutant concentrations	Concentrations of pollutants normally reported as micrograms per cubic metre of air ( $\mu\text{g}/\text{m}^3$ ).

Pollution climatic mapping model	Government's national air quality modelling used to assess and report on compliance with the EU Air Quality Directive to the European Commission.
Principal Aquifer	Layers of rock or drift deposits that have high intergranular and/or fracture permeability, meaning they usually provide a high level of water storage. These layers of rock or drift deposits may support water supply and/or river base flow on a strategic scale.
Project air quality action plan	The section of the air quality assessment where the proposed viable mitigation measures are set out and assessed.
Projected base year	Represents the opening year of the project assessed with the vehicle emission rates for the base year to inform the assessment of future year projections of NOx and NO2.
Public Right of Way	Highways such as footpaths, cycle ways and national trails that allow the public a legal right of passage.
Ramsar Site	Wetlands of international importance designated under the Ramsar Convention 1971.
Regionally Important Geological Sites	Locally designated sites of importance for geodiversity.
Residual effect	Residual effects are those effects that remain after all mitigation (embedded and essential) have been factored into the assessment of effects.
River Basin District	The area of land and sea, made up of one or more adjacent river basins together with their associated groundwaters and coastal waters.
Road Verge of Ecological Importance	A road verge that supports either a notable species and/or a species rich habitat. Selection of RVEI sites is undertaken by the Hampshire Biodiversity Information Centre. The County Council is responsible for the management of the verges on all roads in the county, except motorways, major trunk roads, and urban areas.
Scheduled Monument	A heritage asset designated and protected under the Ancient Monuments and Archaeological Areas Act 1979.
Setting	The surroundings in which a place is experienced, whilst embracing an understanding of perceptible evidence of the past in the present landscape.
Significant Observed Adverse Effect Level (noise)	This is the level above which significant adverse effects on health and quality of life occur.

Site of Importance for Nature Conservation	Important wildlife sites which are designated through local planning policy. They are generally administered by local authorities in partnership with conservation organisations. HBIC manages the Hampshire SINC system on behalf of the local planning authorities and follows national guidance on identification, selection and management of local sites.
Site of Special Scientific Interest	Site designated as being of special interest for its flora, fauna or geological or physiographical features and protected under the Wildlife and Countryside Act 1981.
Special Area of Conservation	An area which has been identified as being important for a range of vulnerable habitats, plant and animal species within the EU and is designated under the Habitats Directive.
Special Protection Area	A site designated under the Birds Directive due to its international importance for the breeding, feeding, wintering, or the migration of, rare and vulnerable species of birds.
Speed band	A range of categories for which outputs from the traffic model are grouped into to describe their emissions.
Source Protection Zone (groundwater)	Zones show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk
Study area	The spatial area within which environmental effects are assessed (i.e. extending a distance from the development footprint in which significant environmental effects are anticipated to occur). This area varies between different environmental topic areas.
Sustainable Drainage Systems	A collective approach to manage surface water as close to source as possible and mimic natural drainage by taking into account water quantity (flooding), water quality (pollution), biodiversity (wildlife and plants) and amenity.
Sustrans	Registered British charity whose aim is to promote sustainable transport, i.e. walking, cycling and public transport.
Temporary Traffic Management	Measures, including directive barriers and signs, taken to ensure that road users can travel safely through or around the work site.
Traffic reliability area	The traffic scoping criteria is only be applied to the area covered by the traffic model, that the competent expert for traffic has identified as reliable for inclusion in an environmental assessment, and is referred to as the traffic reliability area.
Water Framework Directive	Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for community action in the field of water policy.

Zone of Influence	The area(s) over which environmental features may be affected by the biophysical changes caused by the Proposed Scheme.
Zone of Theoretical Visibility	A map, usually digitally produced, showing areas of land within which a development is theoretically visible.



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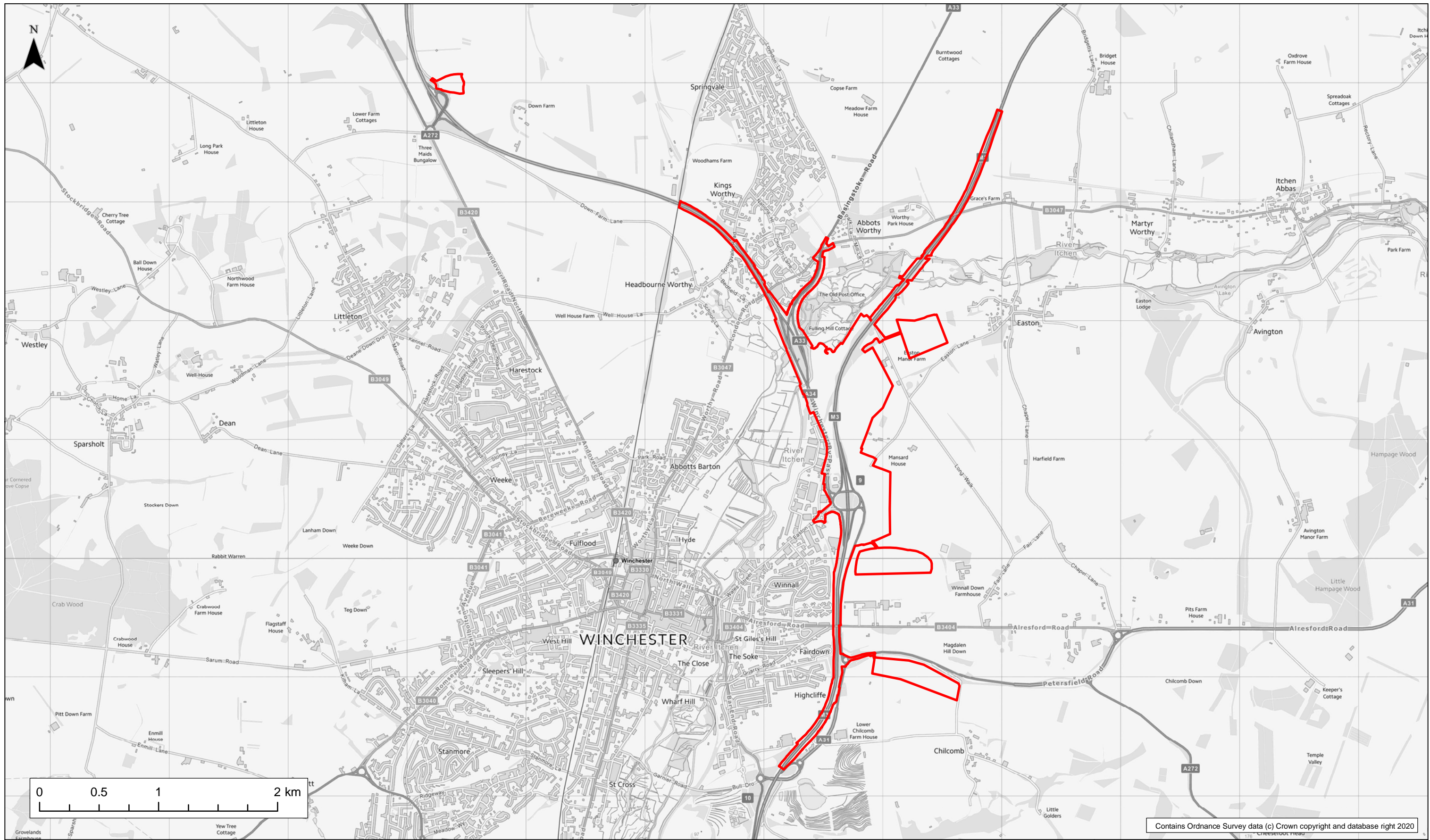
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## Appendix 2.1 The Proposed Scheme Figures

Figure 2.1 – Site Location

Figure 2.2 – Environmental Constraints

Figure 2.3 – Indicative Land Use Plan



**KEY**

— Indicative Application Boundary

Figure Status **FOR INFORMATION**



Project Title **M3 JUNCTION 9 IMPROVEMENT**

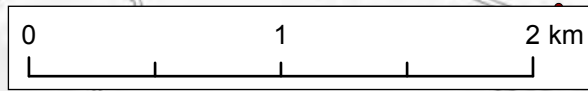
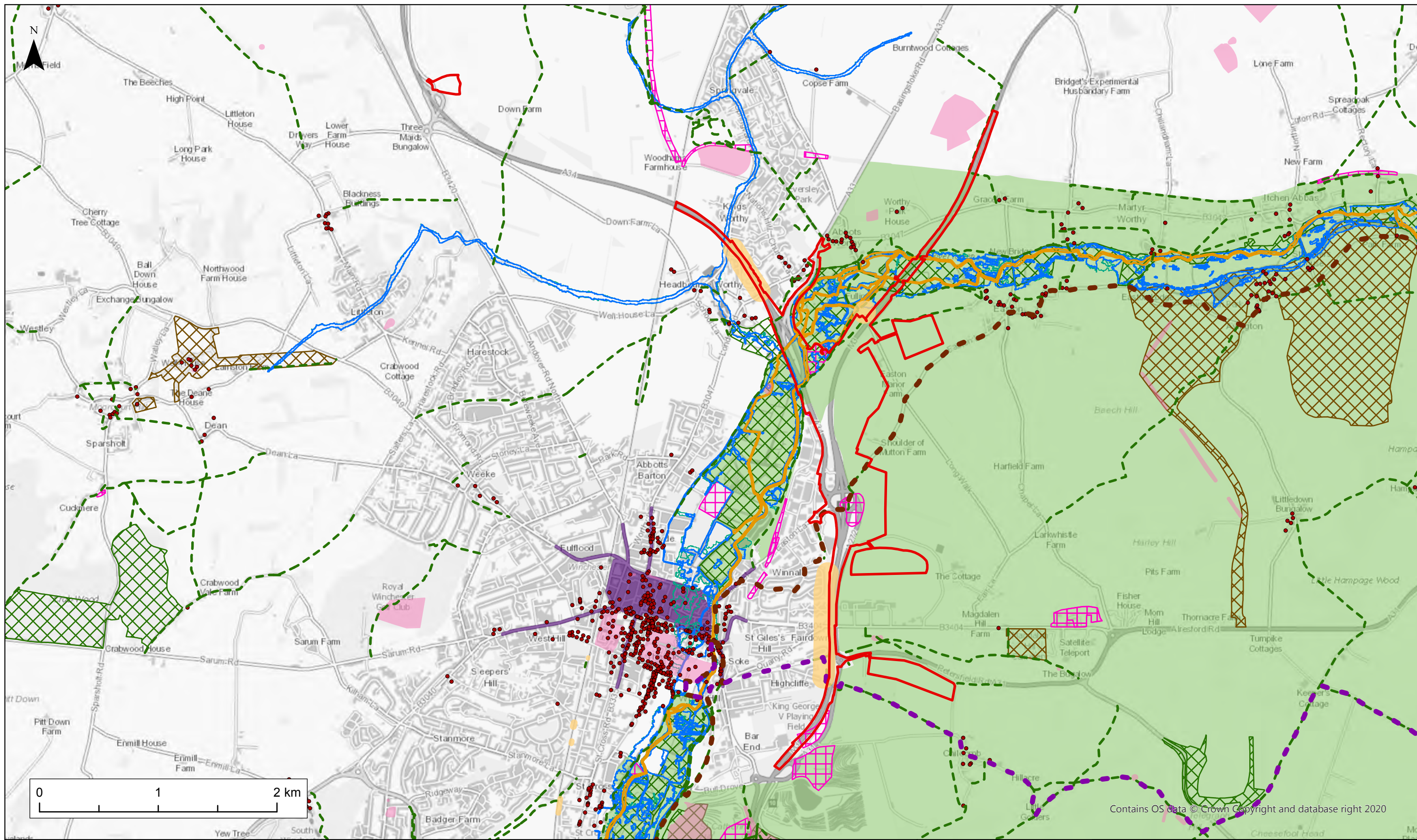
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Original Size: A3	Date:	Date: 09/09/2020	Date: 09/09/2020	Date: 09/09/2020

**FIGURE 2.1**

Project Ref No.  
48176  
Revision





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KEY		
Indicative Application Boundary	Scheduled Monuments	Historic Landfill Sites
Listed Buildings	Special Area of Conservation	Site of Special Scientific Interest
Public Rights of Way	Flood Zone 3	Historic Parks and Gardens
National Trails	Flood Zone 2	South Downs National Park
National Cycle Network Route	Air Quality Management Area	Noise Important Areas (Round 3)

Figure Status: **FOR INFORMATION**

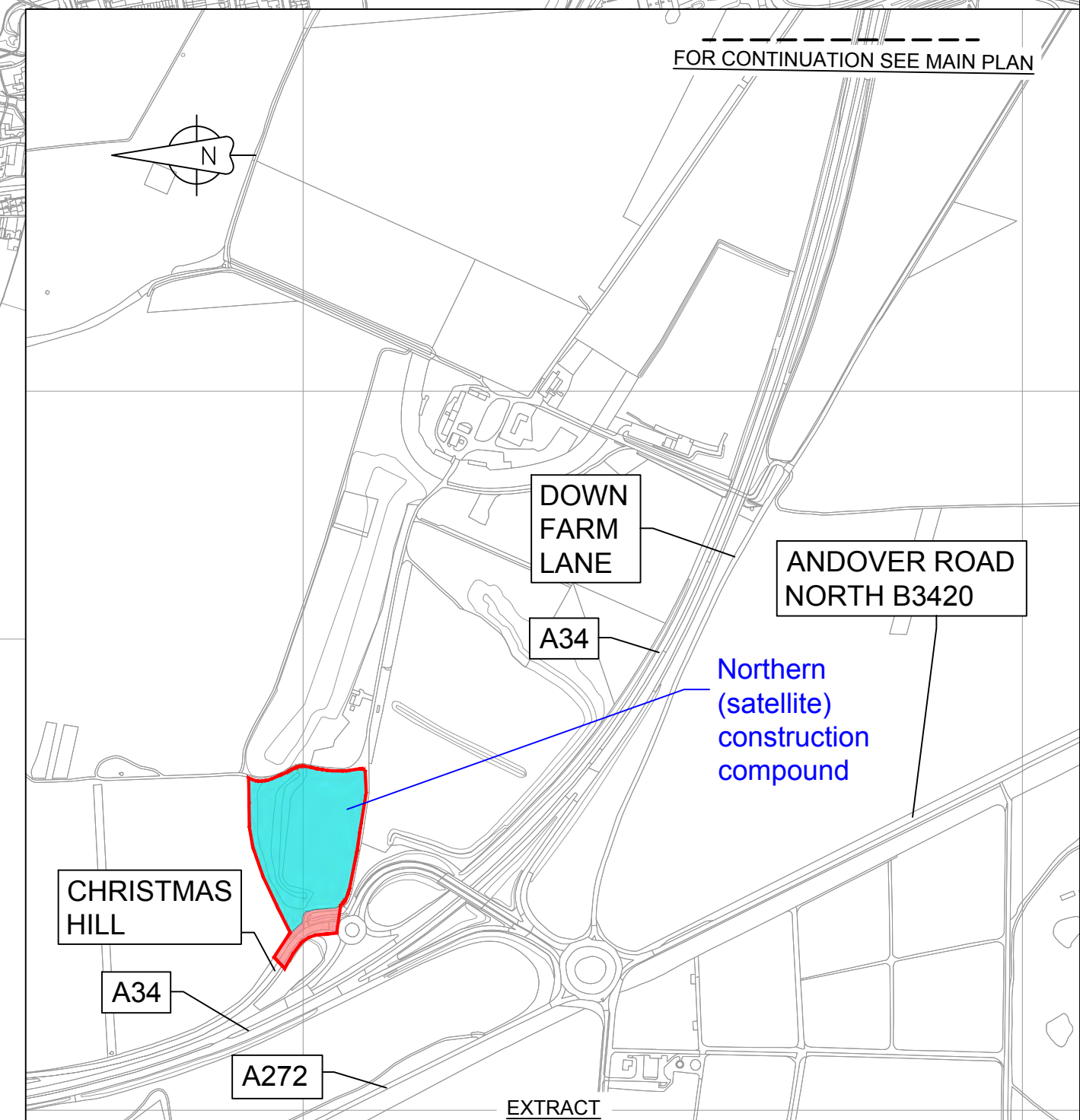
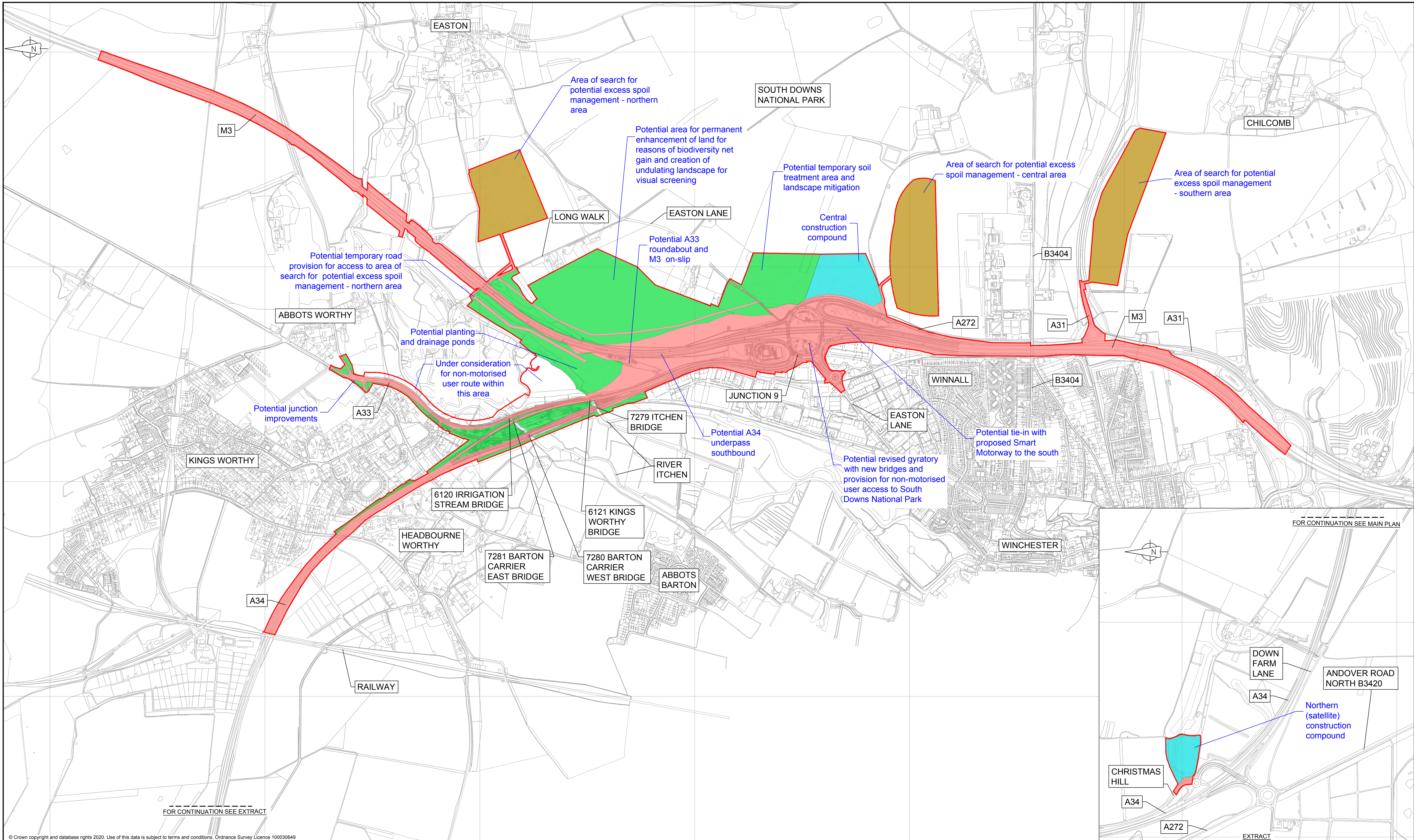
**VolkerFitzpatrick**

Client: **highways england**

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Date: 09/09/2020	Date: 09/09/2020
Approved: JM	Date: 09/09/2020
<b>FIGURE 2.2</b>	
Project Ref No.	Revision

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**KEY:**

	ORDNANCE SURVEY MAPPING
	INDICATIVE APPLICATION BOUNDARY
	INDICATIVE PERMANENT/TEMPORARY HIGHWAY LAND TAKE INCLUDING PRINCIPAL ACCESS AND HAUL ROUTES
	INDICATIVE ENVIRONMENTAL MITIGATION AREAS
	INDICATIVE CONSTRUCTION COMPOUND AREAS
	AREAS OF SEARCH FOR POTENTIAL EXCESS SPOIL MANAGEMENT
<b>TEXT</b>	EXISTING PLACE OR ROAD NAME
<b>Text</b>	PROPOSED SCHEME DESCRIPTION

- NOTE:**
- ACCESS WILL BE PROVIDED THROUGH THE IAB FOR NON-MOTORISED USES, CROSSING THE M3 J9 ROUNDABOUT TO CONNECT WITH THE NATIONAL CYCLE ROUTE 23 TO THE EAST, AS WELL AS PROVIDING ACCESS TO THE NORTH.
  - THE BASE MAPPING SHOWN REPRESENTS THE EXISTING ROAD CONFIGURATION AS PROVIDED BY THE ORDNANCE SURVEY. IT DOES NOT PRESENT PROPOSED SCHEME DETAIL.
  - FIGURE 2.3 TO BE READ IN CONJUNCTION WITH THE ENVIRONMENTAL CONSTRAINTS SHOWN WITHIN FIGURE 2.2.

Drawing Status: **INFORMATION**

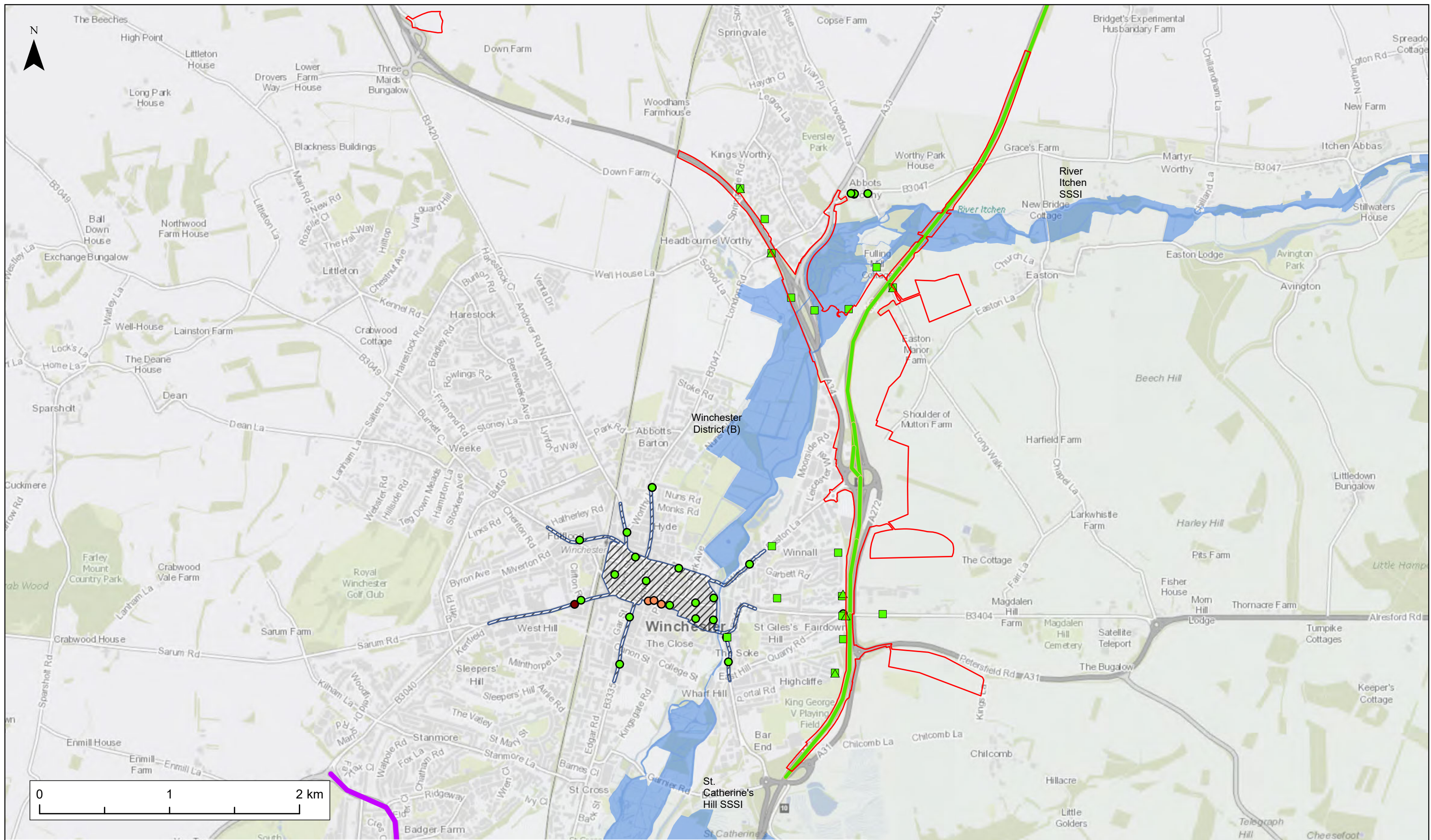
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Drawing Title		<b>INDICATIVE LAND USE PLAN</b>			
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Original Size	A1	Date	-	Date	18.09.20
Checked	JM	Date	18.09.20	Approved	AS
Date	18.09.20	Date	18.09.20	Date	18.09.20
Drawing Number	FIGURE 2.3				
Project Ref. No.	48176				
Revision	P0				



## Appendix 6.1 Air Quality Figures



Figure 6.1 – AQMAs, Designated Sites and Air Quality Monitoring Within Winchester

Figure 6.2 – AQMAs, PCM Links, Designated Sites and Air Quality Monitoring



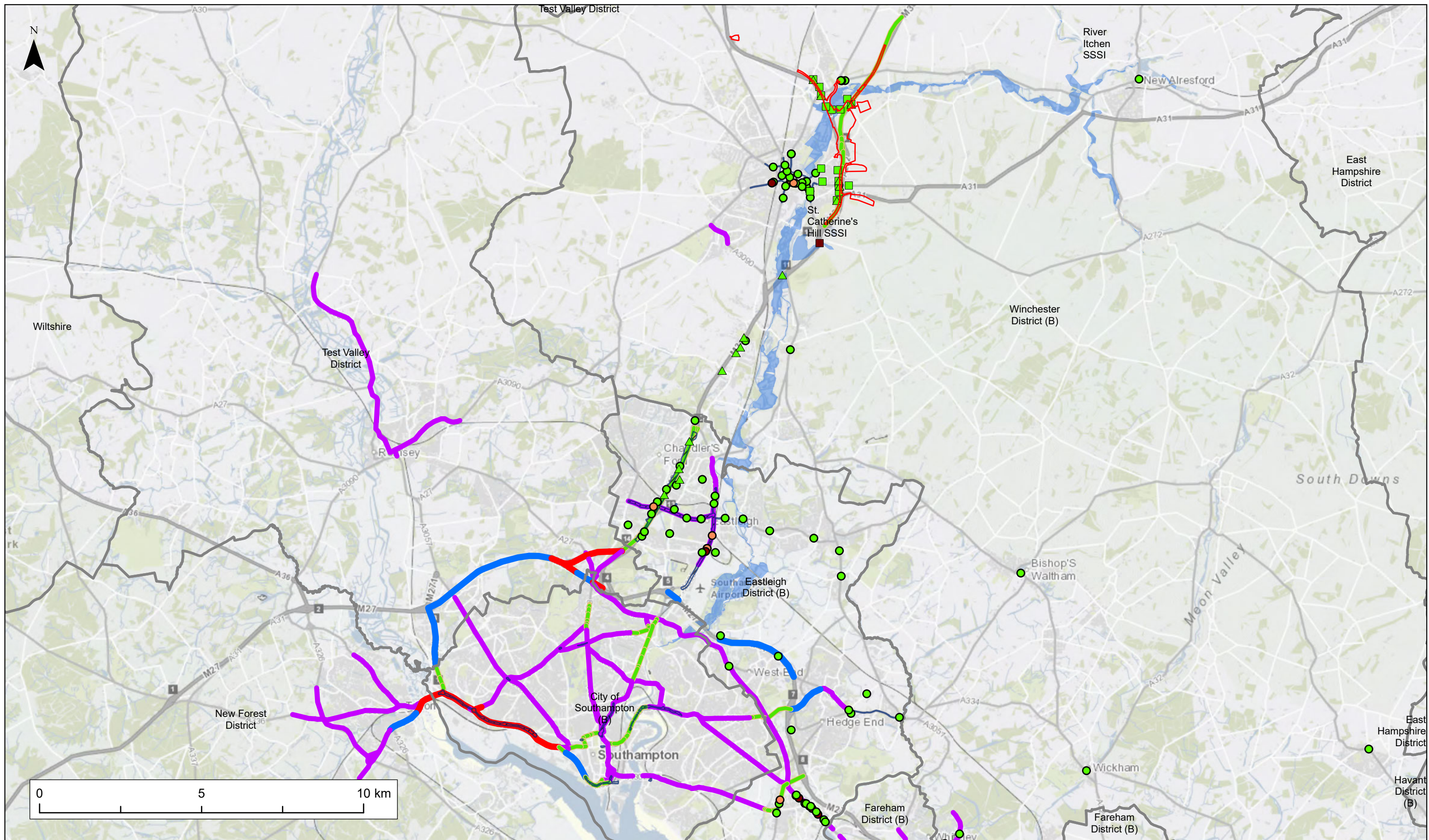
**KEY**

- Indicative Application Boundary
  - Local Authority Boundary
  - AQMAs
  - SSSI
- Monitoring**
- Highways England NO<sub>2</sub> Monitoring (Table 6-4)
  - ▲ Below 10% of AQO
  - ▲ Within 10% of AQO
  - ▲ Exceedance
- WSP NO<sub>2</sub> Monitoring (Table 6-5)
- Below 10% of AQO
  - Within 10% of AQO
  - Exceedance
- Winchester 2019
- Below 10% of AQO
  - Within 10% of AQO
- PCM Links NO<sub>2</sub> 2020 µg/m<sup>3</sup>
- ≤30.0
  - ≤35.0
  - ≤39.9
  - Exceedance
- Exceedance

<p>Figure Status</p> <p style="text-align: center; font-weight: bold;">FOR INFORMATION</p>	<p>Project Title</p> <p style="text-align: center; font-weight: bold;">M3 JUNCTION 9 IMPROVEMENT</p>										
	<p>Figure Title</p> <p style="text-align: center; font-weight: bold;">AQMAS, DESIGNATED SITES AND AIR QUALITY MONITORING WITHIN WINCHESTER</p>										
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KEY		Monitoring		Eastleigh 2019		PCM Links	
	Indicative Application Boundary		Highways England NO <sub>2</sub> Monitoring (Table 6-4)		WSP NO <sub>2</sub> Monitoring (Table 6-5)		NO <sub>2</sub> 2020 µg/m <sup>3</sup>
	Local Authority Boundary		Below 10% of AQO		Below 10% of AQO		≤35.0
	AQMAs		Within 10% of AQO		Within 10% of AQO		≤39.9
	SSSI		Exceedance		Exceedance		Exceedance

Figure Status: FOR INFORMATION

Client:

Project Title: M3 JUNCTION 9 IMPROVEMENT				
Figure Title: AQMAS, PCM LINKS, DESIGNATED SITES AND AIR QUALITY MONITORING				
Scale: 1:110,000	Designed: TL	Drawn: TL	Checked: PB	Approved: PB
Original Size: A3	Date: 18/09/2020	Date: 18/09/2020	Date: 18/09/2020	Date: 18/09/2020
FIGURE 6.2				Project Ref No: 48176 Revision A

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## Appendix 7.1 Cultural Heritage Figures

Figure 7.1 – Designated Heritage Assets

Figure 7.2 – Previous Archaeological Investigations

Figure 7.3 – Prehistoric Heritage Assets

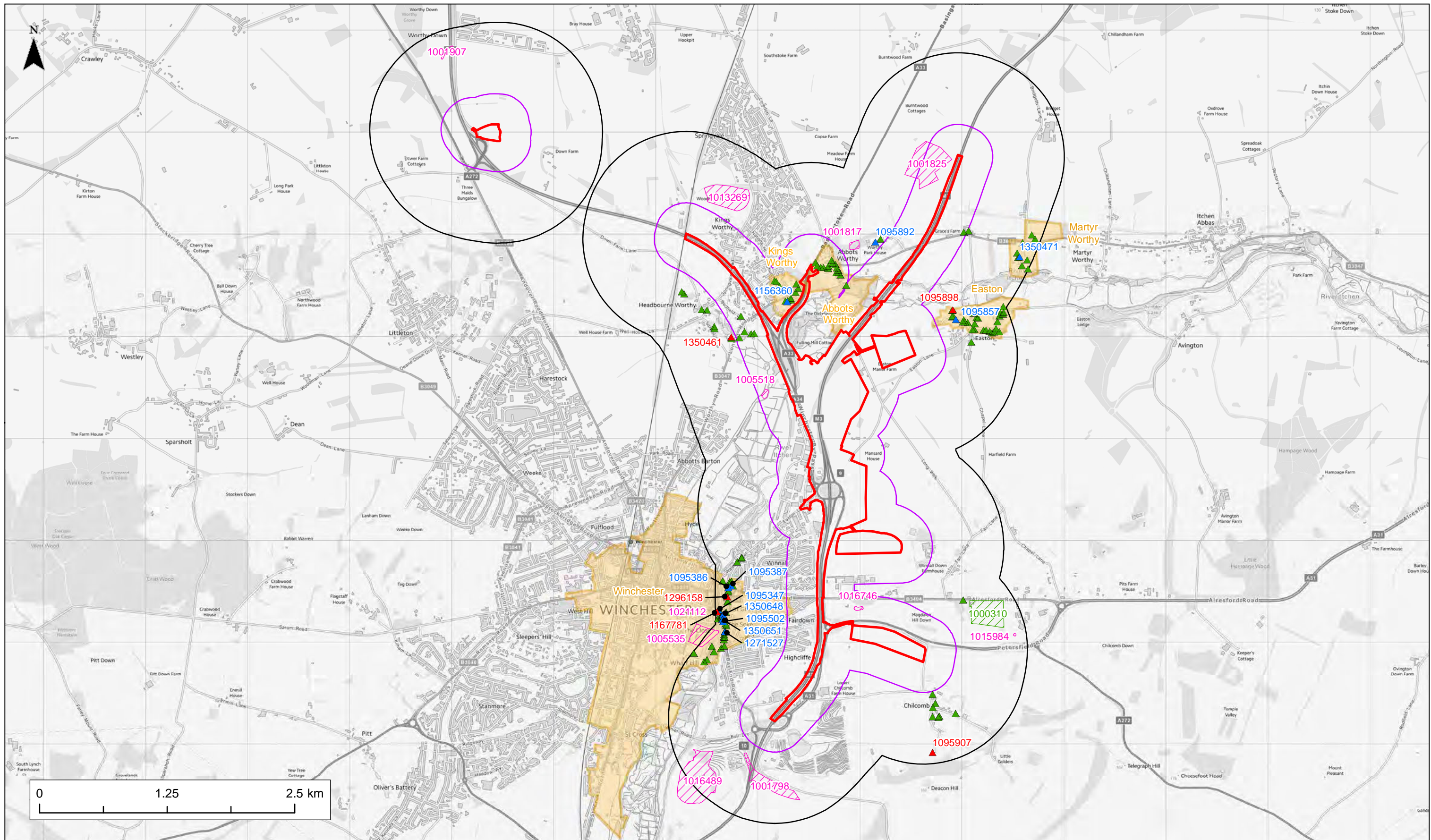
Figure 7.4 – Roman and Early Medieval Heritage Assets

Figure 7.5 – Medieval and post-medieval Heritage Assets

Figure 7.6 – Modern and undated Heritage Assets

Figure 7.7 – National Mapping Programme Results

Figure 7.8 – Historic Land Classification



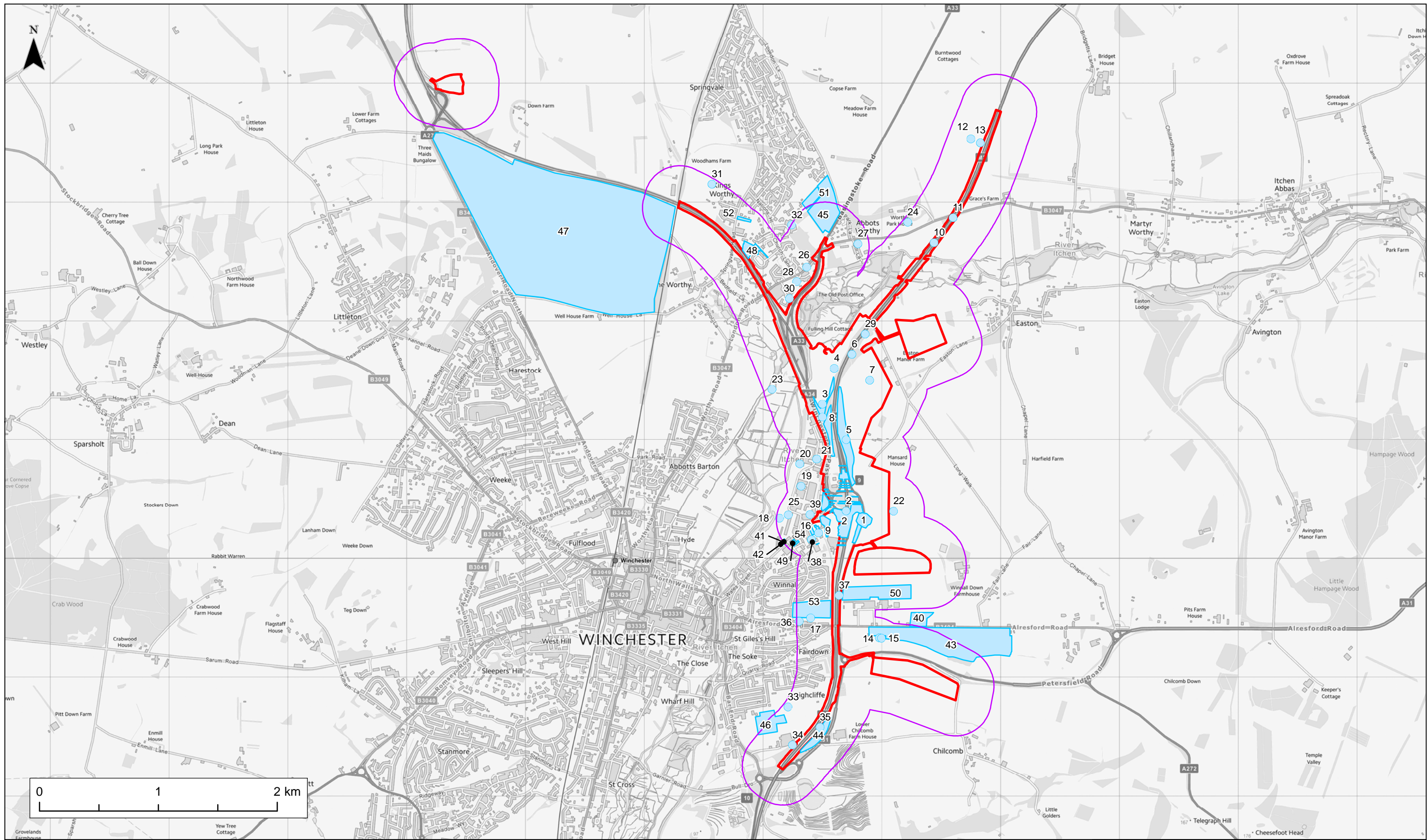
**KEY**

- Indicative Application Boundary
- 1km Study Area
- 300m Study Area
- Conservation Area
- Registered Park and Garden
- Scheduled Monument
- ▲ Grade I Listed Building
- ▲ Grade II\* Listed Building
- ▲ Grade II Listed Building

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<p>Figure Status</p>	<p>Project Title</p> <p style="font-weight: bold; font-size: 1.2em;">M3 JUNCTION 9 IMPROVEMENT</p>				
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	Original Size: A3	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020
FIGURE 7.1					<p>Project Ref No.</p> <p>Revision</p>





**KEY**

- Indicative Application Boundary
- 300m Study Area
- Archaeological Investigation (Point)
- Archaeological Investigation (Polygon)

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Figure Status



Client



Project Title **M3 JUNCTION 9 IMPROVEMENT**

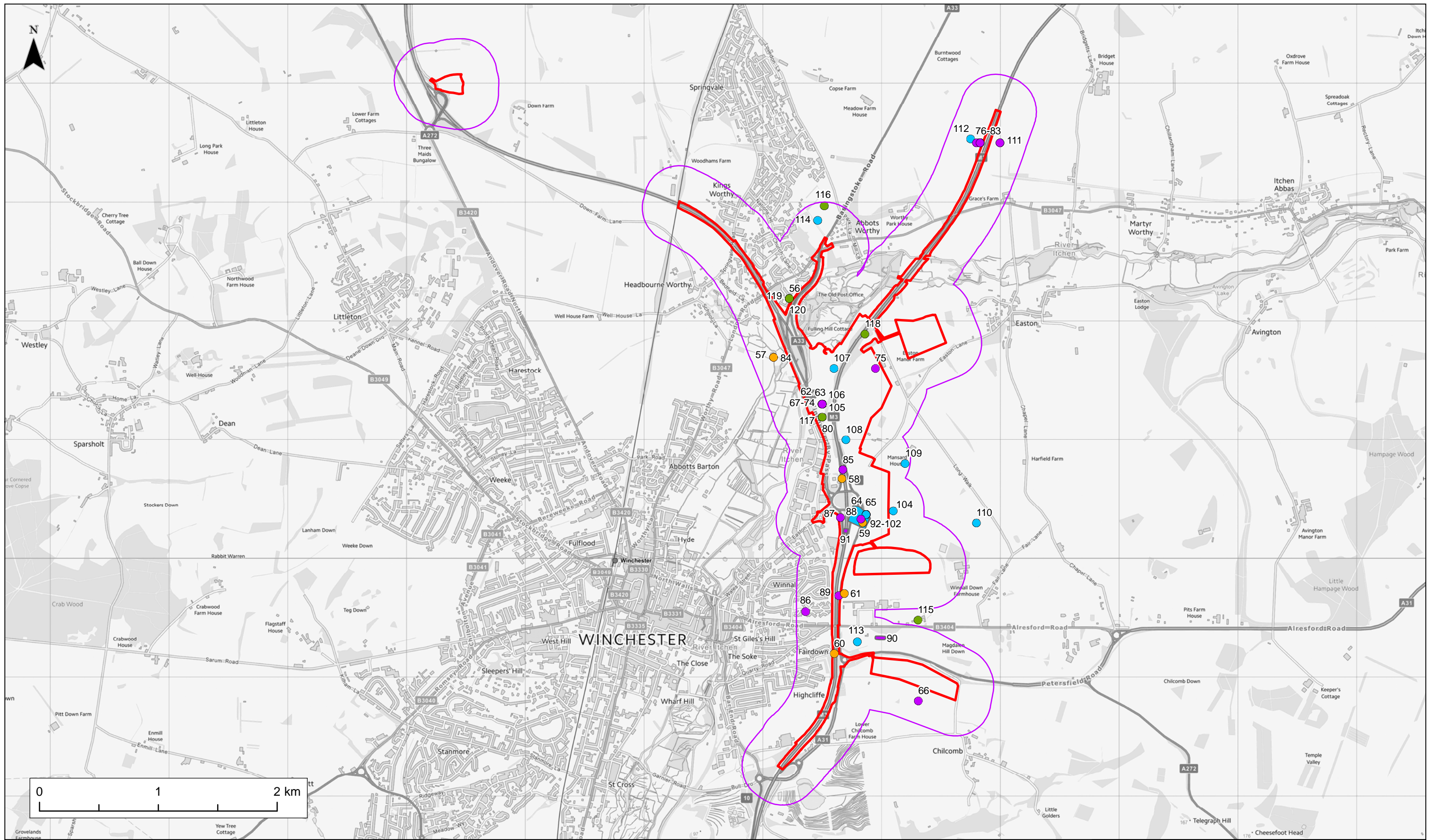
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Original Size: A3	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020

**FIGURE 7.2**

Project Ref No.
Revision





**KEY**

- Indicative Application Boundary
- 300m Study Area
- Monument**
- Neolithic
- Bronze Age
- Iron Age
- Palaeolithic
- Late Prehistoric
- Bronze Age
- Iron Age

Figure Status



Client



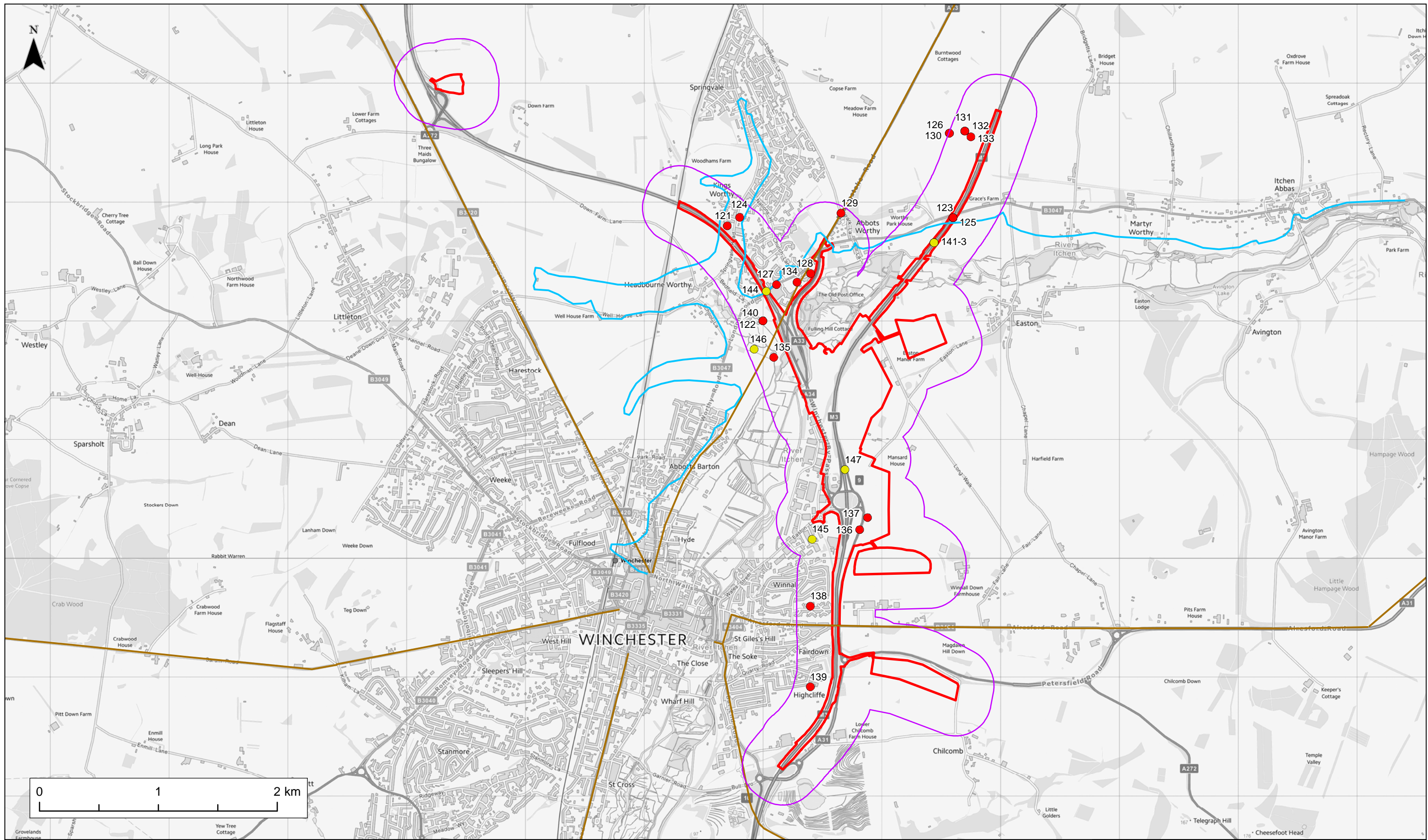
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Figure Title  
**PREHISTORIC HERITAGE ASSETS**

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Original Size: A3	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020

**FIGURE 7.3**





**KEY**

<span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Indicative Application Boundary	<span style="border-bottom: 1px solid blue; width: 20px; display: inline-block;"></span> Roman Aqueduct
<span style="border: 1px solid purple; display: inline-block; width: 15px; height: 10px;"></span> 300m Study Area	<span style="border-bottom: 1px solid orange; width: 20px; display: inline-block;"></span> Roman Road
<b>Monument</b>	
<span style="color: red;">●</span> Romano-British	
<span style="color: yellow;">●</span> Early Medieval	

Figure Status



Client



Project Title  
**M3 JUNCTION 9 IMPROVEMENT**

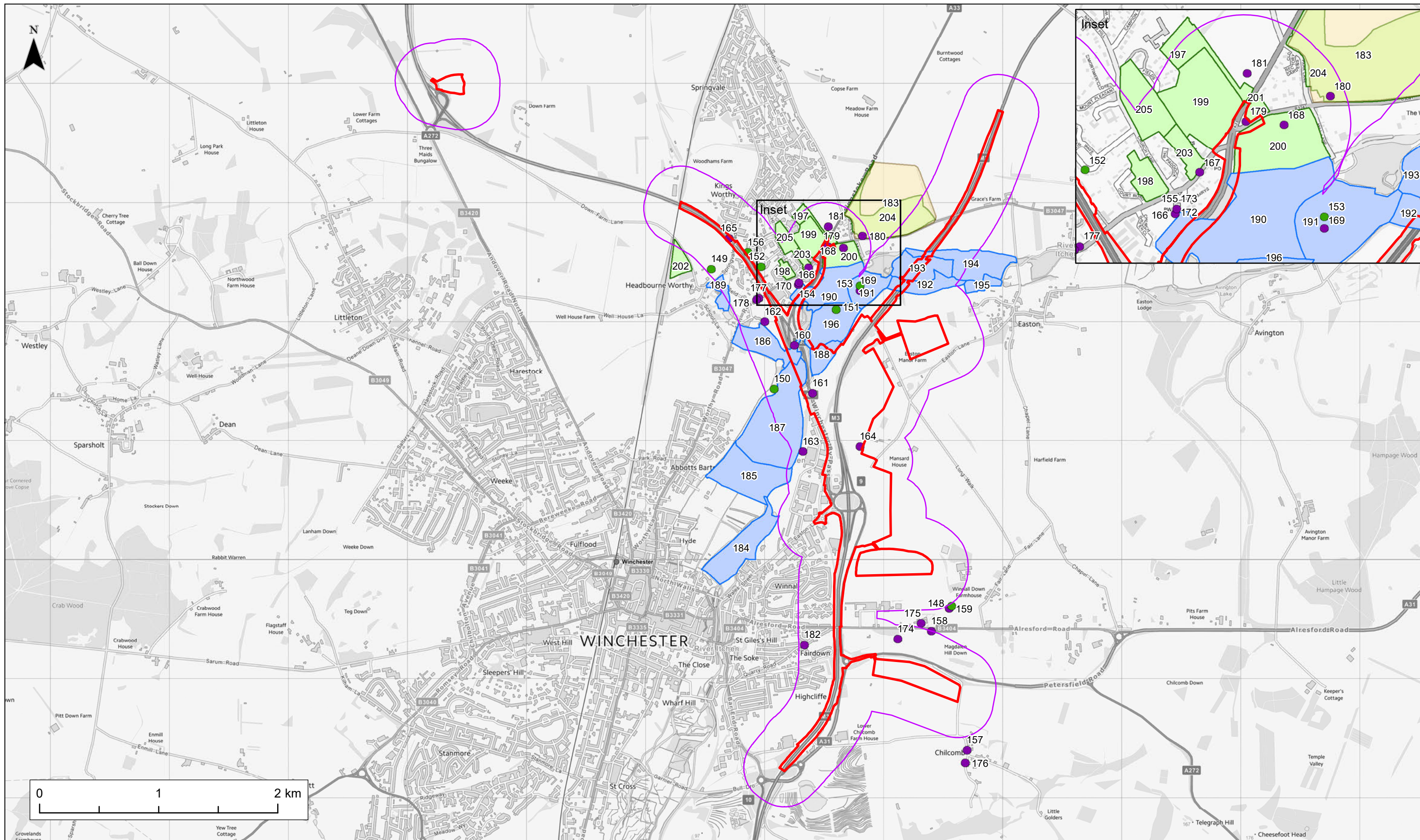
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**ROMAN AND EARLY MEDIEVAL HERITAGE ASSETS**

Scale:	Designed:	Drawn:	Checked:	Approved:
Original Size: A3	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020

**FIGURE 7.4**

Project Ref No.  
Revision





**KEY**

- Indicative Application Boundary
- 300m Study Area
- Historic Deerpark
- Historic Watermeadow
- Historic Parks and Gardens

**Monument**

- Medieval
- Post-Medieval

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Figure Status

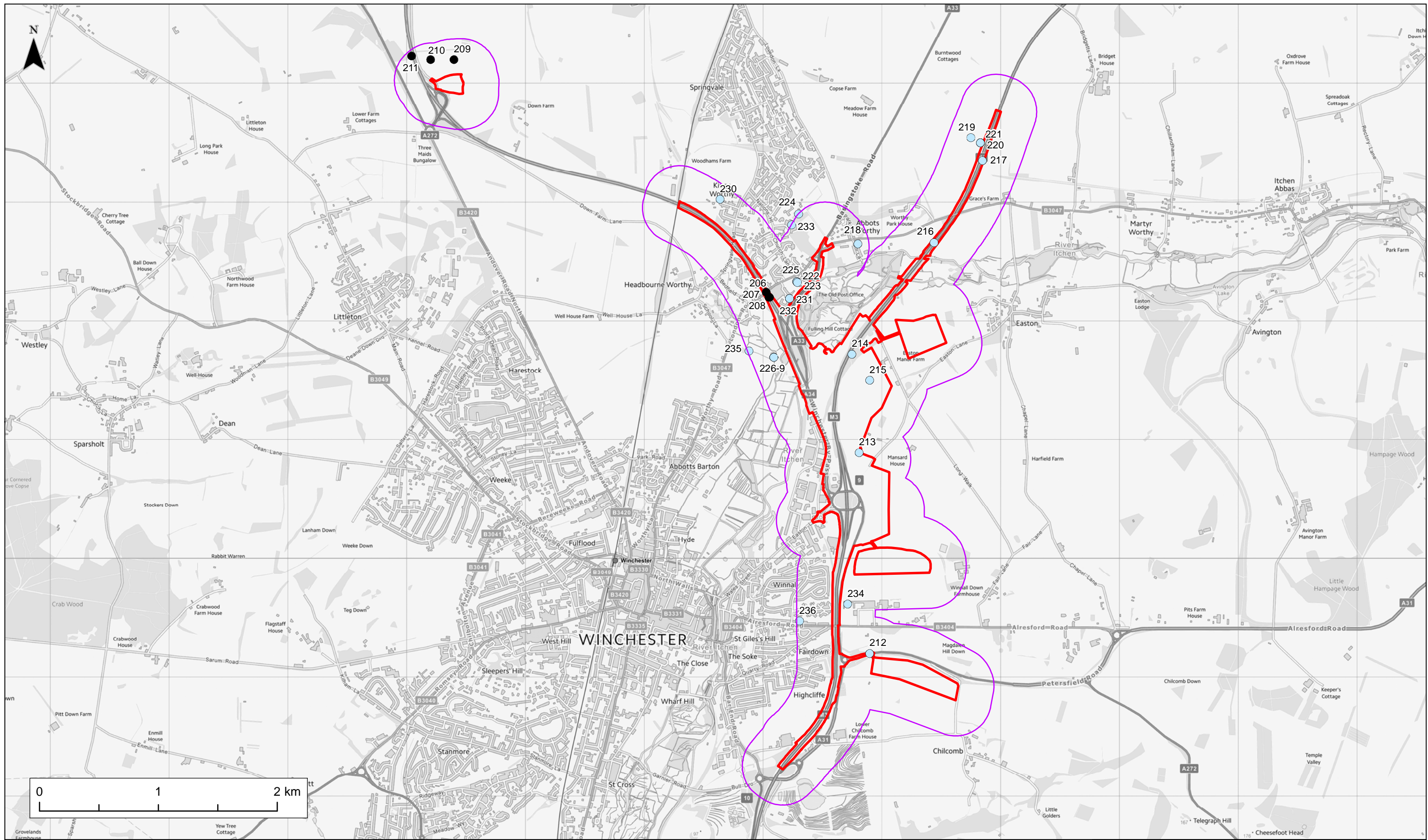
**VolkerFitzpatrick**

Client

**highways  
england**

<b>Project Title</b>				
M3 JUNCTION 9 IMPROVEMENT				
<b>Figure Title</b>				
MEDIEVAL AND POST-MEDIEVAL HERITAGE ASSETS				
Scale:	Designed:	Drawn:	Checked:	Approved:
Original Size: A3	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020
<b>FIGURE 7.5</b>				Project Ref No.
				Revision





- KEY**
- Indicative Application Boundary
  - 300m Study Area
  - Monument**
  - Modern
  - Undated

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Figure Status



Client



Project Title  
**M3 JUNCTION 9 IMPROVEMENT**

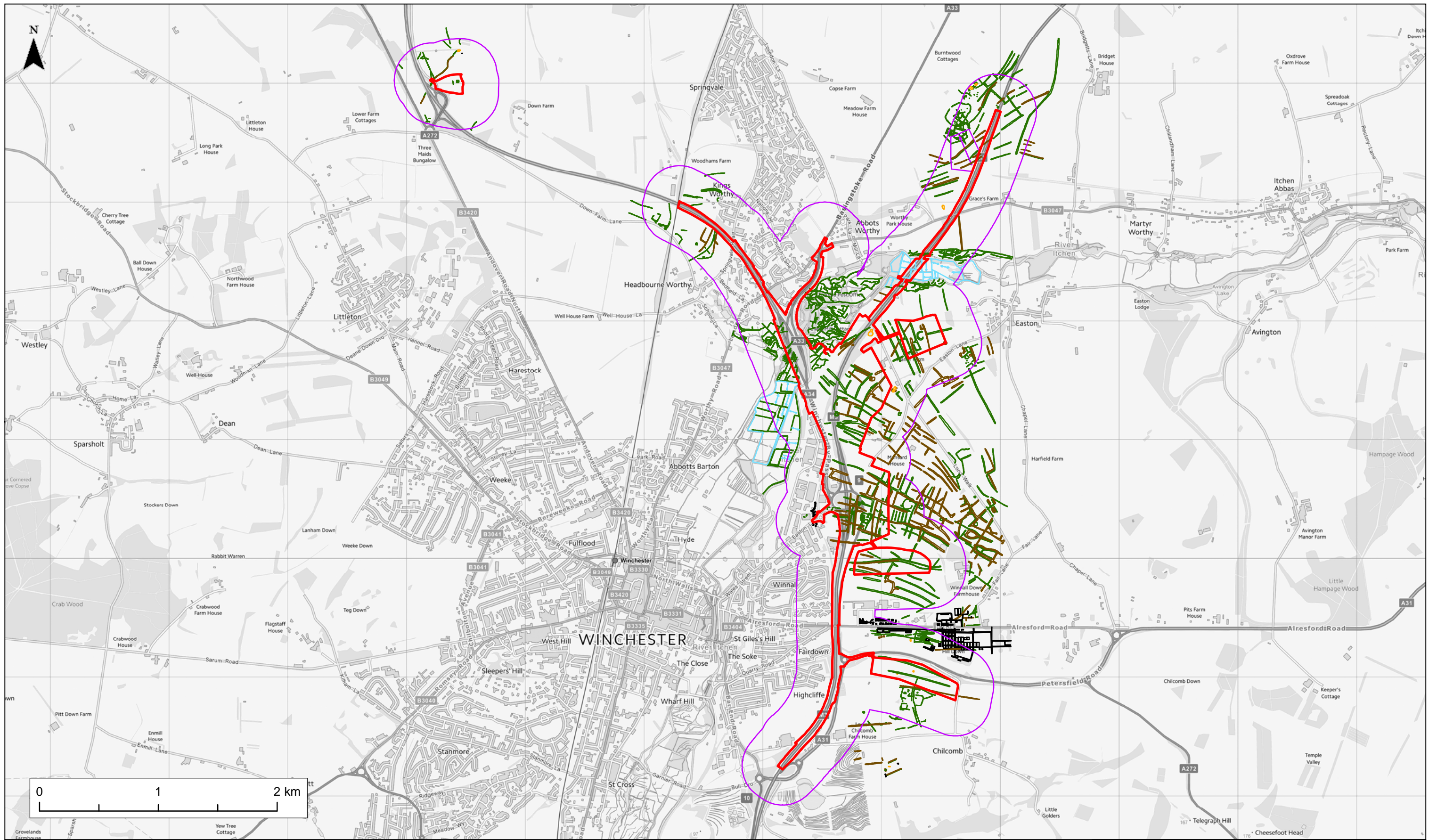
Figure Title  
**MODERN AND UNDATED HERITAGE ASSETS**

Scale:	Designed:	Drawn:	Checked:	Approved:
Original Size: A3	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020

**FIGURE 7.6**

Project Ref No.  
Revision





KEY	
<span style="border: 2px solid red; padding: 2px;"> </span> Indicative Application Boundary	<span style="border-bottom: 2px solid orange; width: 20px; display: inline-block;"></span> Large Cut Feature
<span style="border: 2px solid purple; padding: 2px;"> </span> 300m Study Area	<span style="border-bottom: 2px solid blue; width: 20px; display: inline-block;"></span> Direction of Earthwork Ridge/Furrow
<span style="border-bottom: 2px solid brown; width: 20px; display: inline-block;"></span> Bank	<span style="border-bottom: 2px solid purple; width: 20px; display: inline-block;"></span> Direction of Levelled or Crop Mark Ridge/Furrow
<span style="border-bottom: 2px solid green; width: 20px; display: inline-block;"></span> Ditch	<span style="border-bottom: 2px solid black; width: 20px; display: inline-block;"></span> Structure
<span style="border-bottom: 2px solid blue; width: 20px; display: inline-block;"></span> Extent of Ridge/Furrow	<span style="border-bottom: 2px solid purple; width: 20px; display: inline-block;"></span> Extent of Crop Mark Ridge/Furrow
<span style="border-bottom: 2px solid brown; width: 20px; display: inline-block;"></span> Bank	<span style="border-bottom: 2px solid black; width: 20px; display: inline-block;"></span> Structure
<span style="border-bottom: 2px solid green; width: 20px; display: inline-block;"></span> Ditch	<span style="border-bottom: 2px solid black; width: 20px; display: inline-block;"></span> Structure

Figure Status

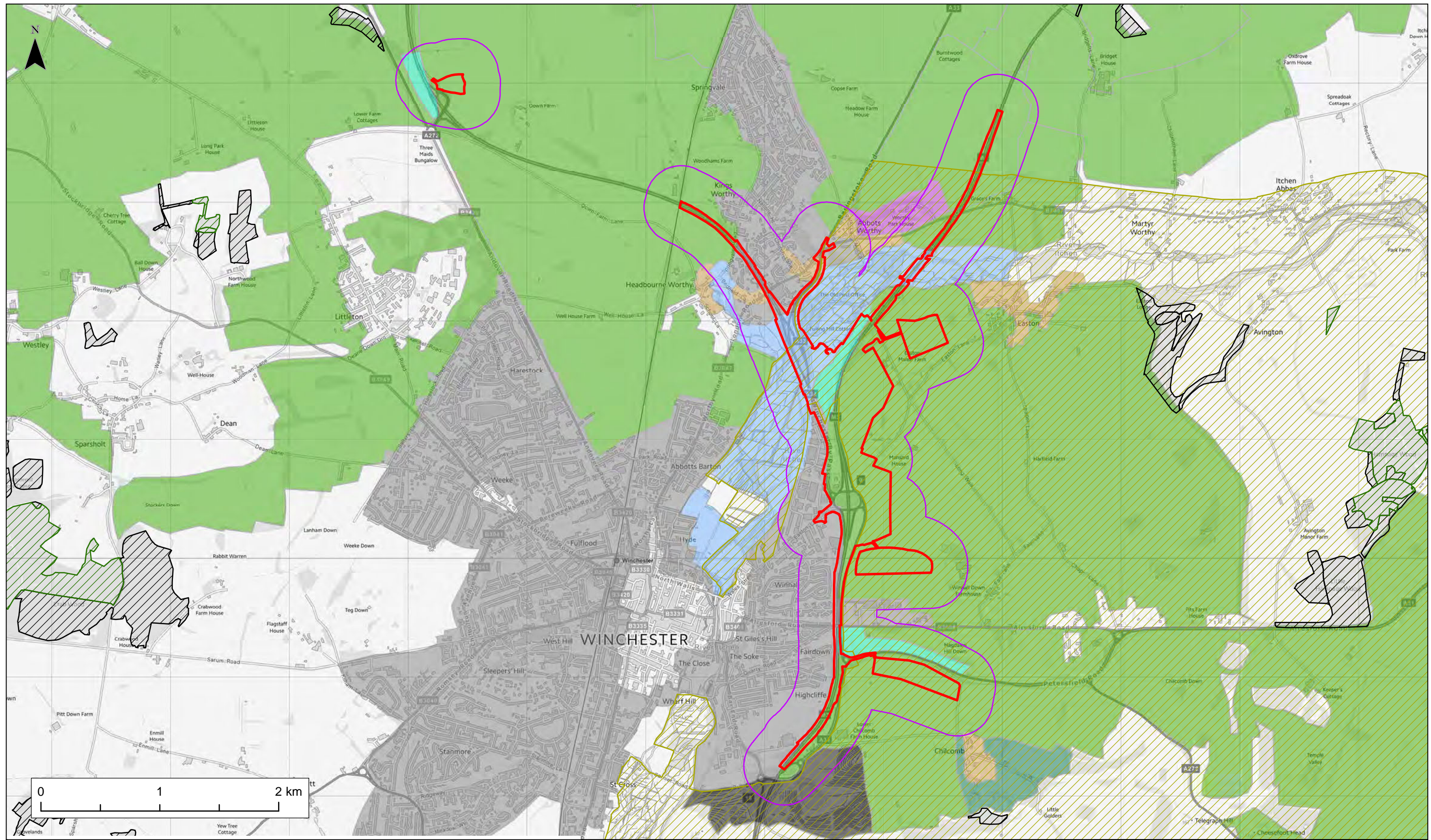


Client



Project Title				
M3 JUNCTION 9 IMPROVEMENT				
Figure Title				
NATIONAL MAPPING PROGRAMME RESULTS				
Scale:	Designed:	Drawn:	Checked:	Approved:
Original Size: A3	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020
FIGURE 7.7				Project Ref No.
				Revision





**KEY**

Indicative Application Boundary	South Downs National Park	Old Settlement
300m Study Area	Historic Land Classification	Parks
Ancient & Semi-Natural Woodland	Assarts	Parliamentary Fields
Ancient Replanted Woodland	Downland	Recent Settlement
	Industry	Valley Floor

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Figure Status

Client

Project Title  
**M3 JUNCTION 9 IMPROVEMENT**

Figure Title  
**HISTORIC LANDSCAPE CHARACTER**

Scale:	Designed:	Drawn:	Checked:	Approved:
Original Size: A3	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020	Date: 08/09/2020

FIGURE 7.8

Project Ref No.  
Revision



## Appendix 7.2 List of Cultural Heritage Designated Assets

Table 7-1: Designated heritage assets

List entry	Name	Grade	Easting	Northing
1095898	CHURCH OF ST MARY	I	450913	132258
1095907	CHURCH OF ST ANDREW	I	450716	127920
1167781	CITY BRIDGE	I	448602	129298
1296158	CHURCH OF ST JOHN THE BAPTIST	I	448701	129447
1350461	CHURCH OF ST SWITHIN	I	448740	131992
1095347	1, WATER LANE	II*	448615	129316
1095386	24 AND 25, ST JOHN'S STREET	II*	448715	129537
1095387	ST JOHN'S CROFT	II*	448739	129557
1095502	PETER'S THEATRE	II*	448665	129205
1095857	DYMOKE HOUSE	II*	450944	132165
1095892	WORTHY PARK HOUSE	II*	450156	132924
1156360	CHURCH OF ST MARY	II*	449290	132341
1271527	42, CHESIL STREET	II*	448679	129105
1350471	CHURCH OF ST SWITHUN	II*	451568	132777
1350648	No. 1 CHESIL STREET	II*	448662	129273
1350651	12, CHESIL STREET	II*	448655	129223
1061370	NORTH AND NORTH EAST BOUNDARY WALL AND GATEPIERS AT ABBOTS WORTHY HOUSE	II	449689	132667
1094709	1, BRIDGE STREET	II	448612	129305
1094710	4, BRIDGE STREET	II	448627	129305

1095315	THE RISING SUN PUBLIC HOUSE	II	448692	129295
1095346	THE FIRST IN AND LAST OUT PUBLIC HOUSE	II	448801	129789
1095348	WHARF MILL	II	448551	128961
1095385	21, ST JOHN'S STREET	II	448711	129494
1095388	GARDEN WALL OF ST JOHN'S CROFT	II	448726	129592
1095389	TUDOR HOUSE	II	448707	129400
1095409	1 AND 2, ROSEMARY CLOSE	II	448658	129600
1095454	PAVEMENT ADJOINING THE COLLEGE WALL	II	448373	128893
1095498	3, CHESIL STREET	II	448672	129251
1095499	23-27, CHESIL STREET	II	448693	129166
1095500	4, CHESIL STREET	II	448642	129261
1095501	8 AND 10, CHESIL STREET	II	448649	129240
1095503	54, CHESIL STREET	II	448669	129053
1095504	GATES AND SCREENS OF NO 54	II	448677	129053
1095841	KINGS WORTHY GROVE	II	449581	132691
1095842	OLD SCHOOL HOUSE	II	449617	132676
1095843	WELL COTTAGE	II	449646	132673
1095844	TUDOR COTTAGE	II	449182	132537
1095845	BRIAR COTTAGE	II	449246	132463
1095846	THE OLD COTTAGE AND KINGSWORTHY ANTIQUES	II	449400	132470

1095847	3 TOMB CHESTS IN ST MARY'S CHURCHYARD TO 1 S KNAPP 1802; 2 B AND J EARLE 1798/1800; 3 A STONE COFFIN DATED 1786	II	449271	132345
1095848	1 AND 2, MILL LANE	II	449776	132670
1095849	MILL HOUSE	II	449771	132623
1095850	ABBOTS WORTHY MILL	II	449871	132500
1095856	WALL OPPOSITE LYCH GATE GOING E FROM 20 M NW OF DYMOKE HOUSE	II	450905	132191
1095858	THE COTTAGE	II	451011	132140
1095859	EAST VIEW	II	451020	132162
1095860	ROSEBANK	II	451058	132134
1095861	THE MANOR HOUSE	II	451543	132817
1095862	6 TOMB CHESTS IN ST SWITHINS CHURCHYARD RE-USED MEDIEVAL COFFIN LID AND TOMB CHESTS TO 1 H NEVILL 1795; 2 T NEVILL 1836; 3 A WHARTON AND FAMILY 1760; 4 B WHARTON AND FAMILY 1786; 5 C HILL 1796	II	451553	132773
1095863	CHURCH COTTAGE	II	451593	132691
1095864	OLD MANOR HOUSE	II	451114	132227
1095865	STABLE BLOCK 100 M N OF MANOR FARM HOUSE	II	451144	132186
1095866	MEADOWSIDE COTTAGES	II	451240	132061
1095867	GRASMERE	II	451299	132033
1095868	THE CORNER	II	451338	132077



1095869	OLD POST OFFICE COTTAGES THE OLD POST OFFICE	II	451408	132219
1095878	THE OLD RECTORY	II	448504	132256
1095893	BARN AT GRACES FARM 50 METRES EAST OF HOUSE	II	451066	133034
1095897	CLAIR MARTIN	II	451093	131942
1095899	LYCH GATE 85 M S OF THE CHURCH OF OUR LADY	II	450915	132201
1095902	MILESTONE 200 METRES EAST OF ENTRANCE TO MAGDALEN HILL CEMETERY	II	451013	129416
1095903	BARN 90 METRES NORTH OF THE MANOR HOUSE	II	450715	128491
1095904	KITCHEN GARDEN WALL TO S AND W SIDE OF THE MANOR HOUSE	II	450718	128363
1095905	ST KILDAS	II	450779	128276
1095906	BARN ATTACHED TO EAST END OF ST KILDAS	II	450771	128266
1095916	LAUNDRY COTTAGE	II	448834	132197
1095917	BARN 15 METRES NORTH WEST OF UPPER FARMHOUSE	II	448255	132437
1095918	THE ELMS	II	448821	131988
1095919	BARN 20 METRES NORTH EAST OF PUDDING FARMHOUSE	II	448966	132029
1095920	GRANARY 15 METRES NORTH OF LOWER FARMHOUSE	II	448576	132096
1155579	UPPER FARMHOUSE	II	448280	132417
1155592	THE MANOR HOUSE	II	448449	132262

1155617	THATCHED COTTAGE	II	448873	132047
1155628	PUDDING FARMHOUSE	II	448936	132024
1155825	STABLE BLOCK 25 M NE OF WORTHY PARK	II	450204	132954
1155843	MARTYR WORTHY PLACE	II	451720	132955
1155850	WAR MEMORIAL	II	451598	132917
1155900	3 TOMBCHESTS S AND E OF ST MARY'S CHURCH IN CHURCHYARD, TO 1 C AUGUSTA AND FAMILY 1836; 2 C WHITE 1811; 3 J H WHITE 1833	II	450905	132253
1156088	HORNTON COTTAGE	II	451650	132659
1156101	COMBED WHEAT	II	451107	132065
1156121	NORTH VIEW, THE TILED COTTAGE AND ALMA	II	451215	132060
1156169	DAIRY FARMHOUSE	II	451370	132045
1156173	BAT AND BALL WICKETS	II	451353	132143
1156193	BACTON THATCH	II	451412	132237
1156354	THE CART AND HORSES PUBLIC HOUSE	II	449379	132514
1156357	WISTERIA	II	449371	132432
1156413	3, MILL LANE	II	449789	132648
1156421	6 AND 7, MILL LANE	II	449810	132600
1156431	RAMBLERS	II	449725	132746
1156435	TAVERN COTTAGE	II	449327	132357
1173628	STABLE BLOCK OF ST JOHN'S CROFT	II	448760	129552

1173632	GARDEN HOUSE AT ST JOHN'S CROFT	II	448745	129598
1174181	37 AND 38, WHARF HILL	II	448572	128908
1271526	44-52, CHESIL STREET	II	448673	129077
1295878	55-57, WALES STREET	II	448843	129831
1296126	22, ST JOHN'S STREET	II	448713	129506
1296992	64, CHESIL STREET	II	448669	129026
1301010	40, CHESIL STREET	II	448682	129110
1302891	VERGERS COTTAGE	II	449217	132491
1302969	GOFFS OAK, LEE COT AND THE NOOK	II	451382	132228
1302994	STEPS AND HOMER COTTAGES	II	451275	132049
1303039	GRANARY 100 M NE OF MANOR FARM HOUSE	II	451162	132179
1303249	LOWER FARMHOUSE	II	448579	132077
1350450	GAZEBO 25 M N OF MARTYR WORTHY MINOR	II	451686	132994
1350452	THE MANOR HOUSE	II	450740	128402
1350453	COMPLYMS	II	450939	128303
1350454	THATCHED COTTAGE	II	450714	128272
1350470	THE CRANNY AND JESSAMINE	II	451032	132141
1350472	3-5, CHURCH LANE	II	451642	132748
1350473	MANOR FARM HOUSE	II	451126	132123
1350474	YEW TREE COTTAGE	II	451124	132068
1350475	STABLE BLOCK 10 M E OF GRASMERE	II	451318	132042
1350476	THE CHESTNUT HORSE PUBLIC HOUSE	II	451371	132200

1350477	THE FARMERY	II	451407	132291
1350488	GRACES FARMHOUSE	II	451018	133021
1350502	STABLE BLOCK 20 METRES NORTH WEST OF KINGS WORTHY GROVE	II	449569	132722
1350503	OLD FARMHOUSE	II	449764	132704
1350504	OLD THATCH	II	449164	132544
1350505	THE OLD POST OFFICE	II	449326	132374
1350507	KEEPERS COTTAGE	II	449794	132627
1350508	THE HURST	II	449733	132716
1350649	17-21, CHESIL STREET	II	448689	129182
1350650	6, CHESIL STREET	II	448647	129251
1350652	WALL ON RIVER RUNNING BEHIND NOS 4 TO 12	II	448610	129231
1350653	KINGS ARMS PUBLIC HOUSE	II	448673	128964
1350668	BLACKBRIDGE HOUSE	II	448474	128809
1350727	THE BLACK BOY PUBLIC HOUSE	II	448643	128944
1350749	BLACK BRIDGE	II	448504	128830
1350750	53, WALES STREET	II	448841	129826
1351062	2 AND 3, BRIDGE STREET	II	448620	129302
1391965	KITCHEN GARDEN WALL AND ADJOINING MELON/MUSHROOM HOUSE, FORMERLY TO ABBOTSWORTHY HOUSE	II	449692	132690
1437417	Kings Worthy War Memorial	II	449295	132350
1443709	Headbourne Worthy War Memorial	II	448743	131979

1000310	Magdalen Hill Cemetery	II Registered Park and Garden	451255	129288
1001798	Roman road	Scheduled Monument	449113	127620
1001817	Anglo-Saxon cemetery	Scheduled Monument	449950	132890
1001825	Iron Age settlement	Scheduled Monument	450662	133692
1001907	Worthy Down ditch	Scheduled Monument	445951	134789
1005518	St Gertrude's Chapel	Scheduled Monument	449074	131433
1005535	Wolvesey Palace	Scheduled Monument	448456	129067
1013269	Iron Age field system, banjo enclosure and Romano-British villa	Scheduled Monument	448709	133366
1015984	Bowl barrow	Scheduled Monument	451521	129074
1016489	St Catherine's Hill hillfort	Scheduled Monument	448407	127657
1016746	Round barrow cemetery	Scheduled Monument	449989	129332
1021112	City bridge	Scheduled Monument	448606	129294

Table 7-2: HER data (investigations, monuments and findspots)

Stantec ref	HER ref	Name	Period	Easting	Northing
1	EWC10631, EWC1135-46, EWC9101, EWC9080	Winnall Down 1976-77 (MARC 3 R17)	n/a	449851	130324
2	EWC10630, EWC9045-79	Easton Lane Interchange 1982-83 (ELI)	n/a	449665	130374
3	EWC2310	Easton Down	n/a	449500	131300
4	EWC2311	Easton Down	n/a	449600	131600
5	EWC2312	Easton	n/a	449700	131000
6	EWC2313	Easton Down	n/a	449750	131720
7	EWC2314	Manor Farm, Easton Down	n/a	449900	131500
8	EWC552	Easton Down	n/a	449500	131190
9	EWC11021, EWC9166, EWC9212-14, EWC9166	Archaeological investigations at RMC site, Easton Lane	n/a	449457	130178
10	EWC2322	Abbots Worthy - 5th to 6th century Saxon occupation	n/a	450440	132660
11	EWC2326	Graces Farm - 70m long linear feature	n/a	450600	132870
12	EWC444-8	Graces Farm	n/a	450749	133533
13	EWC450	Graces Farm - excavation of cropmark	n/a	450830	133500
14	EWC1127	M3 observations - round barrows opposite St Swithun's School	n/a	449981	129333

15	EWC1134	Early excavations of barrow(s) forming part of the Magdalen Hill Down cemetery	n/a	449997	129328
16	EWC11398-9	UAD Deposit column. Winnall Industrial Estate & cemetery	n/a	449410	130160
17	EWC11462	UAD Deposit column. Winnall Allotments 1990-91 (WA 90)	n/a	449400	129500
18	EWC11479, EWC9038	UAD Deposit column. Easton Lane Sewer	n/a	449140	130340
19	EWC11524, EWC9040	UAD Deposit column. Moorside Road, Campbell & McGill	n/a	449320	130610
20	EWC11616-7, EWC9039, EWC9041	UAD Deposit column. Moorside Road, Conders	n/a	449311	130796
21	EWC11663, EWC9044	UAD Deposit column. Moorside Road, Unit D	n/a	449452	130839
22	EWC11953-4	Winnall II cropmark enclosure - geophysical survey by Cardiff University	n/a	450099	130398
23	EWC11972, EWC1870, EWC1872, EWC1874	Earthwork, geophysical survey, documentary research, site visit and excavation at St Gertrude's Chapel, Nun's Walk	n/a	449076	131425
24	EWC12249	Archaeological watching brief at Princes Mead School playing field	n/a	450219	132831
25	EWC12299	Evaluation trenching at the former Lindsay Works, Moorside Road, Winchester	n/a	449213	130368



26	EWC2958	Wisteria London Road	n/a	449367	132453
27	EWC2977	Crouched burial, 5, Mill Lane, Abbotts Worthy	n/a	449800	132650
28	EWC4757, EWC4759, EWC5416	Geophysical survey, evaluation and excavation at St. Mary's Church, Kings Worthy	n/a	449285	132331
29	EWC553	Longwalk Itchen Valley	n/a	449860	131890
30	EWC5935	Evaluation at Peek Management site, London Road, Kings Worthy	n/a	449223	132189
31	EWC6038, EWC6049	Fieldwalking and evaluation at Woodhams Farm, Kings Worthy, 1990	n/a	448571	133153
32	EWC6072	Watching Brief at the former Morton House site, Church Lane, Kings Worthy	n/a	449240	132809
33	EWC8991	Near New Barton Farm	n/a	449210	128750
34	EWC8992	Chilcomb House, Bar End. (CHH)	n/a	449250	128430
35	EWC8994	East of Chilcomb House	n/a	449480	128580
36	EWC9012	Observations at 87-97 Alresford Road	n/a	449305	129471
37	EWC9027	M3 excavations, St. Swithuns School - W72	n/a	449640	129690
38	EWC9042	Winnall Industrial Estate	n/a	449410	130160
39	EWC9133	1-6 Moorside Road (EL 97)	n/a	449397	130371
40	EWC10978, EWC9428-35, EWC10965, EWC9143-4	Victoria Hospital Site, Alresford Road (AI 98)	n/a	450319	129490

41	EWC10982	Land Adjacent SCATS Countrystore, Easton Lane (EL 99)	n/a	449176	130147
42	EWC11002	New Veterinary Clinic, Easton Lane	n/a	449167	130128
43	EWC11790, EWC5843	Watching brief and evaluation at Magdalen Hill Down butterfly reserve, Winchester	n/a	450607	129312
44	EWC11836	Negative watching brief at G Osbourne Compound, Nr J10, M3	n/a	449463	128508
45	EWC11893	Testpit survey over land at Lovedon Lane, Kings Worthy	n/a	449525	132958
46	EWC11945	Geophysical survey and watching brief at Bar End athletics track, Winchester	n/a	449049	128620
47	EWC11978	North Winchester, Hampshire - Geophysical survey, 2002	n/a	447323	132757
48	EWC12081	Archaeological evaluation at Meadowsweet, Headbourne worthy and Willis Waye, Kings Worthy, 2010	n/a	448896	132604
49	EWC12082	A negative archaeological watching brief and evaluation at Winnall Fire Station, Winchester, 2009	n/a	449266	130133
50	EWC12185-6, EWC12329, EWC8578	Gradiometer survey, evaluation and watching brief at St Swithun's School, Winchester	n/a	449964	129713
51	EWC12253	Gradiometer survey at Hinton's Field, Lovedon Lane, Kings Worthy	n/a	449508	132969
52	EWC12306	Watching brief at 147 Springvale Road, Kings Worthy	n/a	448841	132856

53	EWC9016-18	Evaluation. excavation and watching brief of the former Winnall Allotments	n/a	449416	129569
54	EWC9043	Winnall II Saxon cemetery	n/a	449413	130163
55	n/a	M3 J9 improvement scheme geophys and evaluation	n/a	449520	131029
56	MWC5935	Evaluation at Peek Management site, London Road, Kings Worthy (Palaeochannel)	Palaeolithic	449223	132189
57	MWC5476	Finds from reservoir cut, off Nuns Walk, Abbots Barton (pottery)	Neolithic	449091	131694
58	MWC6587	HUT CIRCLE at WINNALL INDUSTRIAL ESTATE NORTH	Neolithic	449667	130673
59	MWC6588	RING DITCH at WINNALL INDUSTRIAL ESTATE NORTH	Neolithic	449843	130303
60	MWC7239	Finds of flint implements during construction of the Winchester bypass	Neolithic	449601	129199
61	MWC8013	Possible long barrow at St Swithun's School, Alresford Road, Winchester	Neolithic	449687	129704
62	MWC2303	Easton Down (pottery)	Neolithic	449500	131300
63	MWC2307	Easton Down (animal bone)	Neolithic	449500	131300
64	MWC1140	Enclosure Site/1976-7 (pottery and loom weights)	Bronze Age	449870	130370
65	MWC1145	Enclosure site/1976-7 (Loomweights)	Bronze Age	449870	130370
66	MWC1150	Lithic implement found in field north of Chilcomb Lane	Bronze Age	450310	128800

67	MWC2299	Easton Down (inhumations)	Bronze Age	449500	131300
68	MWC2301	Easton Down (cremation)	Bronze Age	449500	131300
69	MWC2304	Easton Down (amber beads)	Bronze Age	449500	131300
70	MWC2305	Easton Down (Bronze knife-dagger)	Bronze Age	449500	131300
71	MWC2306	Easton Down (barrow)	Bronze Age	449500	131300
72	MWC2308	Easton Down (worked flint)	Bronze Age	449500	131300
73	MWC2309	Easton Down (pottery)	Bronze Age	449500	131300
74	MWC2310	Easton Down (baked clay objects)	Bronze Age	449500	131300
75	MWC2315	Manor Farm (round barrow)	Bronze Age	449950	131600
76	MWC2339	Graces Farm (flint flakes)	Bronze Age	450830	133500
77	MWC2340	Graces Farm (animal bone and snails)	Bronze Age	450830	133500
78	MWC2341	Graces Farm (pottery)	Bronze Age	450830	133500
79	MWC2409	North of Graces Farm (flint)	Bronze Age	451000	133500
80	MWC3058	Easton Down (linear features)	Bronze Age	449500	131190
81	MWC449	SW of Burntwood Cottages, adjacent M3 (four possible bowl barrows)	Bronze Age	450800	133500
82	MWC450	Graces Farm (ring ditch)	Bronze Age	450830	133500
83	MWC451	Graces Farm (post hole)	Bronze Age	450830	133500
84	MWC5475	Finds from reservoir cut, off Nuns Walk, Abbots Barton (pottery)	Bronze Age	449091	131694
85	MWC6497	CEMETERY at WINNALL INDUSTRIAL ESTATE NORTH AND SOUTH	Bronze Age	449675	130748

86	MWC6589	Middle to Late Bronze Age settlement and later remains, former Winnall allotments	Bronze Age	449361	129553
87	MWC6592	SETTLEMENT at WINNALL INDUSTRIAL ESTATE NORTH AND SOUTH	Bronze Age	449654	130344
88	MWC6593	SETTLEMENT at WINNALL INDUSTRIAL ESTATE SOUTH	Bronze Age	449829	130333
89	MWC7237	Bronze Age ring ditch & linear feature west of St Swithuns School (M3 excavations)	Bronze Age	449639	129688
90	MWC1127	Barrow cemetery on Magdalen Hill Down	Bronze Age	449991	129332
91	MWC6591	CEMETERY at WINNALL INDUSTRIAL ESTATE NORTH AND SOUTH	Bronze Age	449700	130233
92	MWC6608	SETTLEMENT at WINNALL INDUSTRIAL ESTATE NORTH AND SOUTH	Iron Age	449811	130348
93	MWC6609	SETTLEMENT at WINNALL INDUSTRIAL ESTATE SOUTH	Iron Age	449855	130319
94	MWC1135	Enclosure Site/1976-7 (Ring ditch)	Iron Age	449870	130370
95	MWC1136	Enclosure Site/1976-7 (Ditched enclosure)	Iron Age	449870	130370
96	MWC1137	Enclosure Site/1976-7 (Post built circular building)	Iron Age	449870	130370
97	MWC1138	Enclosure Site/1976-7 (sickle)	Iron Age	449870	130370

98	MWC1139	Enclosure Site/1976-7 (animal bone)	Iron Age	449870	130370
99	MWC1141	Enclosure Site/1976-7 (Grain seeds)	Iron Age	449870	130370
100	MWC1142	Enclosure Site/1976-7 (Quern stone)	Iron Age	449870	130370
101	MWC1143	Enclosure site/1976-7 (Enclosure)	Iron Age	449870	130370
102	MWC1144	Enclosure site/1976-7 (bone combs and loomweights)	Iron Age	449870	130370
103	MWC1146	Enclosure site/1976-7 (Loomweights)	Iron Age	449870	130370
104	MWC1167	Sub-circular crop mark enclosure on Winnall Down (Winnall Down II)	Iron Age	450100	130400
105	MWC2300	Easton Down (Pit)	Iron Age	449500	131300
106	MWC2302	Easton Down (animal bone)	Iron Age	449500	131300
107	MWC2311	Easton Down (Field system)	Iron Age	449600	131600
108	MWC2312	Easton (Earthwork)	Iron Age	449700	131000
109	MWC2317	Celtic field system at Shoulder of Mutton Farm	Iron Age	450200	130800
110	MWC2318	Celtic field system to the North of Winnall Down Copse	Iron Age	450800	130300
111	MWC2408	North of Graces Farm (pottery)	Iron Age	451000	133500
112	MWC446	Graces Farm (settlement)	Iron Age	450749	133533
113	MWC7238	Chance find of coin on allotments overlooking Chilcomb Valley	Iron Age	449799	129299
114	MWC8044	Early Iron Age ditch, later lynchet and colluvial deposits at Hinton's Fields, Lovedon Lane, Kings Worthy	Iron Age	449461	132847

115	MWC6990	Late prehistoric settlement, former Victoria Road Hospital	Late prehistoric	450308	129481
116	MWC7519	Finds from a testpit survey over land at Lovedon Lane	Late prehistoric	449517	132969
117	MWC552	Easton Down (lynchet)	Later prehistoric	449500	131190
118	MWC553	Longwalk Itchen Valley (field system)	Later prehistoric	449860	131890
119	MWC5936	Evaluation at Peek Management site, London Road, Kings Worthy	Later prehistoric	449223	132189
120	MWC5937	Evaluation at Peek Management site, London Road, Kings Worthy (flint flakes)	Later prehistoric	449223	132189
121	MWC1865	Roman finds from Springvale Road	Romano-British	448700	132800
122	MWC1879	Coins found at Pudding House Farm	Romano-British	449000	132000
123	MWC2325	Route of Roman aqueduct supplying Venta Belgarum	Romano-British	450600	132870
124	MWC2325	Route of Roman aqueduct supplying Venta Belgarum	Romano-British	448803	132872
125	MWC2326	Graces Farm (pottery)	Romano-British	450600	132870
126	MWC2338	Graces Farm (enclosure)	Romano-British	450570	133580
127	MWC2945	Roselia, London Road (coin)	Romano-British	449115	132307



128	MWC2962	Abbots Worthy (coin)	Romano-British	449400	132400
129	MWC2967	Roman Road from Winchester (Venta Belgarum) to Silchester (Calleva Atrebatum)	Romano-British	449659	132907
130	MWC443	Graces Farm (pottery, animal bones, burnt flint and roof tile)	Romano-British	450570	133580
131	MWC444	Graces Farm (pottery, flint and a coin)	Romano-British	450700	133600
132	MWC445	Graces Farm	Romano-British	450700	133600
133	MWC448	Graces Farm (pottery tile etc)	Romano-British	450750	133550
134	MWC4762	Evaluation at St. Mary's Church, Kings Worthy (pottery)	Romano-British	449287	132327
135	MWC5474	Finds from reservoir cut, off Nuns Walk, Abbots Barton (pottery)	Romano-British	449091	131694
136	MWC6504	DITCHED ENCLOSURE at WINNALL INDUSTRIAL ESTATE SOUTH AND NORTH	Romano-British	449816	130243
137	MWC6691	DITCHED ENCLOSURE at WINNALL INDUSTRIAL ESTATE SOUTH	Romano-British	449880	130344
138	MWC7235	Chance find of a Roman coin	Romano-British	449398	129599
139	MWC7240	Chance find of Greek Roman coin, 86 Gordon Avenue	Romano-British	449399	128920

140	MWC1878	Brooch foun at Pudding House Farm	Early medieval	449000	132000
141	MWC2321	Abbots Worthy (grubenhaus)	Early medieval	450440	132660
142	MWC2322	Abbots Worthy (pits)	Early medieval	450440	132660
143	MWC2323	Abbots Worthy (post holes)	Early medieval	450440	132660
144	MWC2942	Royal residence at Kings Worthy	Early medieval	449027	132250
145	MWC6625	Winnall Saxon Cemetery	Early medieval	449413	130162
146	MWC7209	Possible early medieval cemetery Site	Early medieval	448926	131763
147	MWC6745	DITCHED ENCLOSURE at WINNALL INDUSTRIAL ESTATE NORTH AND SOUTH	Early medieval	449691	130748
148	MWC1161	Site of St Mary Magdalen Leper Hospital, used as a prison in late C17	Medieval	450570	129611
149	MWC1862	Medieval pottery found at Watercress beds	Medieval	448550	132440
150	MWC1870	Site of St Gertrude's Chapel	Medieval	449078	131434
151	MWC2316	Abbots Worthy water meadows (horse fittings)	Medieval	449600	132100
152	MWC2895	24 Willis Waye (coin)	Medieval	448969	132461
153	MWC2976	Abbots Worthy (deserted settlement)	Medieval	449800	132300

154	MWC4758	Evaluation at St. Mary's Church, Kings Worthy (grave)	Medieval	449287	132327
155	MWC4763	Evaluation at St. Mary's Church, Kings Worthy (pottery)	Medieval	449287	132327
156	MWC7651	Medieval (?) fenceline and ditches at 'Meadowsweet', Headbourne Worthy and Willis Way, Kings Worthy	Medieval	448858	132583
157	MWC1151	Chilcomb Manor, The Cromwell Barn	Post-medieval	450700	128399
158	MWC1159	Boundary stone	Post-medieval	450400	129400
159	MWC1160	Commemorative stone near site of St Mary Magdalen Hospital	Post-medieval	450550	129590
160	MWC1876	Didcot, Newbury and Southampton Railway	Post-medieval	449250	131800
161	MWC1877	Didcot, Newbury and Southampton Railway	Post-medieval	449400	131400
162	MWC1880	Coins found Pudding House Farm	Post-medieval	449000	132000
163	MWC2296	The Didcot Newbury and Southampton Railway	Post-medieval	449320	130910
164	MWC2297	Scatter of pottery at Winnall Cottage Farm	Post-medieval	449800	130950
165	MWC2894	Didcot, Newbury and Southampton Railway	Post-medieval	448700	132700
166	MWC2954	Kings Worthy Churchyard	Post-medieval	449282	132310
167	MWC2958	Wisteria London Road (remians of earlier building)	Post-medieval	449367	132453

168	MWC2968	Abbotsworthy House	Post-medieval	449661	132619
169	MWC2975	Fulling Mill, River Itchen	Post-medieval	449800	132260
170	MWC4759	Evaluation at St. Mary's Church, Kings Worthy (grave)	Post-medieval	449287	132327
171	MWC4760	Evaluation at St. Mary's Church, Kings Worthy (coffin fittings)	Post-medieval	449287	132327
172	MWC4761	Evaluation at St. Mary's Church, Kings Worthy (shroud pin)	Post-medieval	449287	132327
173	MWC4764	Evaluation at St. Mary's Church, Kings Worthy (pottery)	Post-medieval	449287	132327
174	MWC5843	Post-medieval ditch & finds, Magdalen Hill Down	Post-medieval	450118	129334
175	MWC6991	Site of Victoria Isolation Hospital	Post-medieval	450314	129465
176	MWC7171	House platform, Chilcomb	Post-medieval	450684	128295
177	MWC7208	Site of cottages	Post-medieval	448950	132197
178	MWC7208	Site of cottages	Post-medieval	448932	132185
179	MWC7367	site of a group of cottages, Littleton.	Post-medieval	449529	132631
180	MWC7629	Remains of building and outhouse, 85m east of Park Lane, Abbots Worthy	Post-medieval	449821	132719
181	MWC8045	Post-medieval field boundary and undated features, Hinton's Fields, Lovedon Lane, Kings Worthy	Post-medieval	449532	132798
182	MWC8097	Victorian sewer ventilation pipes, Quarry Road, Winchester	Post-medieval	449332	129283

183	n/a	Deer Park	Medieval/post-medieval	450061	132998
184	BLK14	Watermeadow	Post-medieval	448803	130099
185	BLK11	Watermeadow	Post-medieval	448866	130709
186	BLK168	Watermeadow	Post-medieval	449007	131811
187	BLK15	Watermeadow	Post-medieval	449108	131156
188	BLK20	Watermeadow	Post-medieval	449487	131708
189	BLK16	Watermeadow	Post-medieval	448635	132239
190	BLK17	Watermeadow	Post-medieval	449537	132286
191	BLK18	Watermeadow	Post-medieval	449859	132282
192	BLK66	Watermeadow	Post-medieval	450341	132311
193	BLK67	Watermeadow	Post-medieval	450311	132453
194	BLK63	Watermeadow	Post-medieval	450734	132493
195	BLK65	Watermeadow	Post-medieval	450823	132314
196	BLK19	Watermeadow	Post-medieval	449560	131983
197	1548	Hinton House - Historic Park and Garden	Post-medieval	449356	132868
198	1820	Kings Worthy Court - Historic Park and Garden	Post-medieval	449183	132432
199	1020	Kings Worthy House - Historic Park and Garden	Post-medieval	449379	132703
200	1818	Abbotsworthy House - Historic Park and Garden	Post-medieval	449644	132550

201	1819	Kings Worthy Grove - Historic Park and Garden	Post-medieval	449564	132676
202	1918	Upper Farm - Historic Park and Garden	Post-medieval	448283	132502
203	1905	Northleigh - Historic Park and Garden	Post-medieval	449318	132526
204	1550	Worthy Park - Historic Park and Garden	Post-medieval	450041	132877
205	1821	Morton House - Historic Park and Garden	Post-medieval	449172	132693
206	MWC1881	Formerly railway bridge over road (A33)	Modern	449028	132243
207	MWC1882	Kings Worthy Railway Station	Modern	449050	132200
208	MWC3650	Kings Worthy Railway Station	Modern	449055	132200
209	MWC7244	Site of pillbox	Modern	446400	134200
210	MWC7245	Site of pillbox	Modern	446200	134200
211	MWC7246	Site of pillbox	Modern	446040	134230
212	MWC1126	Boundary stone on Chilcomb Lane	Unknown	449900	129200
213	MWC2298	Site at White Hall Cottage area	Unknown	449810	130890
214	MWC2313	Easton Down (enclosure?)	Unknown	449750	131720
215	MWC2314	East - west linear at Manor Farm, Easton Down	Unknown	449900	131500
216	MWC2324	Abbots Worthy (ditch)	Unknown	450440	132660
217	MWC2342	Square enclosure to the north of Graces Farm	Unknown	450850	133350

218	MWC2977	Crouched burial, 5, Mill Lane, Abbots Worthy	Unknown	449800	132650
219	MWC447	Graces Farm (flint)	Unknown	450750	133542
220	MWC452	Graces Farm (pit)	Unknown	450830	133500
221	MWC453	Graces Farm (lynchet)	Unknown	450830	133500
222	MWC4756	Geophysical survey, St. Mary's Church, Kings Worthy (tomb)	Unknown	449285	132331
223	MWC4757	Geophysical survey, St. Mary's Church, Kings Worthy (grave)	Unknown	449285	132331
224	MWC495	Stone found at Hinton House	Unknown	449300	132900
225	MWC5417	Extension to St Mary's Church, Kings Worthy, archaeological excavation (yard)	Unknown	449289	132323
226	MWC5477	Finds from reservoir cut, off Nuns Walk, Abbots Barton (animal bone)	Unknown	449091	131694
227	MWC5478	Finds from reservoir cut, off Nuns Walk, Abbots Barton (flint)	Unknown	449091	131694
228	MWC5479	Finds from reservoir cut, off Nuns Walk, Abbots Barton (slag)	Unknown	449091	131694
229	MWC5480	Finds from reservoir cut, off Nuns Walk, Abbots Barton (iron objects)	Unknown	449091	131694
230	MWC5767	Well at Newlands, Springvale Road	Unknown	448639	133024
231	MWC5934	Evaluation at Peek Management site, London Road, Kings Worthy (ditch)	Unknown	449223	132189

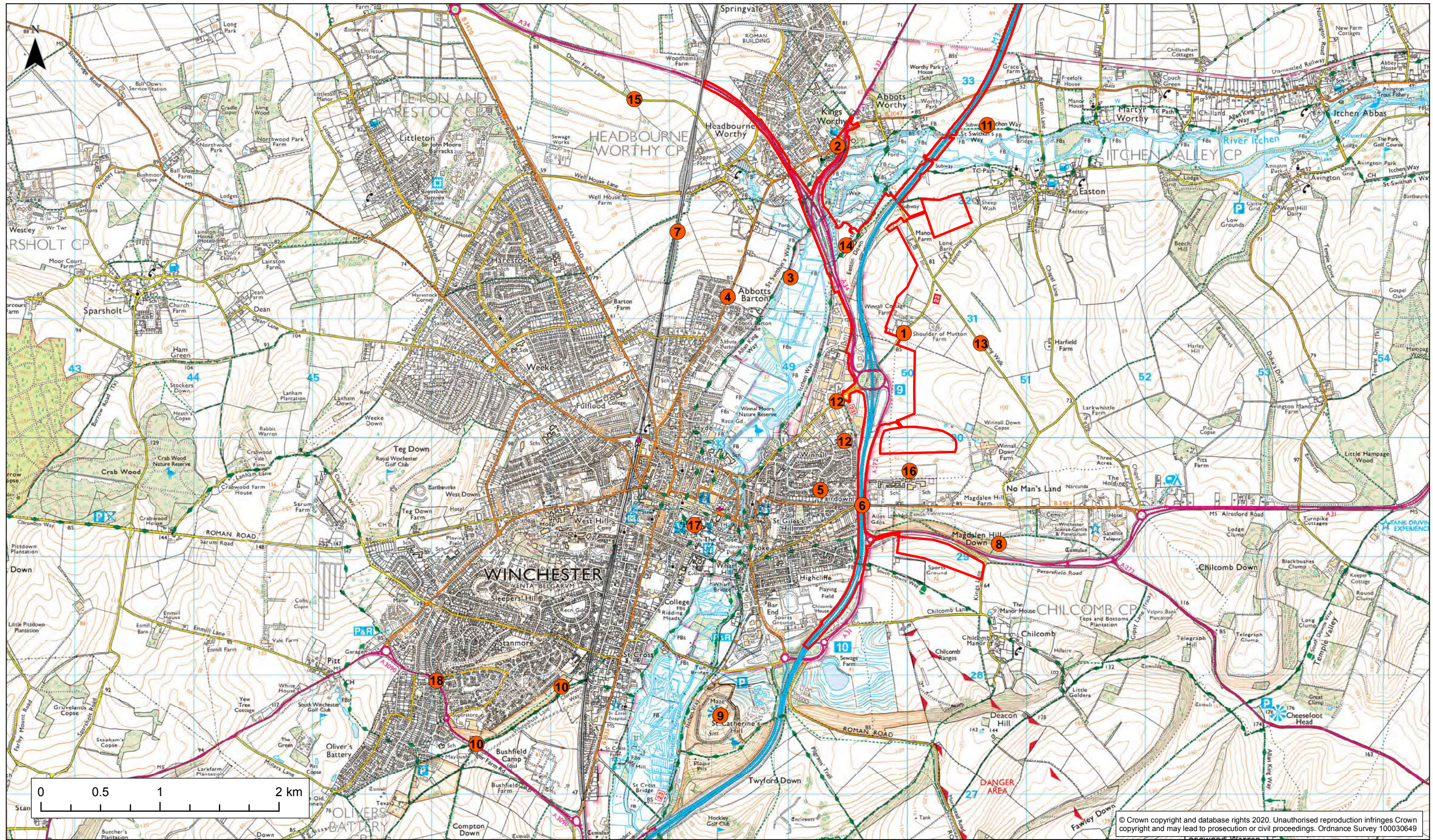


232	MWC5938	Evaluation at Peek Management site, London Road, Kings Worthy (pottery and flint)	Unknown	449223	132189
233	MWC6072	Watching Brief at the former Morton House site, Church Lane, Kings Worthy (ditch)	Unknown	449240	132809
234	MWC6969	Undated feature, St Swithuns' School	Unknown	449714	129615
235	MWC7210	Point in former parish boundary	Unknown	448882	131747
236	MWC7236	Two undated ditches	Unknown	449306	129473

## Appendix 8.1 Landscape Figures

Figure 8.1 – Preliminary View Location Plan





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**KEY**

- Indicative Application Boundary
- Representative View Locations

**View Location Descriptions**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1. Easton Lane / National Cycle Network Route 23</li> <li>2. Church Green</li> <li>3. Itchen Valley St Swithun's Way</li> <li>4. Abbots Barton</li> <li>5. Turnpike Down</li> <li>6. B3404/M3 road bridge</li> <li>7. PRoW adjacent to railway near Well House Lane</li> <li>8. PRoW on crown of Magdalen Hill</li> <li>9. St Catherine's Hill</li> <li>10. Whiteshute Lane/Bushfield Camp</li> </ul> | <ul style="list-style-type: none"> <li>10. Whiteshute Lane/Bushfield Camp</li> <li>11. Itchen Way north of Easton Down</li> <li>12. Local Winchester townscape – Winnall Manor Road</li> <li>13. Long Walk</li> <li>14. Itchen Way</li> <li>15. Down Farm Lane</li> <li>16. St Swithun's School</li> <li>17. Winchester Cathedral</li> <li>18. Ridgeway</li> </ul> |
|--|--|

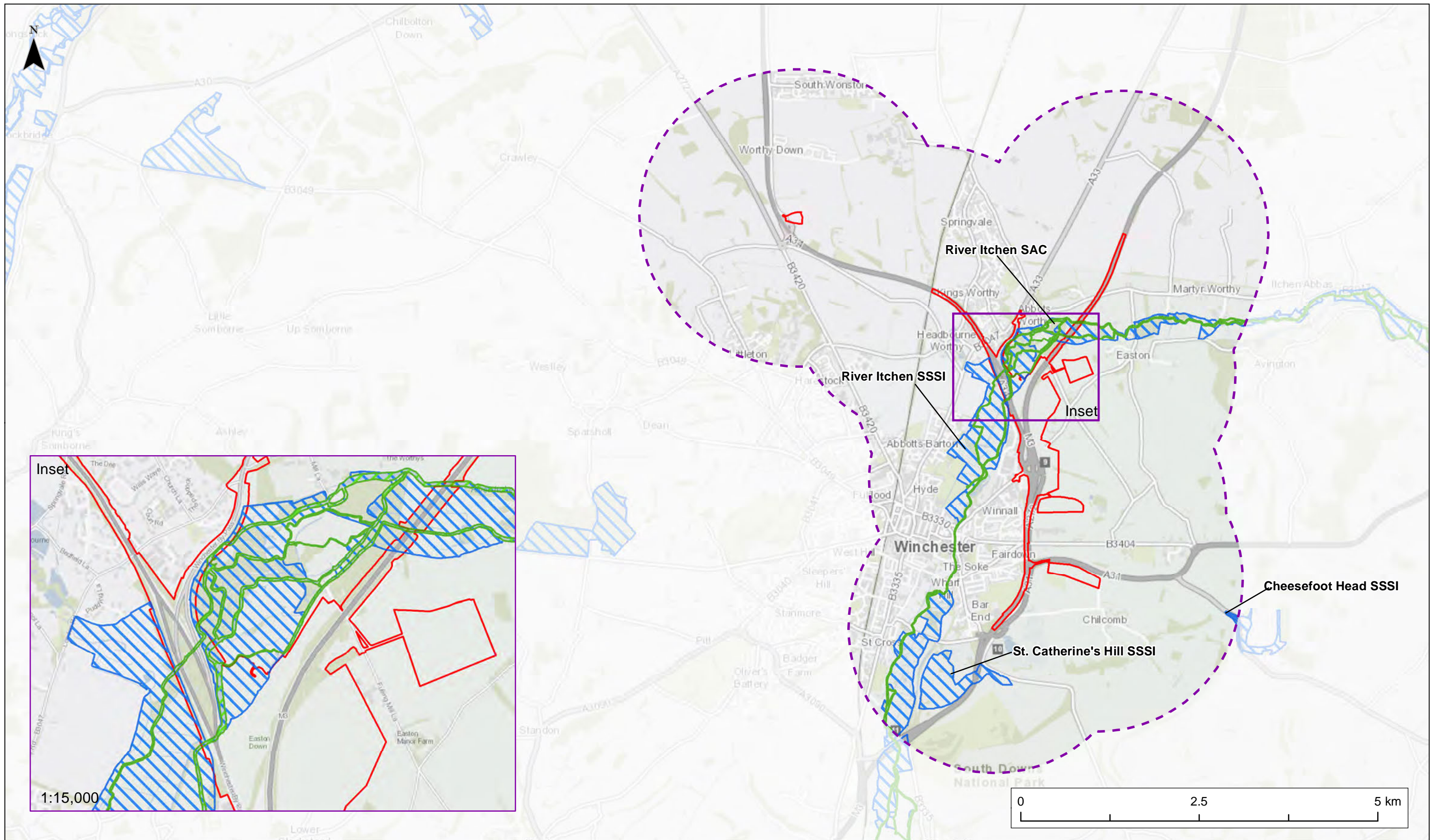
Figure Status	<b>FOR INFORMATION</b>
Client	

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Figure Title		<b>PRELIMINARY VIEW LOCATION PLAN</b>			
Scale: 1:30,000	Designed:	Drawn: JJ	Checked: DM	Approved:	
Original Size: A3	Date	Date: 14/09/2020	Date: 14/09/2020	Date	
<b>FIGURE 8.1</b>					Project Ref No. 48176
					Revision



## Appendix 9.1 Biodiversity Figures

Figure 9.1 – Statutory Designated Nature Conservation Sites



- KEY**
- Indicative Application Boundary (IAB)
  - 2km Buffer from IAB
  - Special Area of Conservation (SAC)
  - Site of Special Scientific Interest (SSSI)

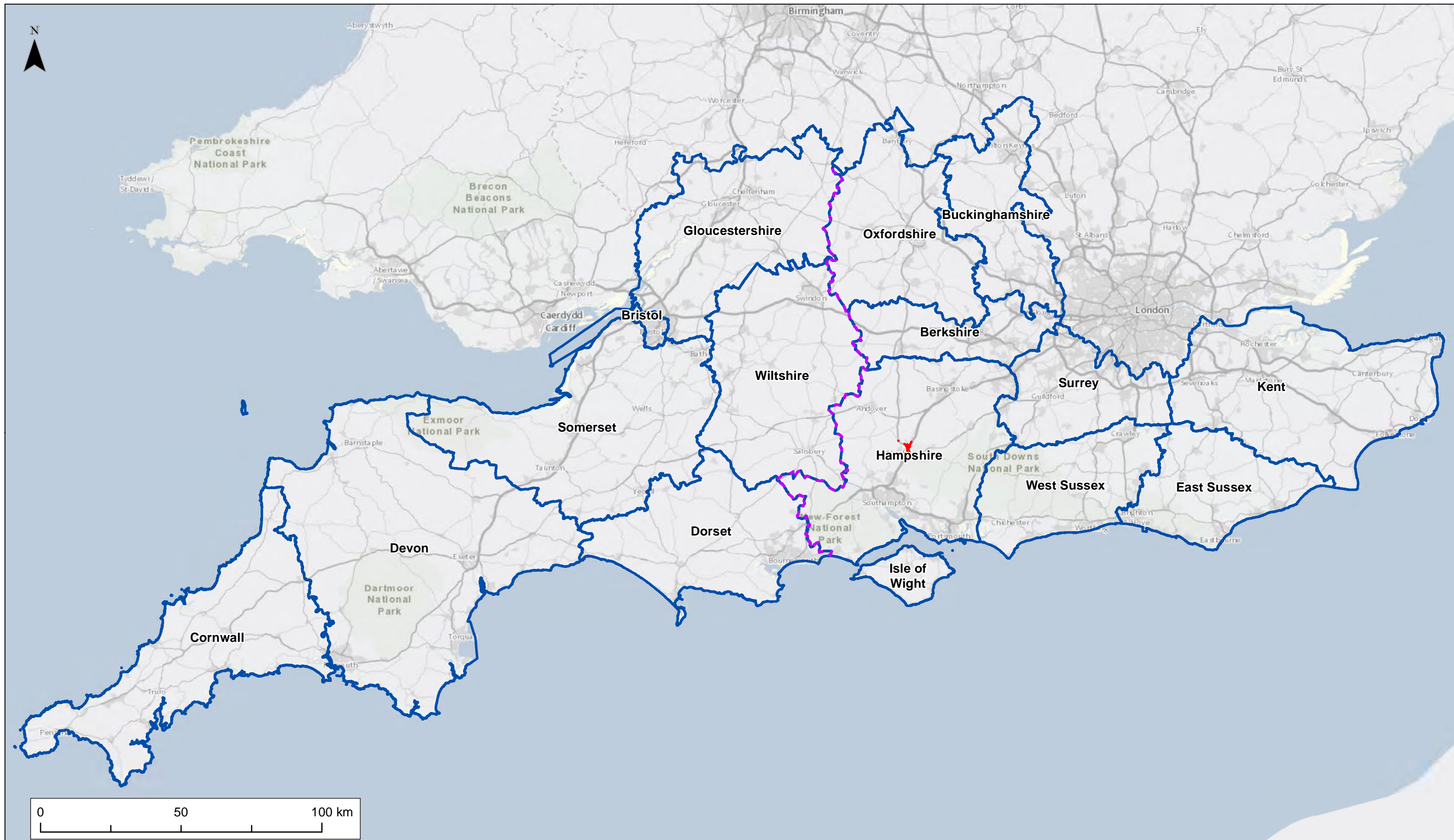
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Figure Status: <b>FOR INFORMATION</b>	Project Title: <b>M3 JUNCTION 9 IMPROVEMENT</b>										
	Figure Title: <b>STATUTORY DESIGNATED NATURE CONSERVATION SITES</b>										
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Original Size: A3	Date: 11/09/2020	Date: 11/09/2020	Date: 11/09/2020	Date: 11/09/2020							
<b>FIGURE 9.1</b>											
Project Ref No: 48176 Revision: P0											

## Appendix 11.1 Material Assets and Waste Figures

Figure 11.1 – Secondary Study Area





- KEY**
- Indicative Application Boundary
  - South East and South West Counties
  - South East-South West Divide

Figure Status **FOR INFORMATION**

Project Title **M3 JUNCTION 9 IMPROVEMENT**



Figure Title **SECONDARY STUDY AREA**



Scale: 1:1,300,000	Designed: TL	Drawn: TL	Checked: MRM	Approved: MRM
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<b>FIGURE 11-1</b>				Project Ref No: Revision A

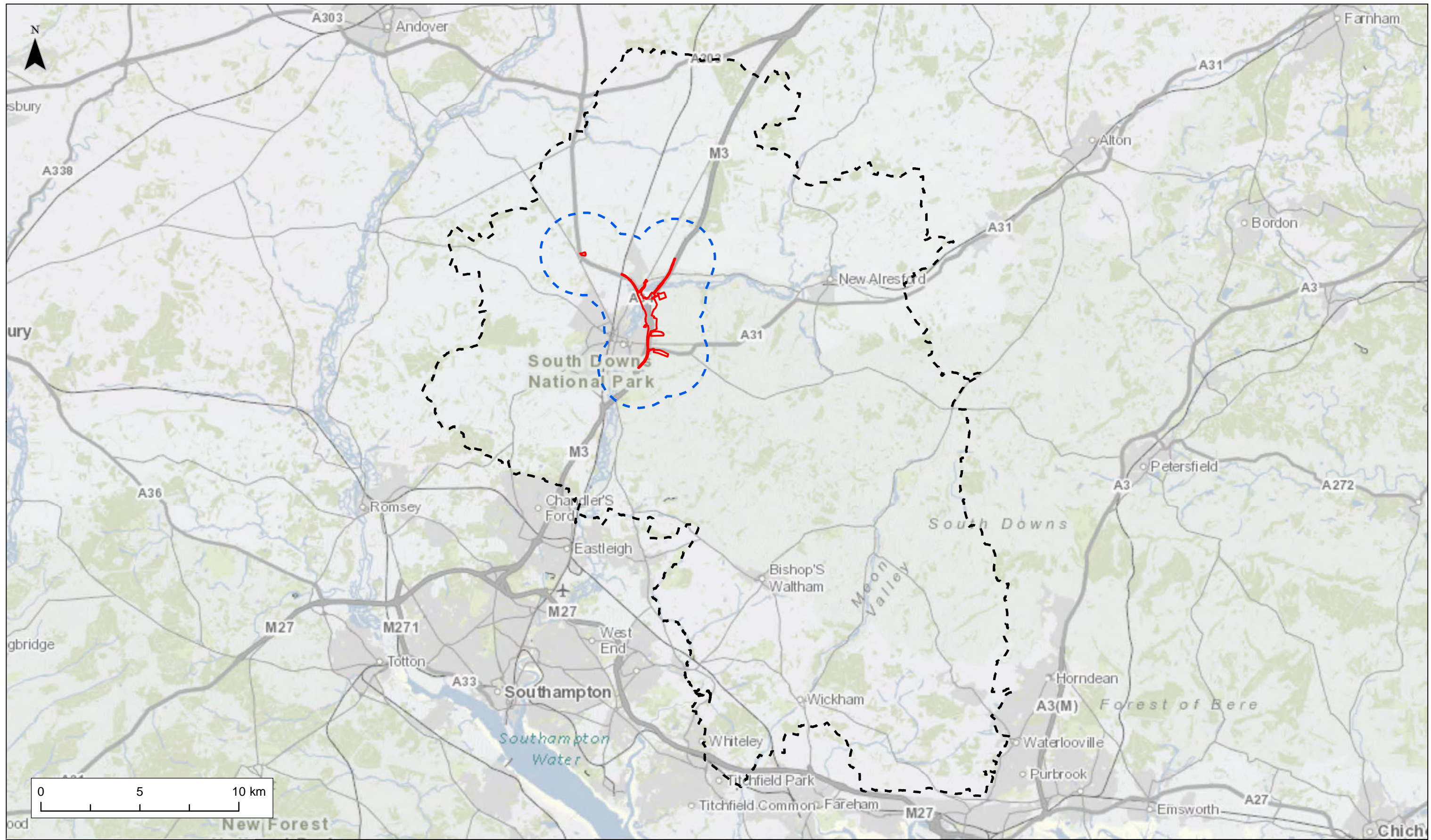
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## Appendix 13.1 Population and Human Health Figures

Figure 13.1 – Study Area





**KEY**

- Indicative Application Boundary (IAB)
- 2km Buffer from IAB
- Winchester City Council Boundary

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Figure Status **FOR INFORMATION**

Project Title **M3 JUNCTION 9 IMPROVEMENT**



Figure Title **POPULATION AND HEALTH STUDY AREAS**



Scale: 1:180,000	Designed: TL	Drawn: TL	Checked: JW	Approved: JW
Original Size: A3	Date: 17/09/2020	Date: 17/09/2020	Date: 17/09/2020	Date: 17/09/2020
<b>FIGURE 13.1</b>				Project Ref No: 48176 Revision: A

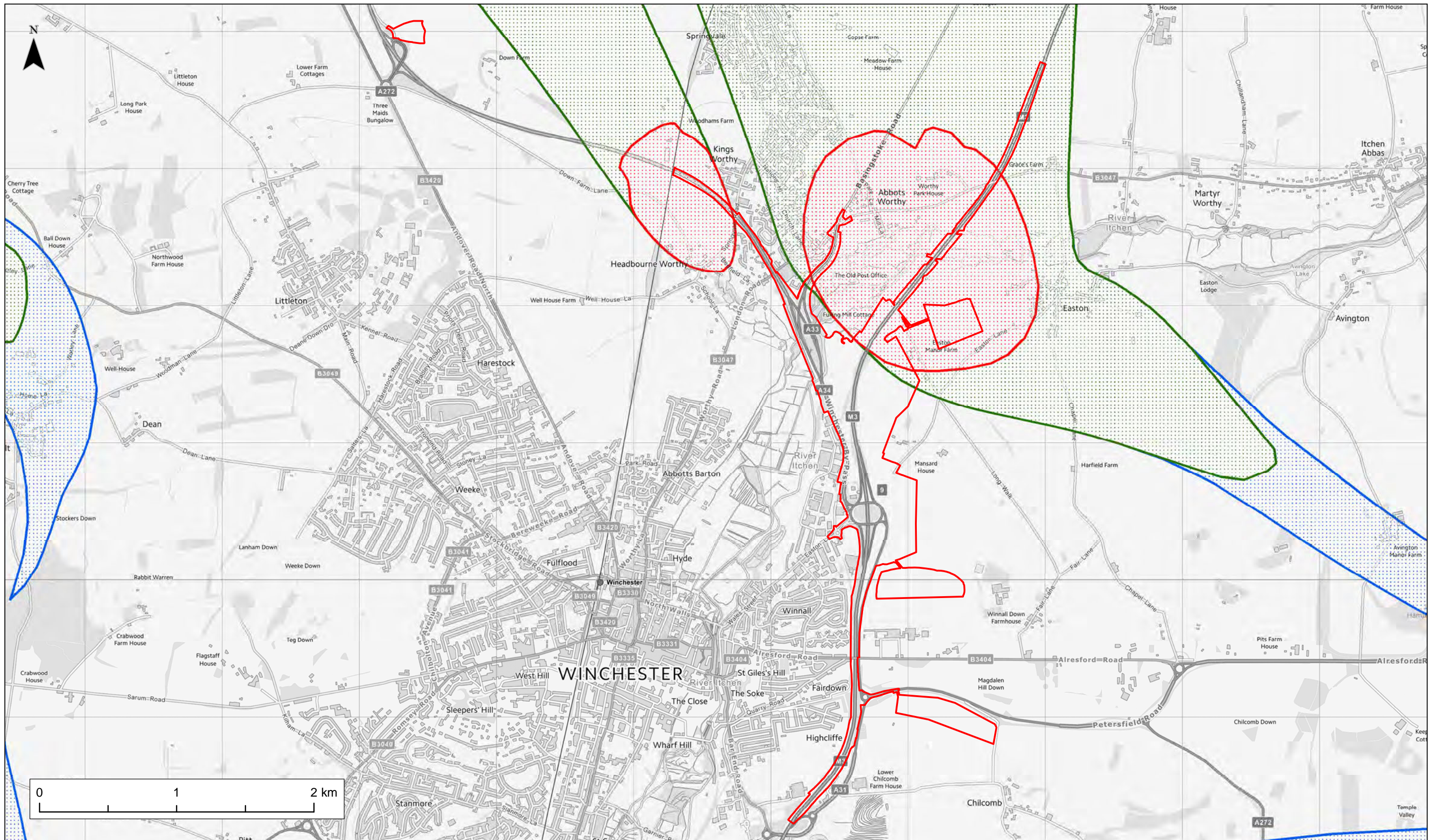


## Appendix 14.1 Road Drainage and the Water Environment Figures

Figure 14.1 – Ground Water Source Protection Zones

Figure 14.2 – Environment Agency Flood Zones





**KEY**

- Indicative Application Boundary
- Zone I - Inner Protection Zone
- Zone II - Outer Protection Zone
- Zone III - Total Catchment

Figure Status

Project Title

M3 JUNCTION 9 IMPROVEMENT



Figure Title

GROUND WATER SOURCE PROTECTION ZONES

Client



Scale:

Designed:

Drawn:

Checked:

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Original Size: A3

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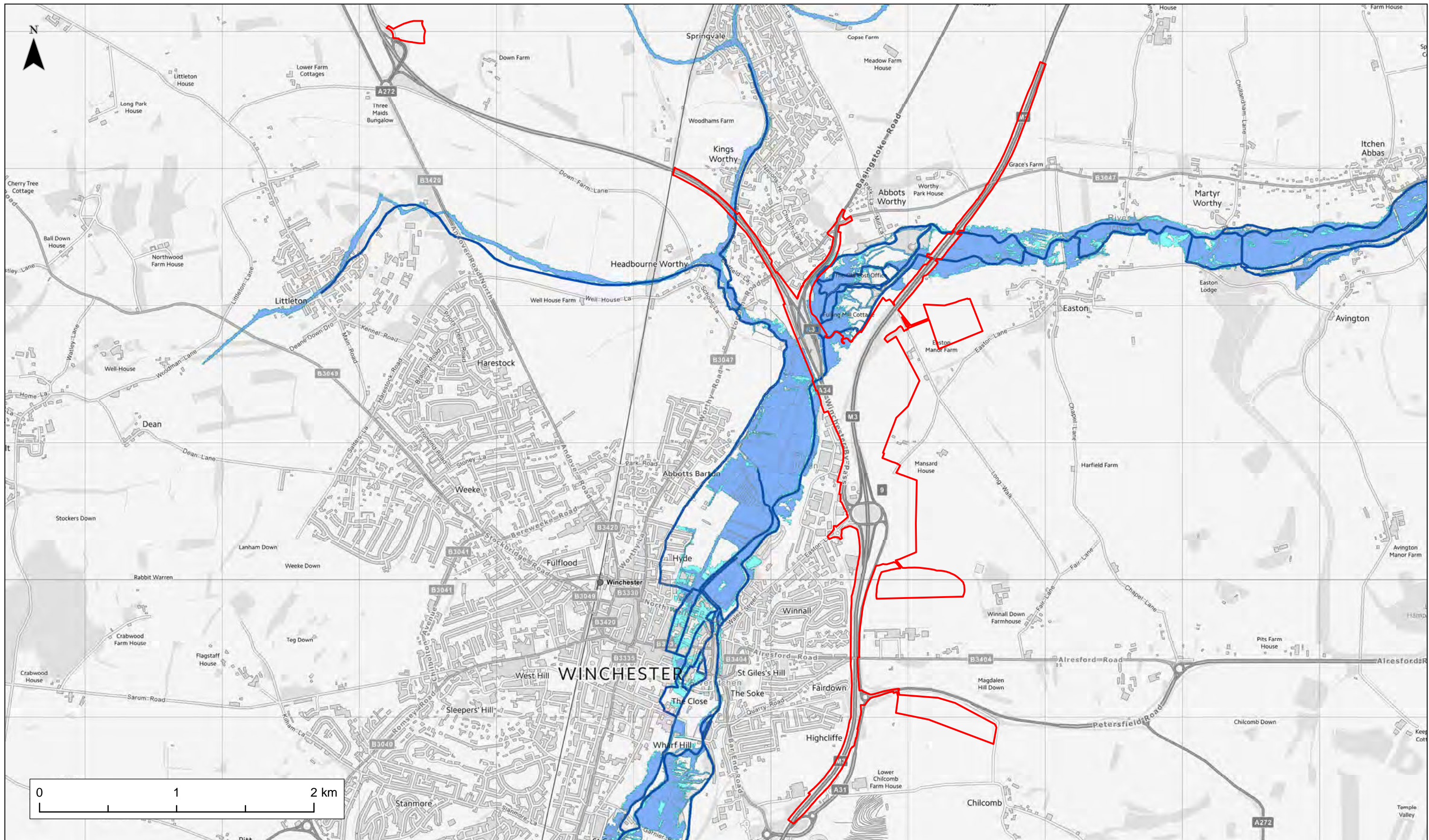
07/09/2020

FIGURE 14.1

Project Ref No.

Revision: A





**KEY**

- Indicative Application Boundary
- Main river
- Flood Zone 3
- Flood Zone 2
- Flood Zone 1

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 Contains Environment Agency information. Environment Agency and/or database right.  
 Flood Zones refer to the probability of river and/or sea flooding, ignoring the presence of defences.

Figure Status	<b>M3 JUNCTION 9 IMPROVEMENT</b>				
	<b>EA FLOOD ZONES</b>				
Client					Scale:    Designed:    Drawn:    Checked:    Approved: Original Size: A3 07/09/2020    07/09/2020    07/09/2020    07/09/2020
<b>FIGURE 14.2</b>					Project Ref No. Revision: A



# Appendix 15.1 UK Climate Projections

## Appendix 15.1 Climate Change Projections

Figure 1: Annual Average Mean Temperature, Grid Square 437500



Annual average Mean air temperature anomaly at 1.5m (°C) for years 1961 up to and including 2099, for grid square 437500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

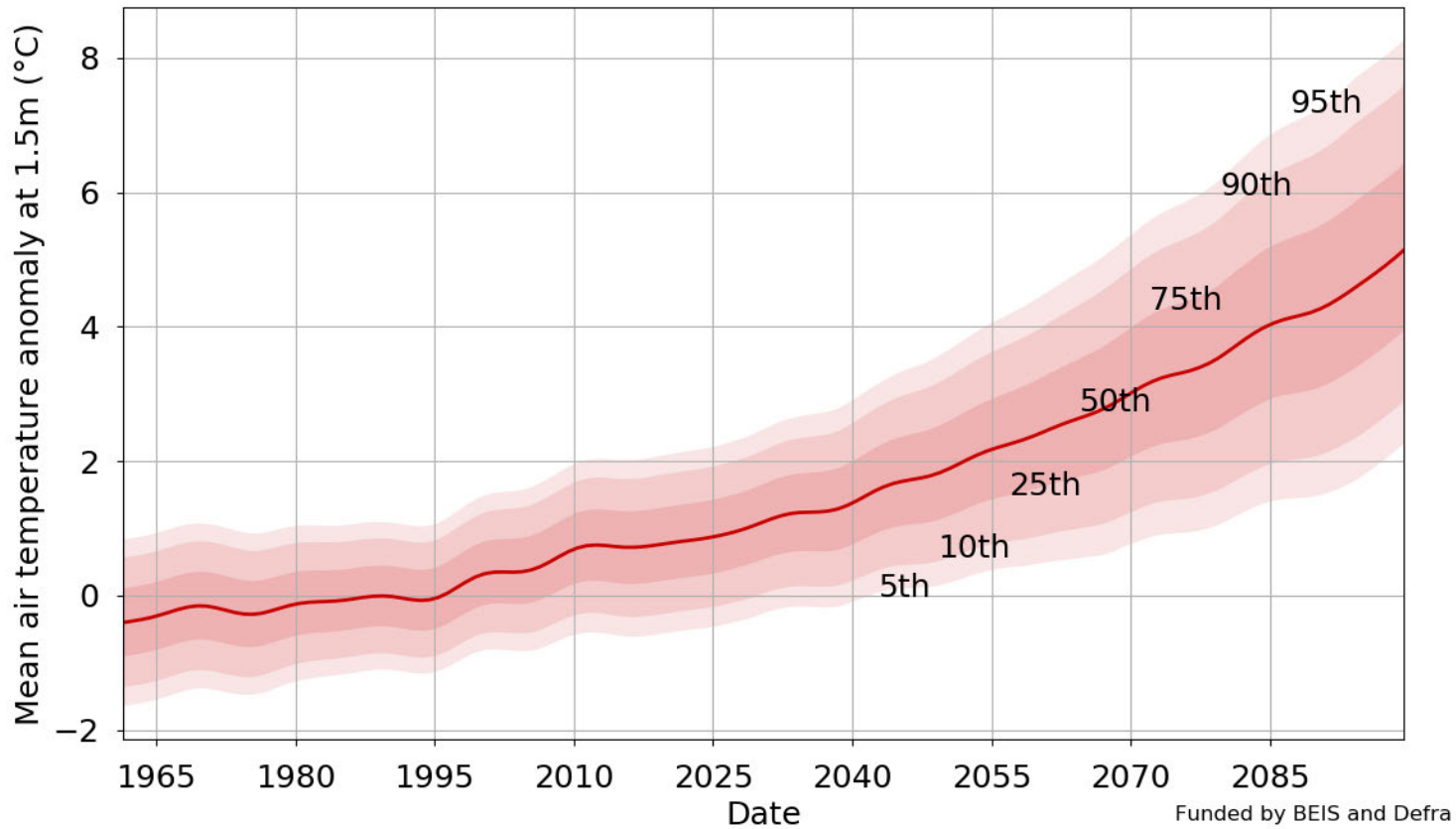
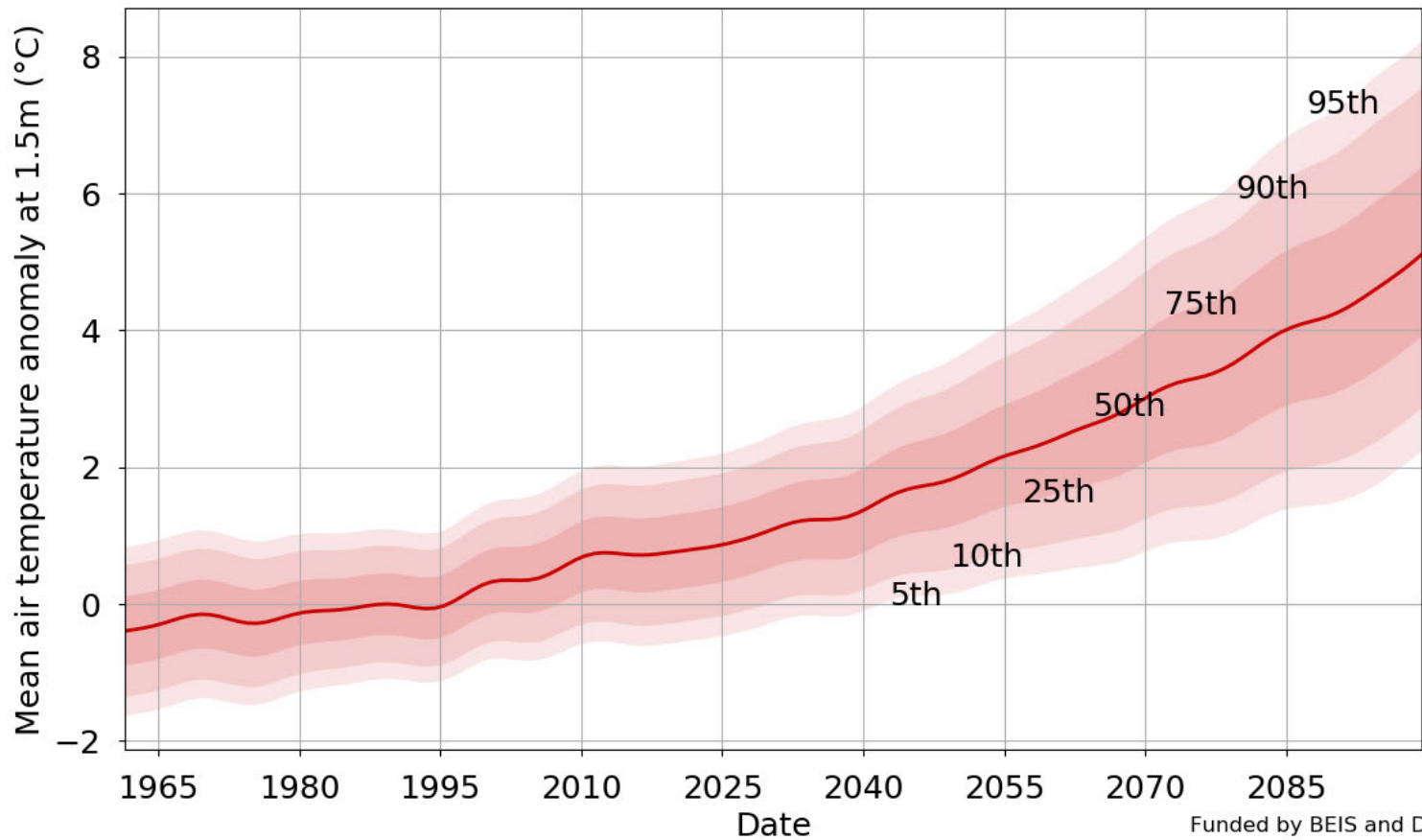




Figure 2: Annual Average Mean Temperature, Grid Square 462500



Annual average Mean air temperature anomaly at 1.5m (°C) for years 1961 up to and including 2099, for grid square 462500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

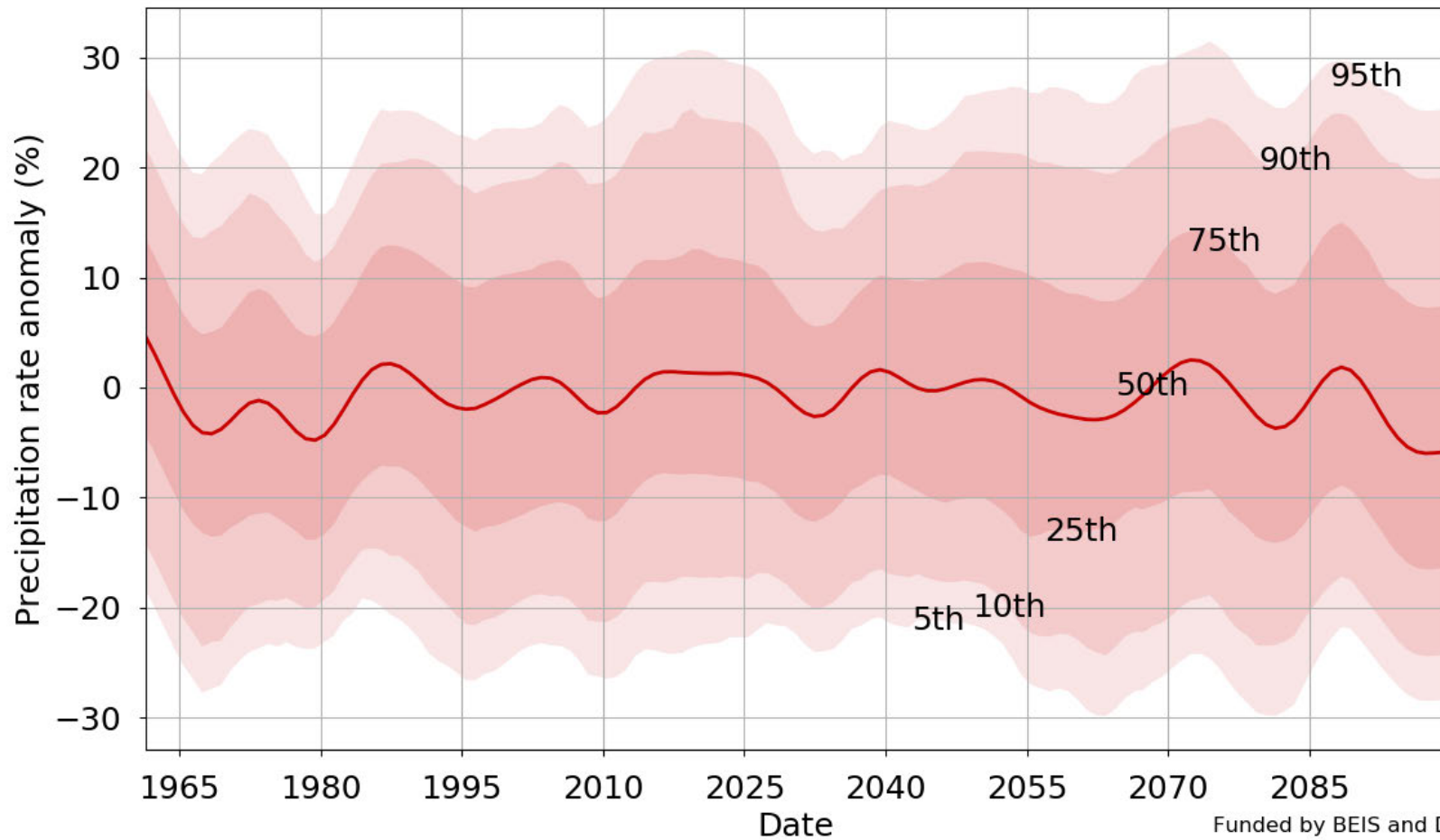


Funded by BEIS and Defra

Figure 3: Annual Average Precipitation, Grid Square 437500



Annual average Precipitation rate anomaly (%) for years 1961 up to and including 2099, for grid square 437500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

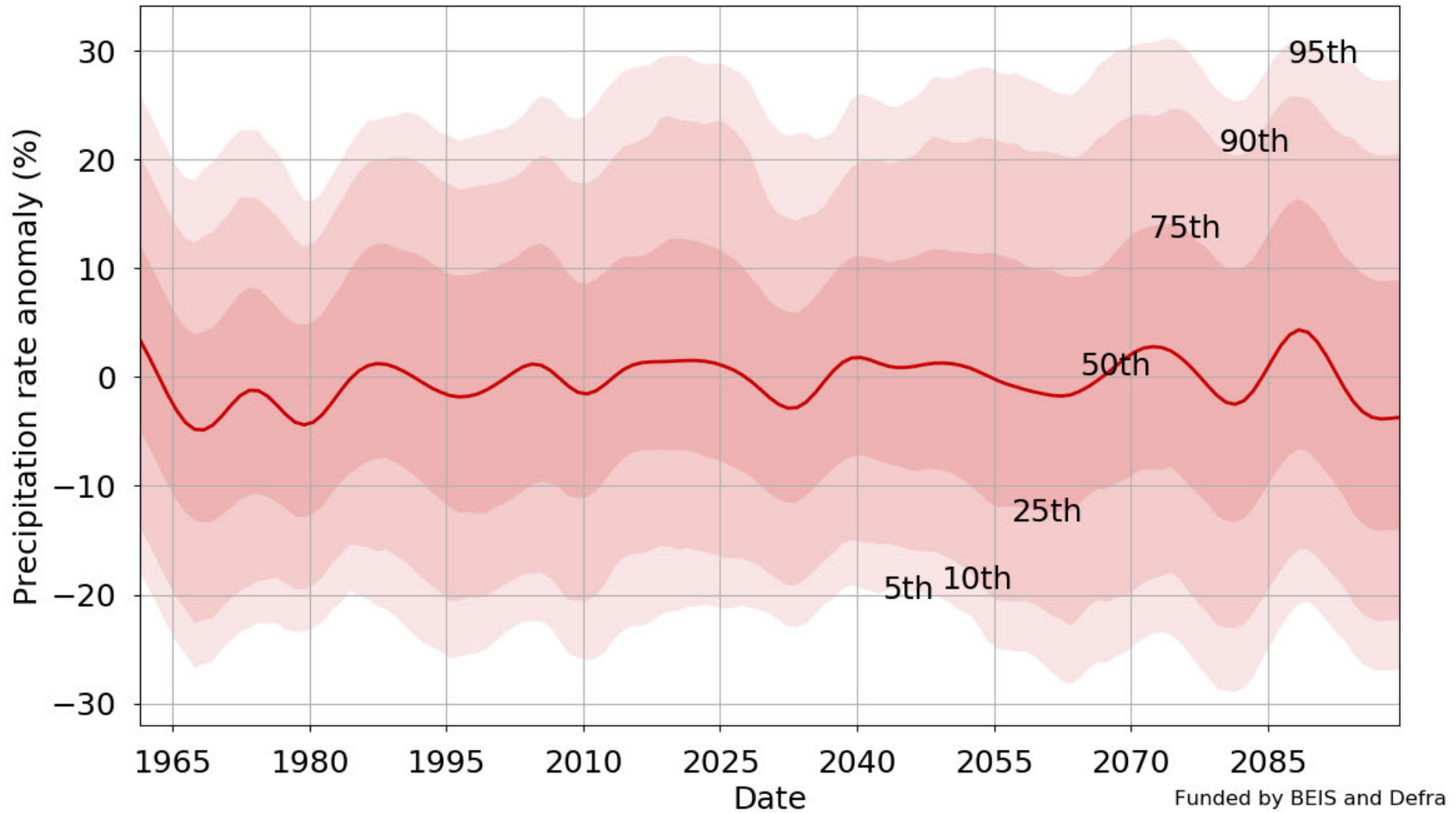


Funded by BEIS and Defra

Figure 4: Annual Average Precipitation, Grid Square 462500



Annual average Precipitation rate anomaly (%) for years 1961 up to and including 2099, for grid square 462500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

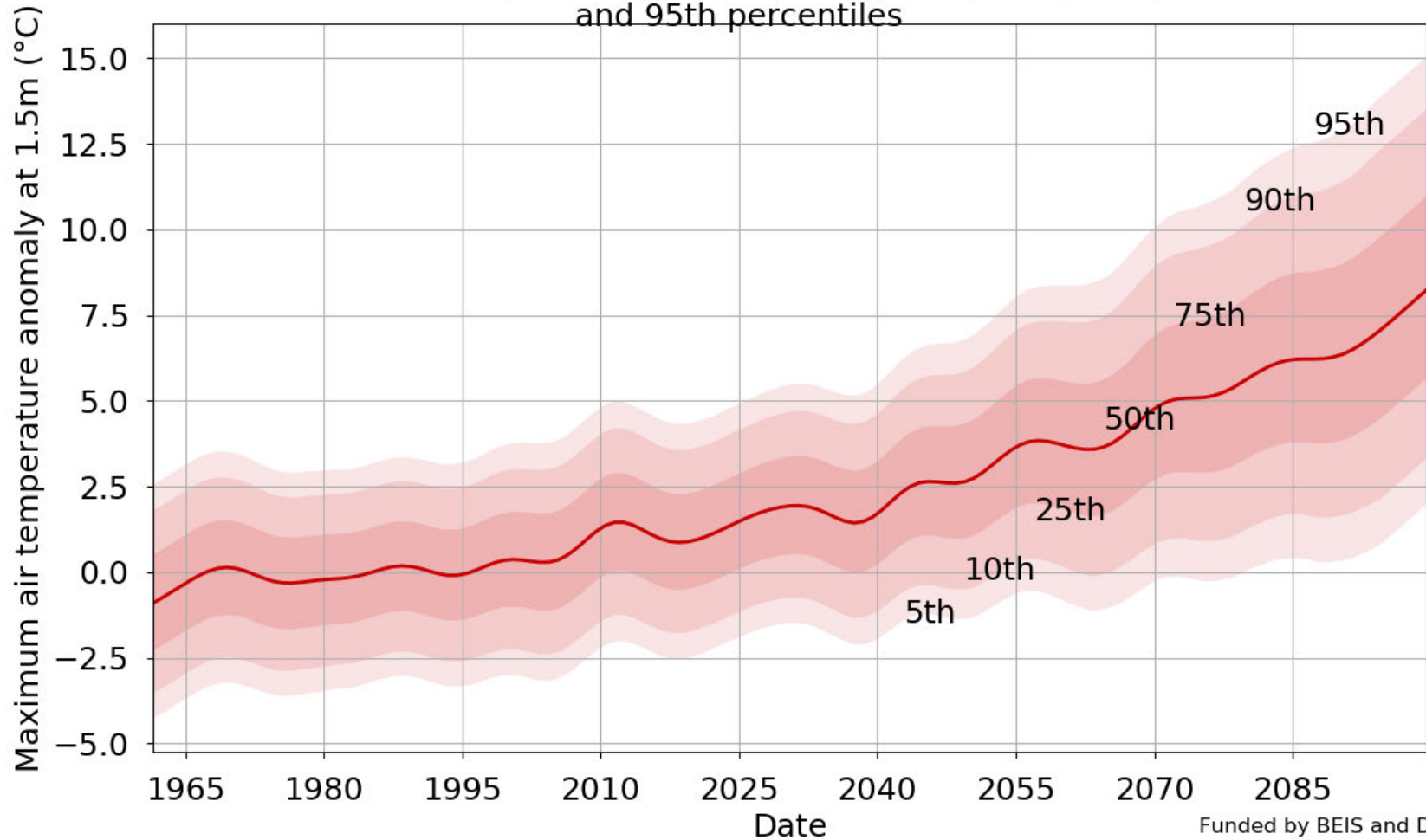


Funded by BEIS and Defra

Figure 5: Maximum Average Summer Temperature, Grid Square 437500



Seasonal average Maximum air temperature anomaly at 1.5m (°C) for June July August in years 1961 up to and including 2099, for grid square 437500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

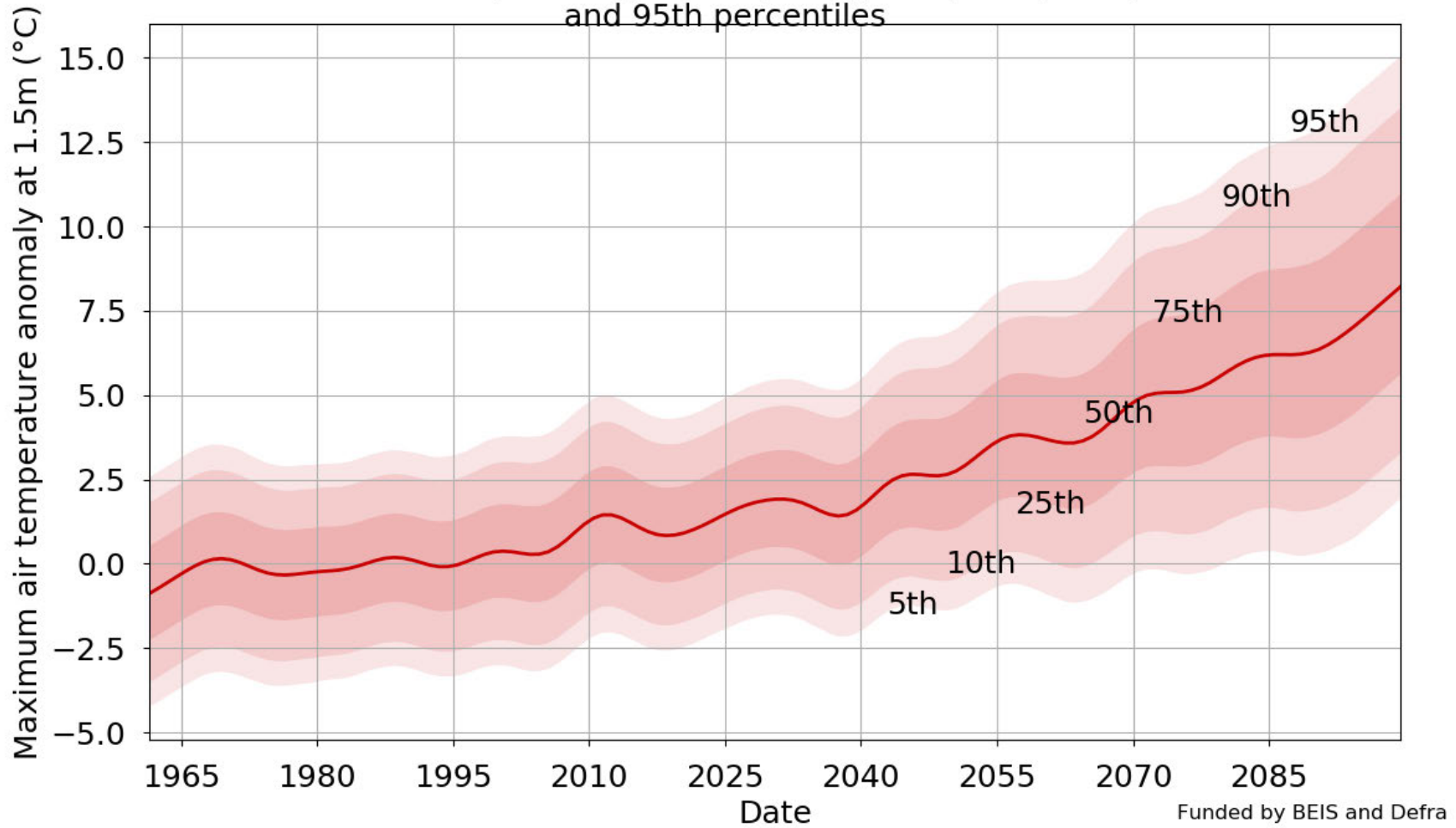


Funded by BEIS and Defra

Figure 6: Maximum Average Summer Temperature, Grid Square 462500



Seasonal average Maximum air temperature anomaly at 1.5m (°C) for June July August in years 1961 up to and including 2099, for grid square 462500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles



Funded by BEIS and Defra



Figure 7: Average Summer Precipitation, Grid Square 437500



Seasonal average Precipitation rate anomaly (%) for June July August in years 1961 up to and including 2099, for grid square 437500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

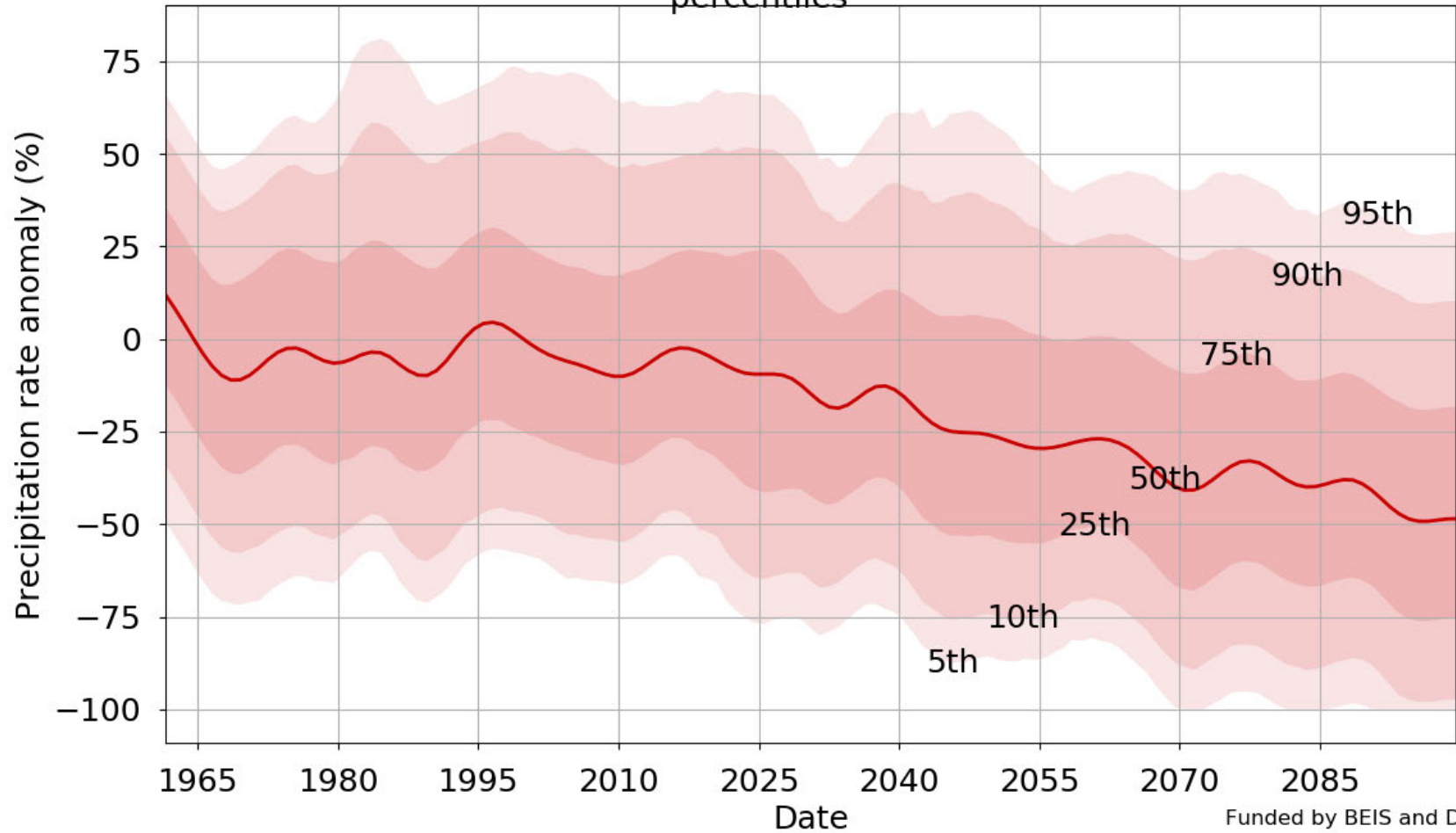




Figure 8: Average Summer Precipitation, Grid Square 462500



Seasonal average Precipitation rate anomaly (%) for June July August in years 1961 up to and including 2099, for grid square 462500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

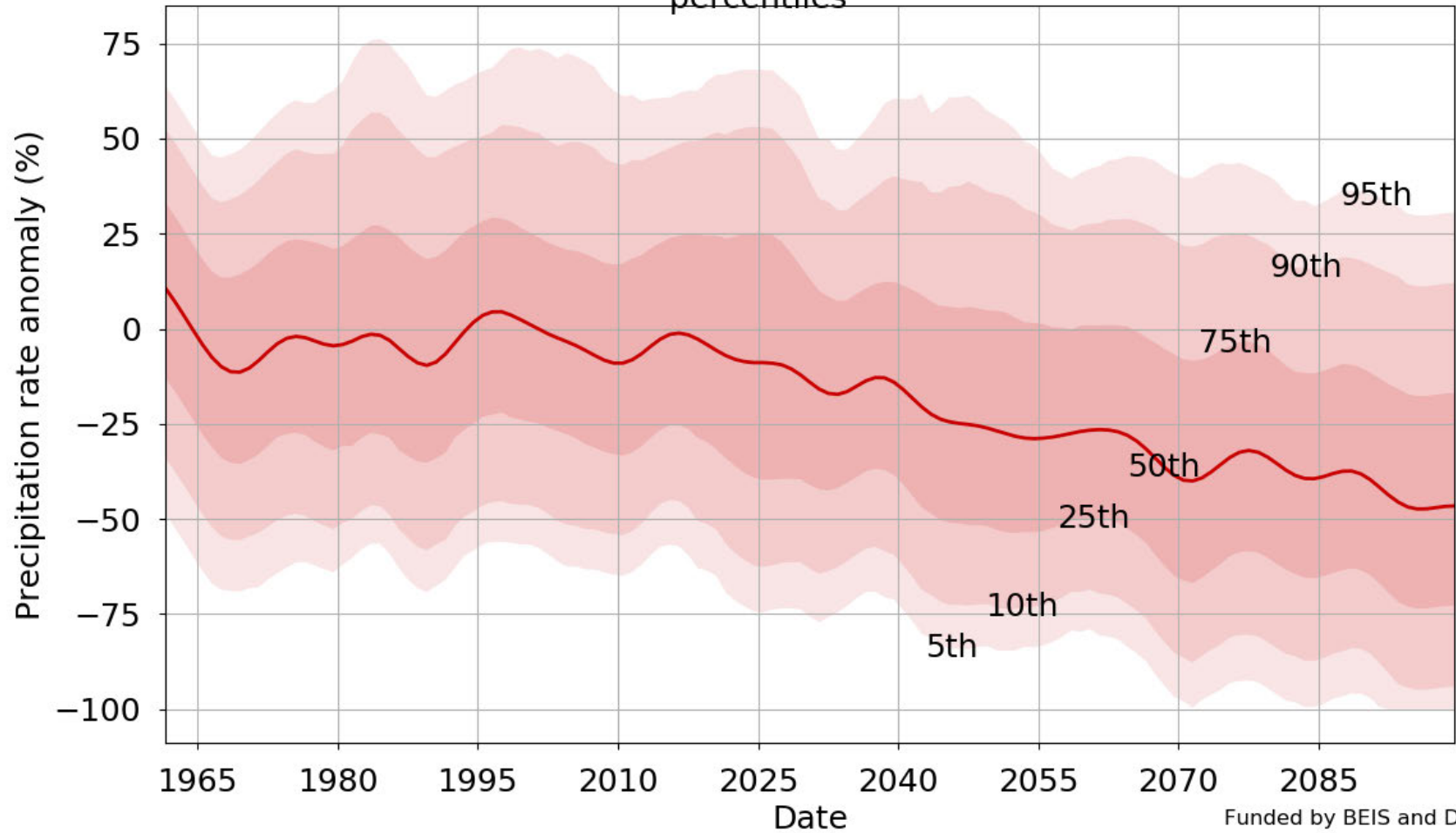
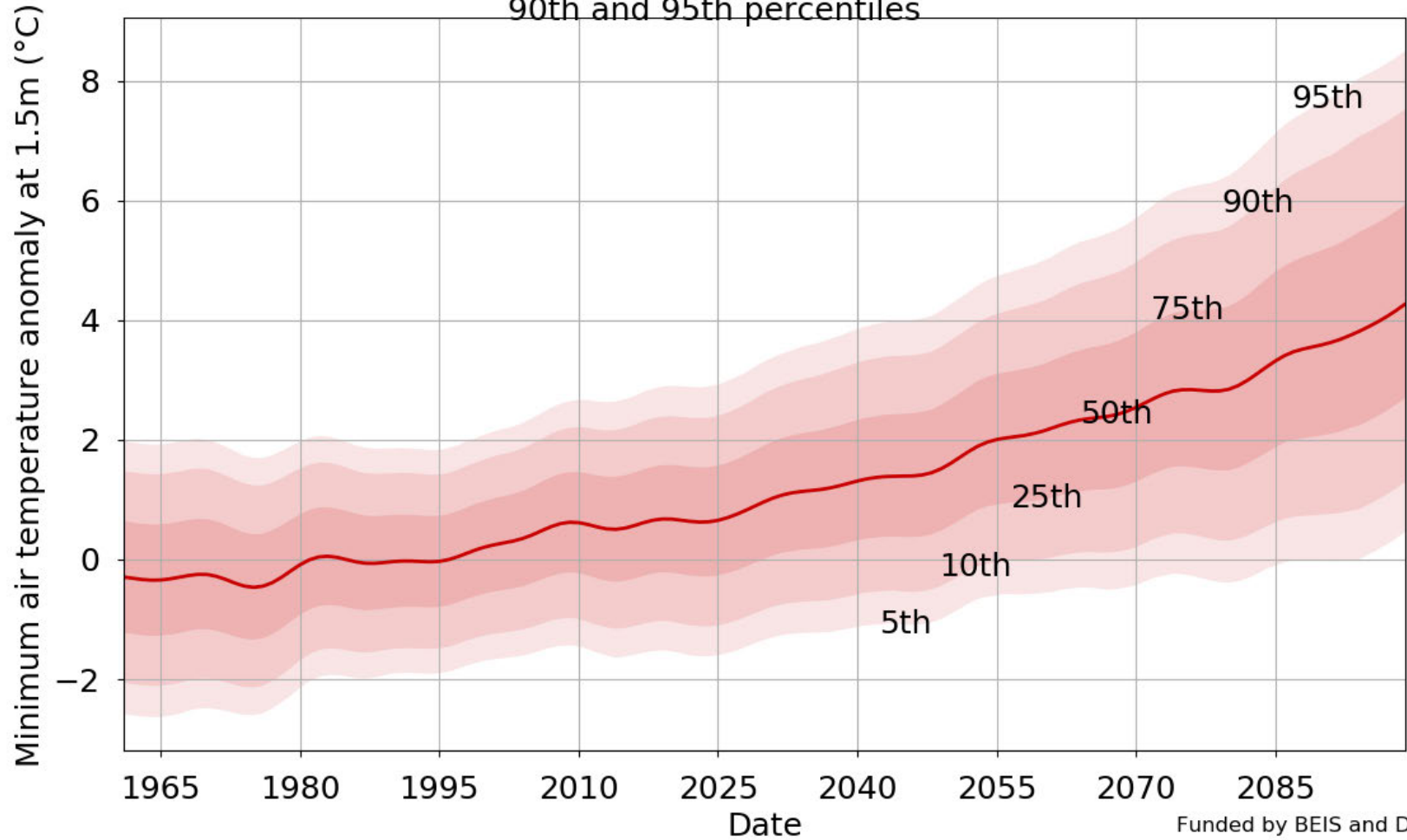


Figure 9: Minimum Average Winter Temperature, Grid Square 437500



Seasonal average Minimum air temperature anomaly at 1.5m (°C) for December January February in years 1961 up to and including 2099, for grid square 437500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

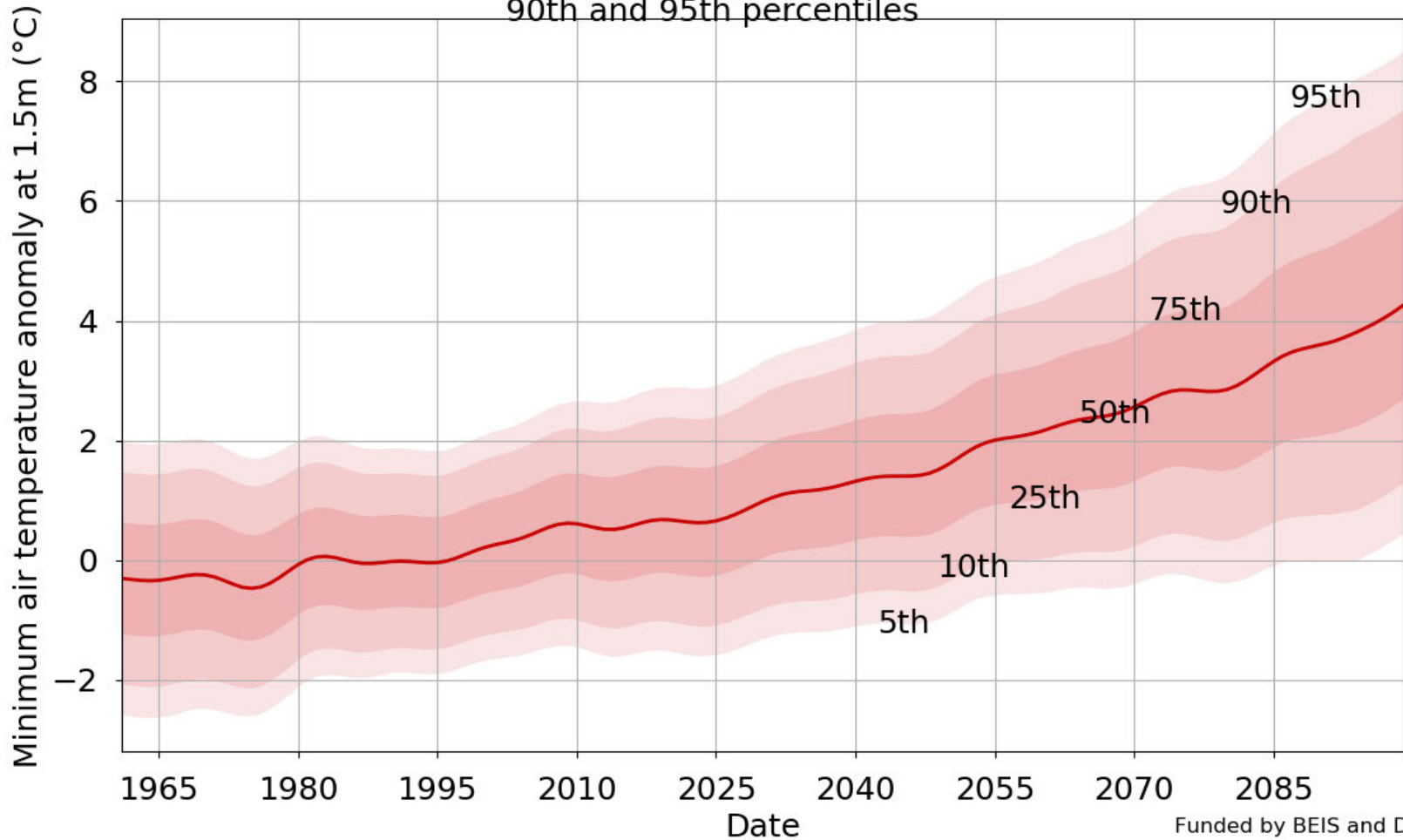


Funded by BEIS and Defra

Figure 10: Minimum Average Winter Temperature, Grid Square 462500



Seasonal average Minimum air temperature anomaly at 1.5m (°C) for December January February in years 1961 up to and including 2099, for grid square 462500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

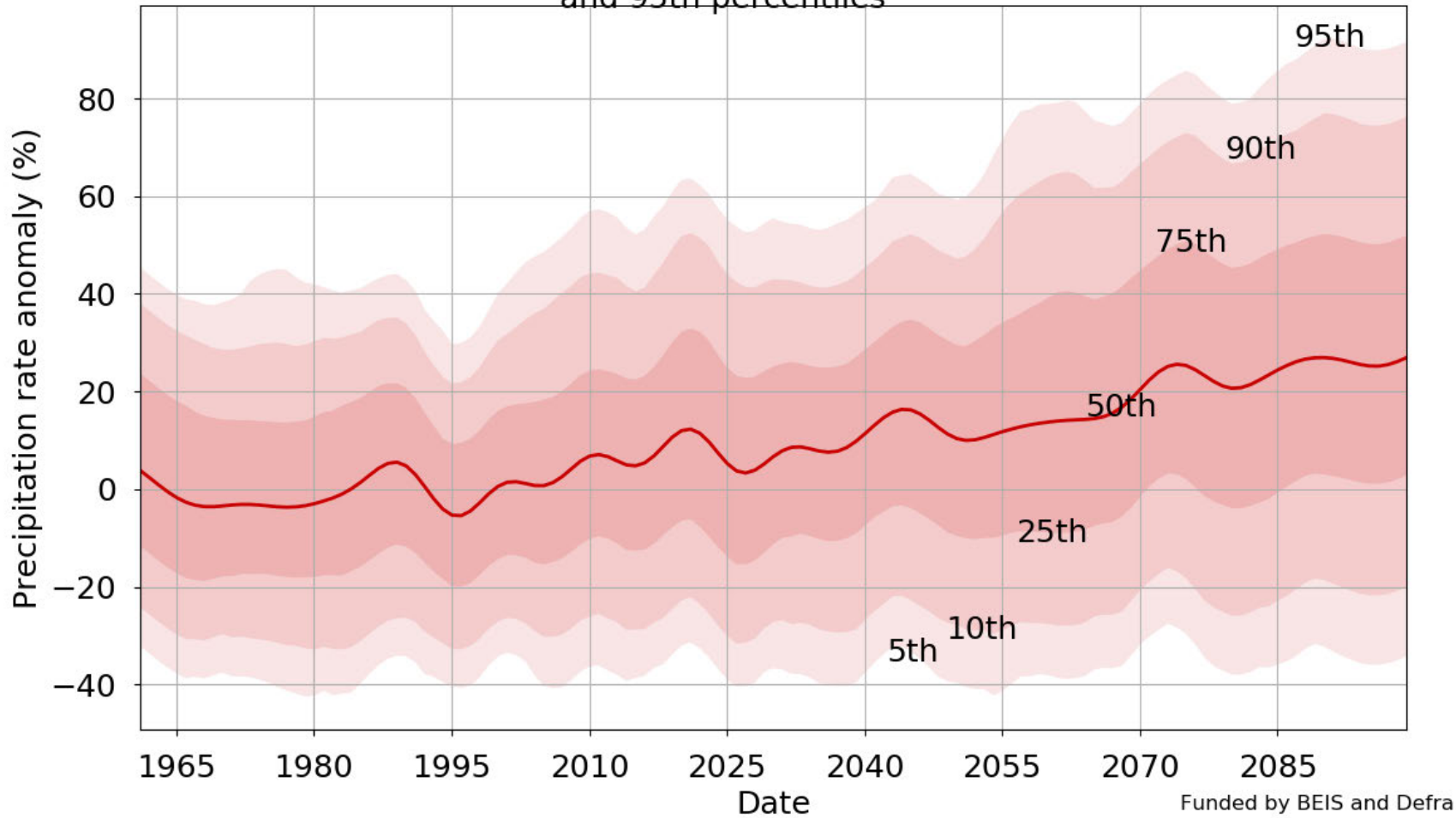


Funded by BEIS and Defra

Figure 11: Average Winter Precipitation, Grid Square 437500



Seasonal average Precipitation rate anomaly (%) for December January February in years 1961 up to and including 2099, for grid square 437500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles

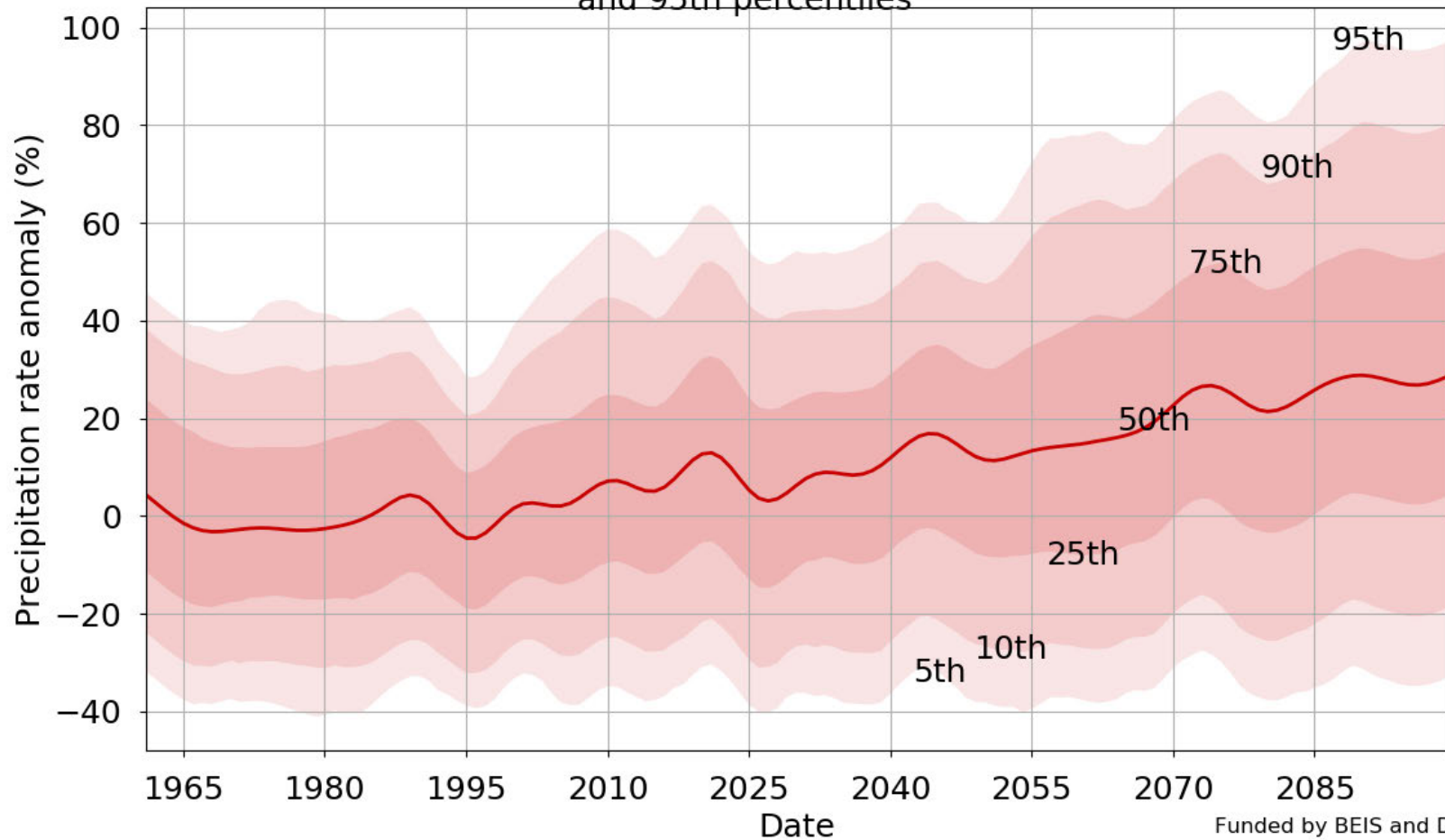


Funded by BEIS and Defra

Figure 12: Average Winter Precipitation, Grid Square 462500



Seasonal average Precipitation rate anomaly (%) for December January February in years 1961 up to and including 2099, for grid square 462500, 137500, using baseline 1981-2000, and scenario RCP 8.5, showing the 5th, 10th, 25th, 50th, 75th, 90th and 95th percentiles



Funded by BEIS and Defra