HIGHWAYS AGENCY

M1 Junction 19 Improvement

Supplementary Note 10

General Environment

Final

REPORT CONTROL SHEET

PROJECT NAME: **M1 Junction 19 Improvement**

REPORT TITLE: **Supplementary Note 10**
General Environment

REPORT REFERENCE: **B0531000/ID/201**

Version	**Detail**	**Prepared By: Date**	**Checked By: Date**	**Reviewed By: Date**	**Approved By: Date**
Draft	Rev 0	Barry Moore 20/07/12	Lucy Walsh 01/08/12	Richard Waddell 07/08/12	Tim Worrall 10/08/12
Final	Rev 1	Richard Waddell 11/10/12	Susan Moore 11/10/12	Barry Moore 12/10/12	Tim Worrall 15/10/12
Final	Rev 2	Richard Waddell 18/10/12	Susan Moore 19/10/12	Barry Moore 19/10/12	Tim Worrall 15/10/12

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APPENDICES

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0. INTRODUCTION TO THE SUPPLEMENTARY NOTE

0.1 The Highways Agency has proposed improvements to Junction 19 of the M1 where the M1, M6 and A14 converge including changes to the Local Road Network (LRN), referred to as 'the scheme'. Draft Orders were published for the scheme, together with an Environmental Statement (ES) in February 2010. The published ES remains the formal report of the Environmental Impact Assessment for the scheme required by The Highways (Environmental Impact Assessment) Regulations 2007[1].

0.2 Supplementary Notes 1-9 provide reviews of the specialist chapters published in Volume 2 of the ES as follows:-

1. Air Quality and Climate Change
2. Cultural Heritage
3. Ecology and Nature Conservation
4. Landscape
5. Materials
6. Noise and Vibration
7. Effects on All Travellers
8. Community and Private Assets
9. Road Drainage and the Water Environment

0.3 Each note identifies any changes since publication in terms of the regulatory framework, policies and plans, methodology and guidance, baseline data and project design. To ensure that the impact of the scheme is fully considered and presented at any future Public Inquiry, they then assess the environmental implications of any such changes for the published ES.

0.4 The purpose of this Supplementary Note 10 is to review, and update where required, those sections of Volume 1 of the ES which are not topic specific, as follows:-

- Section 1. Introduction, which covers the legal basis for the ES, its purpose, scope and structure
- Section 2. The Project, which covers the background to the project, its history and objectives. Section 2 also includes a description of the project and its construction and the anticipated traffic flows
- Section 3. Alternatives Considered
- Section 4. Environmental Impact Assessment Methods, including the study area, scoping and consultations and significance criteria
- Section 5. Statement of Key Issues
- Section 15. Assessment of Cumulative Effects, those arising from within the project and for the scheme in combination with other committed projects
- Section 16. Outline Construction Environmental Management Plan, which considers the framework of environmental management during the construction period, including dealing with non-conformance and corrective and preventative action
- Section 17. Conclusions, which provides a summary table of the overall effects identified by the Environmental Impact Assessment

0.5 Sections 6 -14 in Volume 1 of the ES provide summaries of the individual topic assessments in Volume 2 of the ES. These are not revisited in this Supplementary Note and reference needs to be made to Notes 1 – 9 listed above for topic issues.

0.6 For ease of comparison with the published ES, the same section numbers have been retained for this Supplementary Note.

0.7 This Note on the General Environment is further supported by:-

- Changes to the Non Technical Summary of the ES, at Appendix C
- Supplementary Note 11, Figures which includes updated plans originally published in Appendix 1 to Volume 1

1. INTRODUCTION

1.1 There are no changes to the project and its location in general terms. Detailed amendments to the design and construction of the scheme since the ES was published in 2010 are set out in Section 2 of this Supplementary Note and within the topic specific notes as appropriate.

1.2 The legal basis for the Environmental Statement remains as set out in the published ES which has been produced in accordance with European Council Directives 85/337/EEC[2] as amended by Directive 97/11/EC[3], which is applied into UK law by Section 105A of the Highways Act 1980 (as amended)[4]. Together these are described in this note as the EIA Directive.

1.3 Since publication there have been no changes to the Regulations which implement the EIA Directive in relation to highways in England and Wales[1].

1.4 The draft Orders for the project prepared under the Highways Act[4] and listed in paragraph 1.3.5 of Volume 1 of the ES are unchanged and remain current.

1.5 The scope and structure of the ES remains as set out.

1.6 The specialist team who prepared the ES have all been responsible for preparing the Supplementary Notes for updating the information, with the following exceptions:-

• Materials	Laurie Marshall	Jacobs
• Effects on All Travellers	Barry Moore	Moore Environment
• Policies and Plans	Sophie Elsworth	Jacobs

1.7 The process for making the ES available to the public and for receiving comments was carried out in 2010 as set out at section 1.6 of Volume 1 of the ES. Public Exhibitions were held as follows:-

- Lilbourne – 12th and 13th March 2010
- Swinford – 19th and 20th March 2010

1.8 The official objection period was completed on 21st May 2010.

1.9 The updated environmental information set out in the Supplementary Notes and the Changes to the Non-Technical Summary will be made available to the public when a Notice of Intention to hold a public inquiry is published.

1.10 The process described in Section 1.7 of Volume 1 of the ES for dealing with the comments received remains as it is set out.

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2. THE PROJECT

2.1 Background and Reasons for the Project

2.1.1 The issues raised by the existing junction have not changed since 2010 and continue to cause delays and accidents.

2.1.2 The project objectives remain to:-

- relieve congestion at the junction and improve journey reliability
- improve road safety
- separate local traffic from long distance traffic
- improve conditions for cyclists, pedestrians and horse riders
- provide good value for money

2.2 A Brief History of the Project to Date

2.2.1 Further to the publication of the ES and draft Orders in February 2010:-

- Public exhibitions were held in March 2010
- On the 17th June 2010 the Government Office for the East Midlands announced that the scheme would be suspended for the time being pending the conclusion of the Government's spending review
- Works to replace Catthorpe Viaduct as a maintenance project started on site on 12th July 2010
- In the Autumn Spending Review for 2010 the scheme was identified for construction post 2015, subject to the outcome of statutory processes
- In the November 2011 Autumn Statement, the Chancellor announced that M1 Junction 19 Improvement Scheme will be prepared for start of construction before 2015, subject to the outcome of statutory processes
- Alongside the budget announcement on the 21st March 2012, the Government confirmed that the scheme is planned to commence on site in financial year 2013/14

2.2.2 Following the 2011 Autumn Statement, development work resumed on the scheme in January 2012 including a review of the need to update environmental information in terms of changes to:-

- the regulatory framework
- policies and plans
- methodology and guidance
- updates to baseline information
- the design

2.3 Project Objectives

2.3.1 There is no change to the detailed objectives set out in Section 2.3 of the ES.

2.4 Planning Background, Relevant Policies and Plans Supported by the Project

2.4.1 Table 2.2 in the ES provides an overview of regional and local policy objectives covering economic development, transportation and safety issues.

2.4.2 Since the ES was published, the Localism Act[6] (November 2011) has abolished the regional planning tier and, once formally revoked, Regional Spatial Strategies will no longer form part of the Development plan. Until that time, the Government's intention to abolish Regional Spatial Strategies is a material consideration for decision makers, but until they are revoked they remain part of the Development Plan under Section 36.

2.4.3 Therefore there have been no changes to the Regional Spatial Strategies as set out in Table 2.2 of the ES and they still form part of the Development Plan.

2.4.4 There have been some changes to local policies and these are set out in Table 1 below. As before, a *Neutral* impact demonstrates that the proposals are in broad compliance with the policy. A *Beneficial* impact demonstrates that the project would provide positive support for the policy.

Table 1: Policy Impact Table – Local Policies

Policy	Key Principles	Impact
Local Policies		
Warwickshire Local Transport Plan 3 2011 – 2026 (2011)		
Key Objectives	Warwickshire's transport priorities have been developed within the context of the wider priorities for the County: • To promote greater equality of opportunity for all citizens in order to promote a fairer, more inclusive society • To seek reliable and efficient transport networks which will help promote full employment and a strong, sustainable local and sub-regional economy • To reduce the impact of transport on people and the [built and natural] environment and improve the journey experience of transport users • To improve the safety, security and health of people by reducing the risk of death, injury or illness arising from transport, and by promoting travel modes that are beneficial to health • To encourage integration of transport, both in terms of policy planning and the physical interchange of modes • To reduce transports emissions of carbon dioxide and other greenhouse gases, and address the need to adapt to climate change.	*Beneficial*
Northamptonshire Transportation Plan (NTP) 2012		
Key Objectives	The NTP identifies a number of strategic policies and the key aims are to ensure all new developments are well connected by public transport, walking, cycling and motor	*Beneficial*

Policy	Key Principles	Impact
Local Policies		
	vehicle routes to the existing transport network, reduce congestion and improve access and connectivity, improve road safety and walking, cycling and public transport infrastructure, improve journey time and reduce carbon related emissions.	
Leicestershire Local Transport 3 Plan (LTP3) 2011		
	The LTP3 sets out the following long term strategic transport goals for Leicestershire: • **Goal 1** A transport system that supports a prosperous economy and provides successfully for population growth; • **Goal 2** An efficient, resilient and sustainable transport system that is well managed and maintained; • **Goal 3** A transport system that helps to reduce the carbon footprint of Leicestershire; • **Goal 4** An accessible and integrated transport system that helps promote equality of opportunity for all our residents; • **Goal 5** A transport system that improves the safety, health and security of our residents; and • **Goal 6** A transport system that helps to improve the quality of life for our residents and makes Leicestershire a more attractive place to live, work and visit.	*Beneficial*
Daventry District Council Local Plan 1997		
	No relevant/specific policies	*N/A*
West Northamptonshire Joint Core Strategy Pre Submission (2011)		
C3 Strategic Connections	The priorities to retain and enhance West Northamptonshire's strategic connections for economic advantage are to work in partnership with, and support the relevant transport providers.	*Beneficial*
Harborough District Council Local Plan 2001		
	No relevant saved policies	*N/A*
Harborough District Council Core Strategy (2011)		
Policy CS5: Providing Sustainable Transport	Seeks to maximize the use and efficiency of existing transport facilities and seek to achieve the best overall effect for transport for the District as it looks to a lower carbon future.	*Neutral*
Policy CS12: Delivering Development and Supporting Infrastructure	This policy highlights the need to ensure that all infrastructure requirements are met and new developments take this into account.	*Beneficial*

Policy	Key Principles	Impact
Local Policies		
Rugby Borough Council Local Plan 2006		
	No relevant saved policies	*N/A*
Rugby Borough Council Core Strategy (2011)		
CS11 Transport and New Development	Development will be permitted where sustainable modes of transport are prioritised and measures mitigating against the transport impacts which may arise from that development or cumulatively with other proposals are provided.	*Neutral*

2.5 Environmental Objectives

2.5.1 The environmental objectives set out in the ES have not changed.

2.5.2 To enable review against the impacts and effects summarised in Section 17 of this Supplementary Note they are reproduced in Table 2 Below.

Table 2: Project Specific Environmental Objectives

Topic	Objective
Air Quality and Climate Change	• To improve local air quality in line with National Air Quality Objectives. • To reduce emissions of Carbon Dioxide.
Cultural Heritage	• To minimise adverse impacts on archaeological remains, historic buildings and historic landscapes.
Ecology and Nature Conservation	• To minimise adverse impacts on habitats and species. • To maximise opportunities for the creation of new habitats.
Landscape	• To protect the character of the landscape and to minimise adverse visual impacts and loss of features.
Materials	• To make the most efficient use of materials by reducing, re-using and recycling, setting quantitative targets. • To ensure legislative compliance. • Zero waste to landfill for bulk construction materials. • To prevent the mobilisation of contamination. • To safeguard the quality of soils for re-use.
Traffic Noise and Vibration	• To reduce noise levels.
Effects on all Travellers	• To promote accessibility for pedestrians, cyclists and equestrians, to reduce severance and encourage physical fitness. • To minimise inconvenience for local traffic travelling between the villages or accessing the strategic highway network. • To improve conditions for Long Distance Vehicle Travellers.
Community and Private Assets	• To minimise the adverse impact on farms. • To conserve 'best and most versatile land' and soils wherever possible.
Road Drainage and the Water Environment	• To protect the water environment. • To reduce the risk of pollution and flooding.

2.6 The Junction and its Setting

2.6.1 There are no substantive changes to the setting of the junction. An updated version of Figure C (Revision 2) is included in Supplementary Note 11, Figures.

2.7 Description of the Proposals

Introduction

2.7.1 Since the ES was published in 2010, there have been some revisions to the engineering proposals and contractor's working space. These are relatively minor in extent and in principle the layout for the junction improvement is very similar to that illustrated in the ES.

2.7.2 The earthworks balance has been considered in more detail. The ES confirms an overall balance which avoids the large scale export or import of soils. The more detailed assessment has now identified an overall surplus, much of which as described below, can be accommodated on site. Approximately 50,000 cubic metres of surplus still remains and it is a project objective to reduce this to an overall balance at detailed design stage. However, a precautionary view is taken for the ES and it is assumed at this stage that the 50,000 cubic metres would have to be taken offsite. This issue is addressed in Supplementary Note 5 Materials.

2.7.3 The mitigation measures, shown on Figure B Environmental Master Plan at Supplementary Note 11, also remain the same in principle. The main difference is that some areas of earth shaping within the junction and mounding adjacent to the M1 –A14 eastbound link, intended to screen views from Swinford, have been raised in profile to assist the overall earthworks balance and to minimise the need to take material offsite.

2.7.4 All of this work is proposed within the published draft CPO boundary and has the following benefits in landscape terms :-

- Raising levels between the links helps to integrate the proposals with their landscape setting, giving greater height to the proposed planting and creating a more positive division between the carriageways.
- It makes some improvement to the screening of views from Swinford.

2.7.5 These issues are addressed in Supplementary Note 4 Landscape.

2.7.6 The most noticeable differences to the engineering proposals are the omission of the Shawell Road overbridge replacement and the omission of previously proposed superspan gantries along the A14. The gantries are replaced by cantilever variable message signs (VMS) and advance direction signs at the side of the carriageway. There are also some amendments to the location of gantries and signs compared with the published proposals.

2.7.7 Elsewhere the engineering changes are confined to changes to carriageway and verge widths and to earthwork profiles with relatively minor implications in environmental terms.

2.7.8 The contractor's working space requirements are also similar in principle to those set out in the ES. Construction laydown and storage areas associated with the Shawell Road bridge replacement have been omitted, though it remains the intention to use the existing road bridge as a temporary haul road. The area of the site compound is similar, but its

function has been changed to a satellite compound. The main site office, established during the Catthorpe Viaduct Replacement, would remain at Misterton Depot, adjacent to the northbound carriageway of the M1.

2.7.9 Two further temporary road diversions have been added to assist traffic management during construction, for the M1 and the M6 to M1 Southbound Link. Both diversions take place within the footprint of the existing junction, but would remove some existing vegetation previously shown in the ES to be retained.

2.7.10 All drawings in this Supplementary Note are in accordance with the revised layout.

2.7.11 Revised versions of Figure B Environmental Master Plan, Figure G, Areas Required During Construction, Figure H Cross Sections, showing earthwork profiles and Figure N, Gantry Locations are included in Supplementary Note 11, which updates the plans in Volume 1, Appendix 1 of the ES.

Detailed Description

2.7.12 The engineering design changes are as follows:-

M6 - A14 Link

2.7.13 Verge widths have been reduced by between two and four metres on the south side of the link and the level of the carriageway below the M1 has been raised by 200mm. This has the effect of reducing the width of the cutting and the spans of bridges carrying the M1 and M6 –M1 Southbound Link over this section. This change does not affect land take.

M6 - M1 Southbound Link

2.7.14 The southbound diverge from the M6 has been moved some 250 metres to the east. This has avoided the need to lengthen the M6 over Shawell Lane underbridge described in the ES and places the link slightly closer to the M6. This in turn enables the Local Road Network, running parallel to the link, to be realigned to the south, reducing the agricultural landtake along its northern boundary by 0.49 hectares.

M1 - A14 Links.

2.7.15 Merges and diverges have been reduced in length and width, both on and off the M1 to the north of the junction, and on and off the A14 to the east of the junction.

2.7.16 For the M1 this means that the merges and diverges can now be accommodated to the south of the Shawell Road bridge, avoiding the need to replace the structure. It results in a saving of 1.02 hectares of land previously required for the new bridge embankments, working space widened carriageways and earthworks.

2.7.17 For the A14, the changes to merges and diverges results in a slight narrowing of the carriageway requirements. To the north of the A14, the change enables the earthworks balance to be improved and the proposed landscape measures to be improved slightly, increasing the height of proposed mounding by 0.5 metres and increasing the available width for planting. The change results in a slight reduction in landtake of 0.05 hectares.

2.7.18 In addition, the whole of the M1 - A14 Eastbound Link has been reduced in width from two lanes plus hard shoulder, to one lane plus hard shoulder allowing the adjacent landscape mounding to be raised in profile to assist the earthworks balance. The highway boundary and landtake remain unchanged.

Earthworks balance

2.7.19 As set out above, a more detailed assessment of the earthworks has now identified an overall surplus.

2.7.20 Much of this can be used within the site to create some enhancement to the landscape proposals. In addition to the increase in height of mounding described above, the opportunity has been taken to raise the profile of earth shaping within the junction between the various free flow links. The areas are identified on the revised Figure B Environmental Master Plan and on Figure H Cross sections and include land between:-

- M6 and the M6 - M1 Southbound Link
- M1 and both A14 Interchange Links
- M6 - M1 Southbound Link and A14 - M1 Northbound Link

2.7.21 Taking these measures into account it is anticipated that approximately 50,000 cubic metres of earth would still need to be taken offsite.

2.7.22 The location would be determined at detailed design stage when the final quantities could be calculated. At this stage the most suitable sites in the area with existing consents for waste disposal would be Lafarge Aggregates in Shawell or the RMC site in Dunton Bassett. It is considered that both sites would have the capacity for such quantities. The implications of the surplus material are set out in Supplementary Note 5 Materials.

Structures

2.7.23 As described above there is now no requirement to replace the Shawell Road overbridge, or to lengthen the M6 over Shawell Lane underbridge. In overall terms the junction improvement now includes six new bridges compared with seven in the previous proposals. No bridges require modification compared with two previously. Two bridges require demolition compared with three previously.

2.7.24 There are no substantive changes to the form and appearance of structures. The alignment of wing walls for the bridge carrying the M1 - M6 Northbound Link over Swinford Road has been varied and the proposal is now to clad the walls in precast concrete panels. To the north of the bridge the walls now extend to join the bridge carrying the M6 - A14 Link over Swinford Road.

Signs and gantries

2.7.25 The amended proposals for signs and gantries are illustrated on Figure N Gantry Locations, in Supplementary Note 11.

2.7.26 The changes to the M1– A14 link merges and diverges result in the removal of six proposed ‘superspan’ gantries, five of which are from the A14 east of the junction and one

from the M1 north of the junction. Cantilevered variable message signs (VMS) and verge mounted advanced direction signs would be provided instead.

2.7.27 There are also changes to the locations of new gantries, VMS and advance direction signs (ADS), along the M1 to the north of the junction and along the M6 to the west of the junction however, there are no changes to the location of gantries along the M1, to the south of the junction.

Lighting

2.7.28 There are no changes to the lighting proposals.

Drainage Ponds

2.7.29 There are no changes to the proposed drainage ponds, illustrated on the updated Figure B Environmental Master Plan in Supplementary Note 11.

Proposals for Vulnerable Users

2.7.30 There have been no changes to the proposals for vulnerable users to those set out in the ES and illustrated on Figure B Environmental Master Plan.

Land Required for Construction

Contractor's Working Space.

2.7.31 As illustrated on Figure G Areas Required During Construction in Supplementary Note 11, the following changes have been made to the contractor's working space:-

- Construction lay-down and working areas associated with works to the Shawell Road Bridge would no longer be required, reducing temporary land take by 0.28 hectares
- The existing Shawell Road Bridge would be used as a temporary haul road, controlled by traffic signals, to enable the transfer of soil and bulk materials across the M1. Land is included in the CPO for the haul route to the east of the M1. Land already in the HA's ownership would be used on the west side
- The site compound at Rugby Road would be retained, as a satellite compound to complement the Misterton depot. The entire area is still required to accommodate offices, plant, materials and soil storage
- An area adjacent to the M6 - M1 Southbound Link required for CVR has now fulfilled its purpose and can be omitted
- Some working space within the permanent landtake required for the Shawell Lane under bridge is no longer required, but a small area of temporary land has been retained as a satellite compound for the LRN construction, including plant and materials storage
- There is a new proposal for a temporary diversion of the M1 with two lanes in each direction to enable construction of the new M6 - A14 link below the motorway. This remains largely within the existing M1 carriageway

- A further new temporary diversion is proposed for the M6 - M1 Southbound link to the west of the M1. This would also remove some existing vegetation previously shown to be retained, approximately 1,230 square metres

2.7.32 There are no changes to areas required for flood compensation.

Catthorpe Viaduct Replacement

2.7.33 The Catthorpe Viaduct Replacement (CVR) is described in the ES as a maintenance project to be carried out in advance of the scheme.

2.7.34 Work began on CVR in July 2010 and has now been completed.

2.8 Mitigation and Enhancement Measures

2.8.1 All of the measures described in this section of the ES, to prevent, reduce or offset any significant adverse effects on the environment, are unchanged. They continue to be an integral and committed part of the scheme and are illustrated on the updated Figure B Environmental Master Plan in Supplementary Note 11.

2.8.2 Paragraph 2.8.20 of the ES confirms that the proposals have been designed to minimise the requirements for importing or exporting bulk earthworks materials. It confirms that an overall balance is anticipated for the junction improvement and that the separate maintenance contract for CVR would require the importation of 20,000 cubic metres of material.

2.8.3 As set out in Section 2.7 of this Supplementary Note, the earthworks balance has now been considered in more detail and taking a precautionary view, it is assumed at this stage that approximately 50,000 cubic metres would have to be taken offsite. However, it remains a project objective to reduce this overall balance at detailed design stage.

2.8.4 CVR and the import of materials is now complete, but the project would still require the importation of 24,500 cubic metres of structural backfill materials.

2.8.5 The implications of these changes are dealt with in Supplementary Note 5 Materials. Supplementary Notes 1 Air Quality and Climate Change and 6, Noise and Vibration consider the environmental impacts associated with the movement of these materials.

2.9 Land Required for the Project

2.9.1 Supplementary Note 8 Community and Private Assets confirms that design changes, including the omission of the Shawell Road bridge replacement and amendments to the line of the southbound diverge of the M6 - M1 Southbound Link, have reduced the permanent land take for the project by 1.5 hectares, compared with the scheme published in February 2010.

2.9.2 The temporary land take has reduced by 0.3 hectares due to a reduction in the area of the contactor's working space.

2.9.3 The overall land take for the project would now be approximately 36 hectares compared with 38 hectares previously. Of this 11.8 hectares would be required temporarily, compared with 12.1 hectares previously.

2.9.4 Table 2 confirms the land now required for the project, nearly all of which is currently in agricultural use. The previous figures are shown in brackets.

Table 3: Land Required for the Project

Land Use	Permanent landtake (hectares)	Temporary landtake (hectares)	Total (hectares)
Agricultural Land	22.2 (23.7)	11.8 (12.1)	34.0 (35.8)
Non Agricultural Land	1.6		1.6
Total	23.8 (25.3)	11.8 (12.1)	35.6 (37.4)

2.10 Construction, Operation and Management of the Project

2.10.1 Construction would likely begin early in 2014 and be completed by February 2017. The construction period would remain at approximately three years as set out in the ES.

Traffic Management

2.10.2 The details of the traffic management proposals during construction continue to be developed, but the overview presented in the ES remains valid.

2.10.3 Contra flow arrangements for M1 would not be confined to the northbound carriageway as set out in paragraph 2.10.4 of the ES, but would be used for both carriageways as required during the construction of the new over bridges and the M6 - A14 Link below the M1.

2.10.4 The main objectives of traffic management remain as stated in the ES and would be to:-

- maintain safe routes for all traffic for the duration of the works
- minimise delays and disruption to local and trunk road / motorway traffic whilst allowing the works to be completed
- minimise the disturbance to the local community by minimising the construction traffic on the local road network for the duration of the works
- segregate local traffic from the trunk road / motorway traffic where possible

Closure of Local Road and Public Rights of Way

2.10.5 As set out in paragraph 2.1 of this Supplementary Note, the project objective to separate local and long distance traffic remains in place. Access to the junction from local roads would be closed and replaced by a new local road Network, including a direct road link between Swinford and Catthorpe. As set out in paragraph 2.10.8 of the ES, this access would need to be closed for a temporary period with a diversion via Shawell Village while

the new link is being constructed. This closure would now begin in Autumn 2015, but the period of the temporary diversion would need to be extended from 12 months as stated in the ES to 18 months. The environmental implications of this are dealt with in Supplementary Note 7, Effects on All travellers and Supplementary Note 6, Noise and Vibration.

2.10.6 There are no changes to the proposed closures of Public Rights of Way.

Temporary Road Diversions

2.10.7 Temporary road diversions would continue to be required within the works, for mainline traffic, to allow construction to take place.

2.10.8 Figure G Areas Required During Construction, included in Supplementary Note 11, has been amended to show two additional temporary diversions:-

- for the M1, to enable construction of the new M6 - A14 Link
- for the M6 - M1 Southbound Link

2.10.9 As described at 2.10.12 of the ES, temporary closures would also be required for the strategic routes, M1, M6 and A14, for the demolition and construction of bridges, gantry erection and the completion of tie-ins between new and existing roads. In addition to the requirements set out in the ES, temporary closures would also be required to set up traffic management phases.

2.10.10 Similar closures have already been implemented during the construction of CVR.

2.10.11 Paragraph 2.10.14 of the ES anticipated that 22 closures would be required, of limited duration ranging from 10 to 24 hours. This has now been re-evaluated. The current proposals over the three year construction period are as follows:-

- 32 full motorway closures, ie both carriageways at the same time
- 58 carriageway closures, ie one carriageway only

2.10.12 These closures would be night time only and would last between seven and 12 hours.

2.10.13 The diversion routes are illustrated on Figure M1 for the M1 and M6 and Figure M2 for the A14. The proposals for the A14 are unchanged from those in the ES. The proposals for the M1 and M6 have been modified take account of one combined closure of the M1 Northbound and Southbound and the M6 Southbound to place bridge beams for the viaduct carrying the A14 to M1 Northbound Link. An updated version of Figure M1, Revision 1 is includes in Supplementary Note 11.

2.10.14 The environmental implications of the temporary diversions have been taken into account in Supplementary Note 1 Air Quality and Climate Change and Supplementary Note 6 Noise and Vibration.

Haul Routes and Contractor's Access

2.10.15 As set out in paragraph 2.10.16 of the ES routes for incoming and outgoing materials would be agreed with the highway authority. They would continue to be restricted to major

roads, as construction traffic would be instructed not to use routes through the local villages.

2.10.16 Haul routes are illustrated on the updated version of Figure G Areas Required During Construction. There is one addition, the existing Shawell Road bridge would now be used as a haul route to transfer materials across the M1. The existing side road would remain open with temporary traffic lights to control the traffic.

Drainage

2.10.17 There are no changes to the proposals for drainage ponds. The proposal remains to construct them at an early stage so that they can deal with runoff from the construction site and act as a pollution control.

Contractor's Site Compound, Storage and Laydown Areas

2.10.18 As set out in previous sections:-

- there has been some reduction in the requirements for Contractor's working space
- the site compound at Rugby Road would be retained, but as a satellite compound to complement the main project offices located at Misterton Depot.

2.10.19 Misterton Depot has been used as the offices for CVR and the intention is to expand that existing office to accommodate the extra staffing requirements for the junction improvement.

2.10.20 A compound would still be required adjacent to the works at Rugby Road. The entire area is still required to accommodate offices, plant, materials and soil storage and the reasons for preferring the location set out in paragraph 2.10.27 of the ES continue to apply.

Earthworks, Materials and Waste

2.10.21 As previously described, although it remains an objective to balance the earthworks at detailed design stage, adopting a precautionary principle it is currently anticipated that there would be a surplus of 50,000 cubic metres to be taken off site.

2.10.22 Supplementary Note 5 Materials deals with this issue in detail and the implications for site waste management planning. It includes amended versions of Tables 2.5 Delivery of Main Construction Materials to Site and 2.6 Site Waste Management Plan included in Volume 1 of the ES.

2.10.23 Supplementary Note 5 Materials further confirms that materials would be handled in accordance with the waste management hierarchy set by the Waste (England and Wales) Regulations[6] to ensure that waste is dealt with in the following order of priority:-

- prevention
- preparing for re-use
- recycling
- other recovery, for example energy recovery
- disposal, only as a last resort

Operation and Long Term Management

2.10.24 Responsibility for the aftercare of environmental measures by the contractor for a period of five years and handover to the HA's Managing Agents Contractor remain as set out in the ES.

2.11 Traffic

2.11.1 Since the ES was published, new traffic forecasts have been prepared based upon an opening year for the scheme of 2017 and a design year 15 years later of 2032. The previous forecasts were based upon 2014 and 2029 respectively. The traffic model has been updated based on flows surveyed in June 2011, which are lower than those in surveyed in 2007. Forecast flows will therefore be lower than those derived previously.

2.11.2 As before, the forecast traffic flows are divided into two scenarios, 'Do-minimum' the situation if the project is not built, and 'Do-something' which assumes the project is built.

2.11.3 The total forecast traffic flows from all the main routes approaching the junction (M1, M6 and A14) are shown in Table 4 below. The figures show the industry-standard traffic statistic, which is the daily flow averaged over a year (known as Annual Average Daily Traffic (AADT)).

2.11.4 The traffic forecasts take into account the Government's forecasts for future traffic growth as well as local developments which are part of adopted or emerging plans, or which already have planning permission.

2.11.5 There have been changes to the local development proposals since 2010. These have been taken into consideration and are set out in more detail in Section 15 of this Supplementary Note, which deals with the assessment of cumulative effects.

2.11.6 The model also takes into account other relevant road improvements which could affect traffic flows. Those used for the new forecast include:-

- Improvements to the A5, between A428 Crick Road and A426 Rugby Road, including A5/A426 Gibbet Hill roundabout
- Improvements to A426 Leicester Road / Newbold Road, between M6 Junction 1 and Corporation Street / Evreux Way roundabout
- Northern section of Rugby Relief Road, between Avon Mill, Newbold Road and Parkfield Road
- New link road between Buckler's Leap and Rugby Radio Station Sustainable Urban Extension
- M1 Junction 20 – signalisation of northbound off-slip
- M1 Junction 20 – signalisation of southbound off-slip

2.11.7 For comparison the previously reported figures are included in brackets.

Table 4: Traffic Forecasts – Total Trunk Road Traffic Flows (AADT) into Junction

Scenario	Opening Year	Design Year
Do-minimum	152,003 (172,900)	175,822 (221,800)
Do-something	153,294 (200,900)	179,281 (259,000)
% change between Do-minimum and Do-something	1% (16.2%)	2% (16.8%)

2.11.8 The figures show that without the project in place, the 'Do-minimum', traffic flows would increase from a total of 152,003 vehicles per day in 2017 to 175,822 in 2032, an increase of 23,819 or approximately 16%. Given the retention of the existing junction layout, this would add significantly to the present problems of congestion and safety.

2.11.9 With the project in place, the 'Do-something', there would be higher traffic flows in overall terms, 153,294 in 2017 to 179,281 in 2032, an increase of 25,987 or approximately 17%. Comparing the 'Do-minimum' with the 'Do-something' in 2032, this would represent an increase of 2% in overall terms.

2.11.10 Figures illustrating the traffic flows have been revised in line with the new forecasts and are included in Supplementary Note 11.

2.11.11 Figures K and L show the flows broken down for each part of the network including local roads. Figure L shows the flows in the same years for the Do-something. Figure K shows the flows for 2017 and 2032 in the Do-minimum and Figure L shows the flows in the same years for the Do-something.

2.11.12 In addition Figure J shows the current flows for 2011 to provide a baseline.

2.11.13 As before, increases in traffic would generally be confined to the strategic routes. There would generally be decreases on local roads.

2.11.14 Table 5 illustrates some of the changes on local roads for 2032 and replaces Table 2.8 in the ES. The previous figures are shown in brackets.

Table 5: Traffic Flows on Local Road Network

Reference Point*	Local Road	2032 Do-minimum (2 way AADT)	2032 Do-something (2 way AADT)
1	Catthorpe Road, Shawell	1,302 (4,000)	139 (200)
2	Shawell Road	2,132 (4,800)	146 (300)
4	Rugby Road, Swinford	1,388 (1,900)	2,728 (3,500)
15	Shawell Lane, Catthorpe	98 (200)	180 (200)
14	Swinford Road, Catthorpe	2,343 (3,400)	513 (1,000)

*Reference point locations indicated on Figures K and L

2.11.15 As set out in the table, there would be reductions in flows for all of the local roads highlighted except for Rugby Road, Swinford and Shawell Lane, Catthorpe

2.11.16 The increase at Rugby Road is partly due to its connection to the proposed local link road that connects to the A5, and partly because local traffic re-routes away from M1 Junction 19 without an improvement but then re-routes back onto Rugby Road once the improvement is in place. In more detail, these two impacts are as follows:-

- The model predicts that the local link road would be more attractive to travellers than using Shawell Road. This is borne out by the reduction in the flow along Shawell Road shown in Table 5. Such traffic therefore uses Rugby Road to access the local link road, resulting in an increase in traffic
- Without any improvement at M1 Junction 19, congestion would get worse in the future and local traffic would begin to re-route onto indirect routes to avoid delays. However, once the improvement is in place, local traffic would transfer back onto the direct route along Rugby Road

2.11.17 The small increase on Shawell Lane is due to reductions in traffic through Shawell (due to the changes in routing with the new Link Road), meaning that traffic from Catthorpe and further south travelling north, choose to use this route with the scheme in place.

2.11.18 Flows on local roads continue to be important in environmental terms, because they impact directly on the villages. They have been taken into account in the updated noise and air quality assessments, as noted below.

2.11.19 The new forecasts have been used for the following updated assessments reported in:-

- Supplementary Note 1 Air Quality and Climate Change
- Supplementary Note 6 Noise and Vibration
- Supplementary Note 9 Road Drainage and the Water Environment

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3. ALTERNATIVES CONSIDERED

3.1 The ES sets out alternative layouts for the junction and the local road network, which led to the original preferred route announcement in 2003.

3.2 It also summarises the Comparative Environmental Assessment of options prior to public consultation in 2008, which led to the current preferred route announced in 2009.

3.3 Since the ES was published, apart from the design changes already described, no further alternative options have been assessed.

3.4 Some objections received since the publication of draft Orders have put forward alternative proposals which will be considered at Public Inquiry.

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4. ENVIRONMENTAL IMPACT ASSESSMENT METHODS

4.1 The Environmental Impact Assessment Process

4.1.1 There are no changes to the Environmental Impact Assessment (EIA) process.

4.1.2 The overall methodology used for the assessment remains that set out in the DMRB Volume 11[7], where appropriate complemented by topic specific best practice guidance. The version used was that current on 31st October 2009.

4.1.3 Since that date there have been changes to DMRB guidance, either in the form of new sections for individual topics, or as Interim Advice Notes (IANs) issued by the HA. The effects of these changes are described in detail in the appropriate topic specific Supplementary Notes 1 - 9. They include:-

- HD 45/09 Road Drainage and the Water Environment[8]
- HD 213/11 revision 1 Noise and Vibration[9]
- IAN 153/11 Guidance on the Environmental Impact Assessment of Materials[10]
- IAN 135/10 Landscape and Visual Effects Assessment[11]
- IAN 130/10 Ecology and nature Conservation: Criteria for Impact Assessment[12]

4.2 The Study Area

4.2.1 The study area continues to be illustrated by Figure C Environmental Resources Plan in Supplementary Note 11.

4.2.2 As set out in Supplementary Note 3 Ecology and Nature Conservation the ecological study area for surveys, carried out in 2012 has been amended and is defined by the revised Figure F Ecological Study Areas.

4.3 Scoping and Consultations

4.3.1 Natural England have been consulted on the scope of ecological surveys carried out in 2012. The scoping document and their responses are included in Supplementary Note 3.

4.3.2 To further the consultation process, copies of the completed Supplementary Notes will be forwarded to the Statutory Environmental Bodies and Local Authorities.

4.3.3 Affected parties will be informed about the availability of updated environmental information as set out in Section 1 of this Supplementary Note.

4.4 Surveys

4.4.1 A further round of surveys has been carried out in 2012 to update the environmental information. The results of the surveys are set out in the relevant Supplementary Notes.

4.4.2 Ecological surveys carried out in 2012 and reported in Supplementary Note 3 are:-

- great crested newts and other amphibians

- bats
- otter
- badger
- water vole
- Phase 1 Habitat

4.4.3 Further otter and bat surveys will be carried out after the publication of this Supplementary Note.

4.4.4 An updated landscape survey has been carried out to identify any changes since 2010 and a new round of farm interviews has been carried out.

4.4.5 Air quality monitoring is being carried out at 12 sites across the study area between March and December 2012. Data obtained after the publication of the Supplementary Notes will be available for the Public Inquiry.

4.5 Indications of Any Difficulties Encountered

4.5.1 Any detailed issues are raised in the topic specific Supplementary Notes, but they remain similar to those reported in the ES.

4.5.2 In general terms however, it is considered that sufficient information has been obtained to update and validate the ES. Reference to the new surveys is made above and it is considered that the changes identified since 2010 have been assessed to an equivalent level of detail and depth to that carried out for the original EIA.

4.6 Significance Criteria

4.6.1 The ES reports that, to ensure a consistent approach to defining significance within the assessment, criteria set by DMRB Volume 11 Section 2 HA 205/08[13] will be used wherever possible. This guidance has not been revised and continues to apply to the topic specific Supplementary Notes.

4.6.2 Supplementary Note 6, Noise and Vibration notes that the new DMRB standard for noise, HD 213/11[9] does not provide a method for classifying the significance of noise changes. However as HA 205/08[13] was previously used for the ES, the same criteria have been applied to the updated noise assessment for comparative purposes.

4.7 Mitigation and Enhancement

4.7.1 Measures for mitigation and enhancement continue to be taken into account in the updated assessment but, where appropriate, impacts without mitigation have also been reported.

4.8 Cumulative Effects

4.8.1 Changes to cumulative effects are described in Section 15 of this Supplementary Note.

4.8.2 The published ES does take into account the CVR project. As the viaduct becomes an integral part of the junction the impacts and effects assessed for the Do-something also include it. At the same time, reference is made to any specific impacts relating only to CVR.

4.8.3 The Supplementary Notes have adopted the same approach. Overall impacts and effects described include the viaduct. However, specific impacts that have now taken place on completion of CVR have been identified.

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5. STATEMENT OF KEY ISSUES

5.1.1 The key issues described in Section 5 of the ES and detailed in Table 5.1 were identified at the scoping stage of the assessment in 2009 and discussed and agreed with consultees at that time.

5.1.2 The key issues have not changed. Any further scoping has been limited to identifying potential changes to the existing environmental information or the form of new surveys.

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15. ASSESSMENT OF CUMULATIVE EFFECTS

15.1 Introduction

15.1.1 The ES describes two types of potential cumulative impacts for the project:-

- Cumulative effects arising from within the project itself where impacts of different types arising under different topics can combine to potentially increase effects on a single receptor or environmental resource. For example, people in their homes may be affected by adverse effects in terms of noise, air quality and visual impact combined.
- Cumulative effects from other reasonably foreseeable projects in combination with the project being assessed. Such projects may include other nearby highway projects or development projects. These could include multiple impacts of the same type acting on a single receptor or environmental resource.

15.1.2 Volume 11 of the DMRB[7] interprets 'reasonably foreseeable' to include other projects that are committed. These should include, but not necessarily be limited to:-

- Trunk road and motorway projects which have been confirmed, that is they have gone through the statutory processes
- Development projects with valid planning permissions as granted by the Local Planning Authority, and for which formal EIA is a requirement, or for which non-statutory environmental impact assessment has been undertaken.

15.1.3 The approach to determining whether cumulative effects are likely to be significant is set out in Section 4.8 of the ES with Table 4.6 setting out the appropriate criteria to define significance. The same approach has been used for this updated assessment.

15.2 Potential Cumulative Effects Arising from Within the Project

15.2.1 The typical interactions described in the ES remain valid. An additional point raised by changes to earthworks quantities described in Supplementary Note 5 Materials, is that the additional lorry movements required impact upon noise and air quality issues.

15.2.2 In particular it is noted that noise and air quality changes can combine for dwellings closest to the scheme and Table 15.2 in the ES considers some of the properties most exposed to impacts.

15.2.3 Table 6 below updates this assessment taking into account the findings in Supplementary Note 1 Air Quality and Climate Change, Supplementary Note 4 Landscape and Supplementary Note 6 Noise and Vibration. For air quality, changes in levels for nitrogen dioxide (NO_2) and small particulates (PM_{10}) are noted.

HIGHWAYS AGENCY

Table 6: Updated Noise, Air Quality and Visual Impact Interactions for Properties

Location	Traffic Noise	Construction Noise	Air Quality	Visual Impact	Comment
Tomley Hall Farm	No change	Minor adverse	NO_2 1.1 µg/m^3 reduction *Not Significant* PM_{10} No change	Substantial	The noise levels for the DS and DM 2032 scenarios would be 62 dB, a 3 dB reduction compared with the DM in 2017. Assessment of construction noise unchanged from ES. There would be a reduction in NO_2 levels. Visual impact as reported in the ES.
Stonebank	Minor increase	Moderate adverse	NO_2 3.8 µg/m^3 reduction *Not Significant* PM_{10} No change	Substantial	Noise levels reflect minor increases between DM and DS 2032 scenarios, with variations between 3 residents. Minor to moderate decreases when DS is compared to 2017 DM. Assessment of construction noise unchanged from ES. There would be a reduction in NO_2 levels. As reported in the ES, there would be a substantial visual impact due to proximity and loss of vegetation.
Westfield Lodge	Moderate increase	Minor adverse	NO_2 1.8 µg/m^3 reduction *Not Significant* PM_{10} No change	Substantial	As reported in the ES, moderate increase is from 67 - 70 dB. Assessment of construction noise unchanged from ES. Changes in air quality would include a reduction in NO_2 levels although impacts would be *Not Significant*. As reported in the ES, there would be a substantial visual impact due to proximity of 8.5m high embankment (increased due to balancing of earthworks) and bridge over Rugby Road.
Lambcote Hill Farm	Minor reduction	Minor adverse	NO_2 2.9 µg/m^3 reduction *Not Significant* PM_{10} No change	Moderate	Minor reduction in noise levels from 64 - 62 dB (as apposed to 65 - 62 dB as reported in ES) due to traffic reductions on Shawell Road. Assessment of construction noise unchanged from ES. There would be a reduction in NO_2 levels. As reported in the ES, there would be a moderate visual impact initially due to clear views of the junction and temporary views of the site compound.
Old Barn Farm	No change	Minor adverse	NO_2 1.2 µg/m^3 reduction *Not Significant* PM_{10} 0.1µg/m^3 reduction *Not Significant*	Moderate	The noise levels for the DS and DM 2032 scenarios would be 67 dB, with a minor reduction compared with the DM in 2017. Assessment of construction noise unchanged from ES. There would be a reduction in NO_2 levels. As reported in the ES, there would be a moderate visual impact due to loss of vegetation.

Location	Traffic Noise	Construction Noise	Air Quality	Visual Impact	Comment
35 Yelvertoft Road Lilbourne	No change	None	NO_2 0.5 µg/m^3 reduction *Not Significant* PM_{10} No change	None	This property is close to the M1 and, as reported in the ES, is still assessed to have noise levels over 70 dB for both the DM and DS 2032 scenarios. A reduction of 3 dB compared to DM 2017 due to introduction of low noise surfacing. No visual impact. NO_2 levels are also high but just below the threshold, but there would be a reduction in the level.
	Comparing 2032 DM/DS		Comparing 2017 DM/DS	Comparing 2017 DM/DS	

Note: Nitrogen dioxide (NO_2) results are based on the worst case scenario, derived from Table 11 in Supplementary Note 1: Air Quality & Climate Change.

Changes in air quality are reported in microgrammes / cubic metre of air µg/m^3.

15.2.4 The data entered is to present the worse case scenario of each of the issues covered:-

- traffic levels would be higher in 2032 for the noise assessment
- air quality pollution levels for NO_2 are likely to be higher in 2017 than 2032. The data is taken from Table 11 in Supplementary Note 1
- visual impact is greater in 2017, before proposed planting has time to take effect

15.2.5 The table demonstrates that those properties close to the motorway already have relatively high noise levels but that any further increases due to the project would be generally *Minor*. Nitrogen dioxide levels would reduce at all the properties identified, but the impact would be *Not Significant*. Given their proximity to the junction initial visual impact would be *Substantial* to *Moderate* but as planting became effective these impacts would reduce.

15.2.6 It is considered that the effects are locally significant and, in terms of the criteria set out in Table 4.6 of the ES, would represent a *Minor Adverse* cumulative effect overall.

15.2.7 The next four sections consider cumulative effects arising from other projects.

15.3 Catthorpe Viaduct Replacement

15.3.1 This project has now been completed but, as previously confirmed, its impacts and effects have been included in the overall assessment of the scheme in any event.

15.4 Development Policies

Background

15.4.1 The ES sets out the background of relevant policies and plans at regional and local level and concludes that in general the scheme would be supportive of policies promoting accessibility, regeneration priorities and better linkages to support sustainable growth of the region's economy.

15.4.2 As set out at Section 2.4 of this Supplementary Note regional policies are unchanged. The review of recent local policies set out in Table 1 of Section 2.4 confirms that the scheme continues to support policy.

15.4.3 It remains likely that improvement of the junction would contribute to further development but, as set out in the ES, such development is planned, sustainable and subject to its own environmental safeguards. Planned development has been taken into account in the traffic forecasts, as described in more detail below.

Impact of Development on Traffic Forecasts

15.4.4 The ES sets out the potential impact of planned developments upon the project as this influences traffic flows and hence the design and scale of the proposals and environmental impacts.

15.4.5 Residential and employment proposals have been taken into account in the traffic forecasts through the use of National Trip End Model (NTEM)[17] forecasts. Key

developments contained within adopted or emerging Core Strategies, developed as part of local authority Local Development Frameworks, have been considered in detail and explicitly modelled where appropriate.

15.4.6 The traffic forecasts take into account all allocations for residential and employment sites up to 2032, the design year.

15.4.7 These allocations are contained in an Uncertainty Log, which is a review of land use, transport and other plans as appropriate (for example Regional Spatial Strategy, Regional Transport Strategy, Regional Development Strategy, Local Development Plan, Local Transport Plan etc). A summary of the Uncertainty Log is contained in Appendix B.

15.4.8 Area-wide development proposals included within the updated traffic model are set out in Table 7 below. As they are reflected in the traffic flows, such developments have therefore been taken into account in the updated assessment, particularly in terms of noise and air quality.

15.4.9 Future development proposals are reduced in scale compared to those previously derived, and are also further into the future, due to the current economic situation.

Table 7: Updated Summary of Proposed Area-Wide Developments

	West Northamptonshire JPU (Daventry DC, Northampton BC, South Northamptonshire Council)	**North Northamptonshire JPU (Corby BC, Kettering BC, Wellingborough BC, East Northamptonshire Council)**	**Rugby BC**	**Harborough DC**
Core Strategy period and status	2001-2026 Adoption programmed for Summer 2013	2011-2031 Adopted June 2008 but in process of being updated (information shown is from update)	2006-2026 Adopted June 2011	2011-2028 Adopted November 2011
Housing	50,150 dwellings, of which 33,800 yet to be built, of which 22,500 proposed for Northampton Related Development Area	40,000 dwellings, of which:- Corby BC = 14,200 Rural East Northamptonshire = 1,800 Urban East Northamptonshire = 6,100 Kettering BC = 10,700 Wellingborough BC = 7,660	10,800 dwellings, of which:- Gateway Rugby = 1,300 Rugby Radio Station = 6,200	7,700 dwellings, of which:- Market Harborough = 3,300
Employment	37,000 jobs, of which remaining provision is 19,000, of which 9,000 jobs are proposed at DIRFT3	28,500 jobs	6,200 jobs (N.B. DIRFT3 is adjacent to Rugby but lies in Daventry BC)	4,200 jobs, primarily “town centre”-type jobs

15.4.10 The new traffic model has also taken into account other committed transport projects which could interact with the project and influence flows and environmental impacts. These are:-

- Improvements to the A5, between A428 Crick Road and A426 Rugby Road, including A5/A426 Gibbet Hill roundabout
- Improvements to A426 Leicester Road / Newbold Road, between M6 Junction 1 and Corporation Street / Evreux Way roundabout
- Northern section of Rugby Relief Road, between Avon Mill, Newbold Road and Parkfield Road
- New link road between Buckler's Leap and Rugby Radio Station Sustainable Urban Extension
- M1 Junction 20 – signalisation of northbound off-slip
- M1 Junction 20 – signalisation of southbound off-slip

15.4.11 Highway schemes outside the model study area have not been included in the forecasts.

15.5 Roadside Service Area (RSA)

15.5.1 This section of the ES sets out the potential effects of the junction improvement and RSA in combination. These include adverse effects on environmental assets such as landscape, ecology and cultural heritage and benefits for travellers.

15.5.2 There is no change to this assessment.

15.6 Proposed Wind Farms

Planning Applications

15.6.1 The ES reports three planning applications for wind farms in the area surrounding the junction at:-

- Yelvertoft
- Lilbourne
- Swinford

15.6.2 The locations are shown on Figure 0 Cumulative Developments included in Supplementary Note 11.

15.6.3 At publication of the ES only one of the sites, Swinford, had received planning consent.

15.6.4 Since publication, the site at Yelvertoft received planning consent in July 2010. The Lilbourne site went to appeal in May 2012 and received consent for a modified layout in July 2012.

15.6.5 The ES considers environmental receptors that would be affected by both Swinford Wind Farm and the Junction Improvement, with effects identified from a review of the Swinford Wind farm Environmental Statement published by Nuon UK Limited.

15.6.6 The result was set out in Table 15.4 of the ES. This table has now been updated to include the Yelvertoft Wind farm, using information from the ES published by AES Wind

Generation Limited (formerly Your Energy Limited) and Lilbourne Wind Farm, using information from the ES published by Hemex LLP (and subsequent supporting documentation used for the appeal).

15.6.7 As before the cumulative effect for each receptor has been assessed using the criteria set out in Table 4.6 of the ES.

15.6.8 Here it should be noted, as set out in Section 4.8 of the ES, that the cumulative effect reported is not the sum of the effects for each project. A potential cumulative effect arises when the effect of the whole may be considered to be greater than the sum of the two parts, where the two considered in combination may result in an effect of greater significance. The cumulative assessment defines this additional effect.

15.6.9 As set out in the criteria, in Table 4.6 of the ES, where the additional effect is *Major* or *Severe*, taking into account the capacity of the environment to accommodate both projects, it could influence the decision making process for the project. If *Moderate*, further work may be required in the future to reduce the cumulative effect, as the project progresses. A *Minor* effect is still considered to be of significance for the local area, it does not imply that the effects for each project considered separately are *Minor*.

Table 8 : Cumulative Effects with Swinford Wind Farm and Yelvertoft Wind Farm

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
Air Quality and Local Climate Change									
Rose Cottage on A426 Rugby Road	Construction traffic will pass by this receptor (via M1 J20, A426 then Swinford Road to wind farm site) so potential dust and increase in PM_{10} concentrations although likely to be low given forecast traffic flows	Not assessed – Assumed *Neutral* with CEMP in place	Decrease in NO_2 concentrations – 32.3µg/m^3 NO_2 annual mean in Do-Something 2017 (-0.4µg/m^3 compared with Do-Minimum 2017) due to lower traffic flows. No change in PM10 concentrations (17.3µg/m^3 in both Do-Minimum and Do-Something 2017) *Note: NO_2 results are based on the worst case scenario, derived from Table 20 in Supplementary Note 1: Air Quality & Climate Change.*	*Not Significant*	Construction traffic will be led to the site via M1 Junction 18, therefore there will be no impact on receptors associated with the proposed M1 Junction 19 Improvements.	*None*	Impact of construction traffic is considered to be negligible, with limited impact on receptors associated with M1 Junction 19 Improvements.	*None*	*Not significant*
Cultural Heritage									
Archaeological Remains:									
SM 13658: Lilbourne motte & bailey castle & fishpond	Will form part of the backdrop in views towards the River Avon. Separated by natural and anthropological features and screened by vegetation: *Low*	*Minor*	There would be no direct physical impact on the SM at Lilbourne. The only impact on setting is likely to be temporary from work during construction: *Negligible*	*Neutral*	The turbines will be visible beyond the motorway and trees to the south-east, but given that the site is effectively severed from the landscape to the east, it is considered that this degree of visibility will have no effect on its setting.	*Not significant*	The historic setting of the site, which is focussed on the River Avon crossing, will not be compromised by the presence of the wind farm. The turbines will join the M1 motorway and a row of pylons which constitute the modern environment. *Intermediate-Minor*	*Intermediate-Minor*	*Not significant*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
SM13657: Motte & bailey castle south of Lilbourne Gorse	Views of turbines likely to be prevented by Lilbourne Gorse: *Negligible*	*Not significant*	No impact from M1 J19 works: *No change*	*Neutral*	The turbines will be seen as a single group, 2.7km away, forming a north/south line to the south-east of the site, beyond Lilbourne and the M1.	*Minor adverse*	The wind farm will be visible from the scheduled monument but as the castle was clearly designed to provide a 360° field of vision, the wind farm will not dominate this view. *Intermediate-Minor*	*Intermediate-Minor*	*Not significant*
SM17047: Motte & bailey castle south of Shawell	Not defined in ES	*Neutral*	No impact from M1 J19 works: *No change*	*Neutral*	Although the turbines will be visible from the site, at a distance of 5.2km, it is not considered that they will affect the setting.	*Not significant*	Not defined in ES	*Neutral*	*Not significant*
Historic Buildings:									
Catthorpe Conservation Area & Listed Buildings	There will be views of turbines but over some distance with the motorway between: *Low*	*Minor - Not significant*	Visual impacts on Catthorpe Conservation Area would be minor and views from the extension covering Catthorpe Manor would remain screened by retained vegetation. Reduction in traffic levels through the village resulting from the LRN would result in noise decreases for the Conservation Area: *Moderate Beneficial*	*Moderate beneficial*	Where seen, views of turbines will be distant and filtered by intervening vegetation.	*Not significant*	Though visible in some views the predicted impact of the turbines is considered to be slight.	*Intermediate-Minor*	*Not significant*
Swinford Conservation Area & Listed Buildings	Built development in village & mature trees will prevent most views of turbines. Some turbine views from rear of buildings on edge of village:	*Minor - Not significant*	Mostly unaffected by visual impact. The setting around the edge of the conservation area would be affected by views of the proposed	*Slight adverse*	The well defined vegetation structure and intervening built form will limit the extent of direct views of the wind farm, which will be	*Not significant*	At a distance of 1.4km the turbines will appear in views to the south part of wider landscape views. The magnitude of impact is assessed	*Intermediate-Minor*	*Minor adverse*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
	Low - Negligible		A14 embankment and lighting. The northern part of the village would have noise decreases but parts of Rugby Road would experience noise increases: *Minor Adverse*		restricted to the southern edge of the village.		as slight. The views will change but will not be harmed to any great degree.		
Swinford Lodge (Grade II)	Turbines visible from the margins towards Swinford although over 1km away: *Low*	*Minor - Not significant*	There would be some minor visual impacts for Swinford Lodge but no noise impacts: *Minor Adverse*	*Slight adverse*	All eight turbines will be visible, at a distance of approximately 4.2km, forming a main point of focus in the view.	*Moderate adverse*	Not defined in ES, but all five turbines would be visible, at a distance of 2.4km to 4km, forming a main point of focus in the view	*Moderate adverse*	*Minor adverse*
Shawell Conservation Area & Listed Buildings	Views mostly screened by vegetation & topography. There will be some views of turbines but over some distance and there is considerable screening from vegetation: *Low*	*Minor - Not significant*	The village is screened by rising topography and vegetation and there would be no visual impact on its setting. Parts of the Conservation Area would benefit from noise decreases: *No Change*	*Neutral*	Views from the village toward the wind farm are screened largely by the shallow valley location and the elevated mature vegetation on Catthorpe Hill.	*Not significant*	The conservation area falls within the Zone of Theoretical Visibility and the turbines may be visible in some views from the village however, at a distance of 3.4km they will appear on the horizon.	*Negligible*	*Not significant*
Historic Landscapes:									
General Historic Landscapes	Although the turbines would introduce a new element there would be little effect on the boundaries and patterns of the landscape. They will not obscure views or prevent the understanding of the development: *Negligible*	*Not significant*	The impact would be limited by the fact that the landscape already surrounds a large road junction. There may be some temporary impacts from construction and from lighting and signage of the junction and gantry sites, but as the area closest to the scheme is already part of a	*Neutral*	***Swinford & Catthorpe HLCA:*** The field pattern in this enclosure landscape is intimate with small relatively well defined boundaries, filtering and enclosing views of the wind farm. ***Avon River Valley HLCA:*** Conversely, this landscape is	*Not significant* *Major adverse*	The construction of the wind farm will not change the historic enclosure pattern and, therefore, will have a neutral impact on the historic character of the landscape.	*Neutral*	*Not significant* *Minor adverse*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
			20th century landscape, there would be little change: *No Change*		more open, with long north / south boundaries, allowing more significant views of the wind farm. However, this would be viewed in the context of the existing Rugby Radio Station masts.				
Stanford Hall Park & Gardens (Grade II) & Listed Buildings (Grade I, II* & II)	Views from inner park & vicinity of Stanford Hall will be heavily screened by trees & the Rookery & New Gravel Hill Spinney. No designated sight lines or vistas will be affected: *Low*	*Minor*	There may be a minor impact Stanford Park and Gardens due to additional street lighting to the south of Swinford: *Negligible*	*Slight adverse*	Located approximately 4km to the north of the wind farm, belts of mature woodland filter and constrain views apart from those to the north and north-west, where there are more direct, open views.	*Moderate adverse*	The impact on the setting of Stanford relates almost entirely to views from the Hall as it is effectively screened by trees within the parkland from any long distance views. There will be views of the turbines within one vista, from Hovell Hill however, the turbines will not impact significantly on the view.	*Intermediate-Minor*	*Minor adverse*
Ecology and Nature Conservation									
Swinford Lodge Brook	Potential reduction in surface water quality and disturbance of vegetation	*Not significant*	Loss of habitat potential pollution and sedimentation from construction run-off	*Slight beneficial*	The wind farm ES suggests it is unlikely to have a negative impact on any of the surrounding watercourses.	*None*	Limited impact from surface water run-off, no impacts defined in ES for specific water courses including Swinford Lodge Brook.	*None*	*Not significant*
Bats	Potential collision of bats with turbines and loss of hedgerow	*Not significant*	Loss/disturbance to roosts, loss of connectivity and foraging grounds, risk of harm to individuals.	*Slight beneficial*	Potential collision with turbines and minimal loss of hedgerows.	*Not significant*	Low numbers of bats noted, no loss of habitat proposed with foraging and commute features some distance from turbines. Low risk of collision.	*Not significant*	*Not significant*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
Breeding Birds (Buzzard)	Potential disturbance to nesting birds resulting in decreased productivity	*Not significant*	Loss and disturbance of breeding territories	*Slight beneficial*	Potential small scale displacement from immediate area of turbines however, overall number of birds using the site is currently low.	*Minor adverse*	Surveys demonstrate low value of site for bird species likely to be affected by wind farm developments and collision is not considered to be a significant risk.	*Negligible*	*Not significant*
Landscape									
Visual Sensitivity									
Shawell	Turbines form a semi-regular array of medium scale elements in any open eastern views available to residents at the northern and eastern sides of the village.	*Moderate adverse*	Views from the village towards the existing motorway network are screened by the shallow valley location (with land rising to a series of local ridges in the east) combined with mature hedgerows or trees.	*Neutral*	Views from the village toward the wind farm are screened largely by the shallow valley location and the elevated mature vegetation on Catthorpe Hill.	*Not significant*	The village falls within the Zone of Theoretical Visibility and the turbines may be visible in some views however, at a distance of 3.4km they will appear on the horizon.	*Negligible*	*Not significant*
Catthorpe	Views of the turbines restricted to most residents by Catthorpe Interchange, M1, M6 and intervening vegetation.	*Moderate adverse*	Mitigation planting would more effectively filter views towards traffic than is achieved by existing planting. Tops of gantries would remain visible.	*Neutral*	Where seen, the wind farm will often be as a filtered view through the existing well defined structure of mature hedgerow trees. In more open views, the scale and spacing of the turbines will be seen to tie in with the regular rhythm of the field boundaries.	*Moderate adverse*	Though visible in some views the predicted impact of the turbines is considered to be slight.	*Neutral*	*Not significant*
Swinford	***North and east sides*** - Views of the turbines from the north side of the village will be seen above 60 degrees of the northern horizon with closer turbines	*Moderate / Substantial adverse*	No views of M1 Junction 19 from the north of the village.	*None*	Limited views of the wind farm from the north of the village.	*Not significant*	Limited views of the wind farm from the north and east sides of the village.	*Not significant*	*Not significant*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
	appearing well above any intervening tree however, tree cover will provide substantial screening to more distant turbines. ***South and west sides*** – The majority of the village's residents would share this view with far fewer views of the turbines from these sides of the village. Some upper floor views to the north may provide partial views of the turbine array.	*Moderate adverse*	False cuttings and mitigation planting would reduce impact of traffic and junction improvements. Lighting and top of A14 gantry signage would remain visible.	*Neutral / Slight adverse*	The well defined vegetation structure and intervening built form will limit the extent of direct views of the wind farm, which will be restricted to the southern edge of the village.	*Moderate adverse*	At a distance of 1.4km the turbines will appear in views to the south part of wider landscape views. The magnitude of impact is assessed as slight. The views will change but will not be harmed to any great degree.	*Intermediate-Minor*	*Minor adverse*
Lilbourne	ES does not consider there would be any views from Lilbourne.	*None*	Views of the junction improvements would be constrained to new and re-located gantries and variable message signs along the M1 to the south of the junction, most of which would be largely screened by existing vegetation.	*Neutral / Slight adverse*	Given the intervening built form and vegetation, views will be restricted to the south and south-east edges of the village.	*Moderate*	Direct views of the turbines from properties on the east side of the village. Some tree lined screening to the east limits some views.	*Major adverse*	*Minor adverse*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
Individual Properties and Public Rights of Way	As the Swinford Wind Farm lies to the north of M1 Junction 19, these two developments would only be seen within a single view from visual receptors lying to the south of the junction. With the Lilbourne and Yelvertoft Wind Farms both located to the south of M1 Junction 19, these two wind farms would be included in views of the junction from receptors to the north of M1 Junction 19. Cumulative visual effects on individual receptors are summarised below.								
	Views with a slight to moderate adverse visual impact due to M1 Junction 19 Improvement works are generally in a south-east / south-west direction and are unaffected by the Swinford wind farm. Joint visual receptors with slight to large adverse views of the Swinford wind farm development are in a north-east direction and are only affected by the view of the M1 Junction 19 works to a neutral or slight degree. The cumulative effect for these receptors is therefore considered to be *Not Significant* to *Minor* as detailed below. ***Not Significant:*** Tomley Hall Farm, Stonebank, Lambcote Hill Farm, Swinford Lodge, Westfield Lodge, Old Barn Farm, Lutterworth Road Lodge, Bungalow adjacent to Denyer's Barn access, Hill Farm, Spinney Farm, X6 footpath, X14 bridleway, X20 footpath, X21a/b/c footpaths, X17 footpath, X6 footpath, X14 bridleway. ***Minor Adverse:*** Brookside, X7 footpath, X8 footpath, X9 footpath, X10 footpath, X11 footpath, X13 bridleway.								
			Visual receptors with views of M1 Junction 19 and Lilbourne or Yelvertoft Wind Farm will generally have views of both wind farms. The greatest cumulative visual impact would be to receptors in the vicinity of Swinford village however, given the distance of these visual receptors from the wind farms, it is considered that the cumulative effect would be *Not Significant* to *Minor Adverse*. Visual receptors in the vicinity of Lilbourne village, particularly those to the east of the M1 with views of M1 Junction 19, would also have a cumulative effect of *Not Significant* to *Minor Adverse*. Cumulative effects are detailed below:- ***Not Significant:*** Stonebank, Westfield Lodge, Brookside, Lilbourne Lodge, Clarkes Farm, New Clarkes Farm, X13 bridleway, X14 bridleway, X21a footpath, X51 footpath ***Minor Adverse:*** Lambcote Hill Farm, Swinford Lodge, The Elms, Morningside, Lilbourne Fields Farm, X6 footpath, X7 footpath, X8 footpath, X9 footpath, X10 footpath, X11 footpath, footpath (iii), EX3 footpath, EX7 bridleway, FC3 bridleway					
Landscape Character Sensitivity									
Landcover	Introduction of large scale structures whose scale is not comparable to other existing landscape elements.	*Considerable adverse*	Establishment of proposed planting and habitat creation would balance loss of land and vegetation during construction.	*Moderate beneficial*	Introduction of large scale structures whose scale is not comparable to other existing landscape elements.	*Considerable adverse*	Introduction of large scale structures whose scale is not comparable to other existing landscape elements.	*Considerable adverse*	*Minor adverse*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
Pattern	Turbine scale and movement will introduce a new landscape pattern, superimposed upon the existing patterns at ground level.	*Moderate adverse*	After 15 years, new planting would not have maturity of vegetation removed at construction stage and large elements within the junction would remain visible.	*Slight adverse*	Turbine scale and movement will introduce a new landscape pattern, superimposed upon the existing patterns at ground level.	*Moderate adverse*	Turbine scale and movement will introduce a new landscape pattern, superimposed upon the existing patterns at ground level.	*Moderate adverse*	*Minor adverse*
Character	Prominence of turbines in southern parts of Lower Lutterworth and Laughton Hills LCAs with smaller scale changes to the setting of parts of the Vale of Rugby and High Cross Plateau – Open Plateau LCAs.	*Moderate adverse*	It is not considered that the effect of the works, in combination with the retention of substantial areas of vegetation and establishment of mitigation planting, would significantly alter the scale of the relationship of the junction and the surrounding LCAs.	*Neutral*	Prominent visibility of turbines from LCAs of Dunsmore & Feldon, Vale of Rugby and Northamptonshire Uplands, with generally slight change in views from Leicestershire Vales.	*Moderate adverse*	Prominence of turbines in Vale of Rugby, Northamptonshire Uplands (southern part of Laughton Hills) and Dunsmore & Feldon LCAs, with smaller impacts to the setting of Lutterworth Lowlands and High Cross Plateau LCSs.	*Moderate adverse*	*Minor adverse*
Materials									
Geological resources	Negligible – wind farm remote from site, unlikely to impact on geological receptors at M1 scheme.	Neutral	There would be *No Change* for above ground geological features, but *Minor Adverse* to *Negligible* impacts for below ground geological deposits due to construction works.	Neutral to Slight adverse	Negligible – wind farm remote from site, unlikely to impact on geological receptors at M1 scheme.	*Neutral*	Negligible – wind farm ES scopes topic out	*Neutral*	*Not significant*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
Contaminated Land									
Contaminated land	Negligible – wind farm ES scopes topic out	*Neutral*	Potential for the release and spread of contamination due to disturbance of made ground. *Minor Adverse*. There is also a risk of contamination during construction and operation of the scheme arising from accidental spillages or road run-off. *Negligible* to *Minor Adverse*.	Slight adverse to Neutral	Negligible – wind farm ES scopes topic out	*Neutral*	Negligible – wind farm ES scopes topic out	*Neutral*	*Not significant*
Soils									
BMV land	Permanent loss of 4.5 ha of farmland	*Not significant*	Permanent loss of 12.33 ha of BMV land	*Slight adverse*	Permanent loss of approx. 5 ha of farmland	*Not significant*	Area of land lost to wind farm and associated infrastructure not defined in ES however, it is not considered to cover a significant area.	*Not significant*	*Not significant*
Noise and Vibration									
Penfoland	At least 12 dB below derived noise limit	*Neutral*	Minor increase in traffic noise in 2032 along Kilworth Road	*Slight adverse*	All properties assessed are to the south-east of and in the vicinity of Lilbourne. None of these properties have significant changes in noise level due to the proposed M1 Junction 19 Improvements.	*Neutral*	All properties assessed are to the east of and in the vicinity of Lilbourne. None of these properties have significant changes in noise level due to the proposed M1 Junction 19 Improvements.	*Neutral*	*Not significant*
Kilworth Rd Properties	At least 14 dB below derived noise limit	*Neutral*	Minor increase in traffic noise in 2032 along Kilworth Road	*Slight adverse*					*Not significant*
Swinford Lodge	At least 15 dB below derived noise limit	*Neutral*	Minor decrease in traffic Noise in 2029	*Neutral*					*Not significant*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
All Travellers – Local Roads									
A426, Rugby Road & Swinford Road	Severance – temporary nature of construction and low levels of pedestrian activity along named routes	*Not significant*	Severance reduced from *"Moderate"* prior to construction to *"None"* following construction as a result of improved amenity for *Low* number of LVT's	*Slight beneficial*	No severance outlined in ES for A426. Proposed access for construction and operation vehicles is from M1 Junction 18 via A428, which bears no relevance to the proposed improvements to M1 Junction 19.	*None*	No severance outlined in ES for A426. Proposed access for construction and operation vehicles is from M1 Junction 18 via the A428 or A5 south of Lilbourne, which bears no relevance to the proposed improvements to M1 Junction 19.	*None*	*Not significant*
A426, Rugby Road & Swinford Road	Driver Delay – potential for delays during 11 days of concrete delivery. However, if necessary a TMP will be agreed with planning & highway authorities.	*Not significant*	Driver delay – *Small* change in journey time, for a *Low* number of travellers, resulting in a *Neutral* impact.	*Neutral*					*Not significant*
A426, Rugby Road & Swinford Road	Pedestrian Amenity – low number of HGV movements per hour as part of works (<6). Any major movements would be mitigated by TMP.	*Not significant*	Improvement in amenity from "Poor" to "Fair" for a *Low* number of users.	*Slight beneficial*					*Not significant*
Footpaths	No reference made, in the ES for the wind farms, to footpaths noted in the M1 Junction 19 ES. As such, no associated impacts derived.								
Community and Private Assets									
Plot 5 - Lambcote Hill Farm	1. Permanent loss of unspecified (small) area to turbine sites and access tracks and localised short term restrictions on farming activity; offset by 2. Income from landowner agreement.	*Not significant*	Permanent loss of 3.59 ha (0.9% of holding total area) farmland including CSS land; some temporary loss of use of farm land	*Slight adverse*	No land from this landowner is required for Yelvertoft Wind Farm development.	*None*	No land from this landowner is required for Yelvertoft Wind Farm development.	*None*	*Not significant*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
Plot 8 - Starmore Farm	1. Permanent loss of unspecified (small) area to turbine sites and access tracks and localised restrictions on farming activity; offset by; 2. Income from landowner agreement	*Not significant*	Temporary loss of use of let farmland - 189 sq m	*Neutral*	No land from this landowner is required for Yelvertoft Wind Farm development.	*None*	No land from this landowner is required for Yelvertoft Wind Farm development.	*None*	*Not significant*
Plot 10 - Lilbourne Lodge Farm	No land from this landowner is required for Swinford Wind Farm development.	*None*	Loss of small strip of land (0.44ha) to create new bridleway along River Avon, land returned to landowner on completion.	*Negligible adverse*	No land from this landowner is required for Yelvertoft Wind Farm development.	*None*	Loss of unspecified (small) area to turbine sites and access tracks and localised restrictions on farming activity; offset by; 2. Income from landowner agreement	*Not significant*	*Not significant*
The Water Environment									
Non-aquifer	Groundwater Quality: Chemical spillages during re-fuelling / maintenance of plant (construction and operation)	*Minor*	Pollution during construction Groundwater quality unaffected during operation	*Neutral*	The overall significance of erosion and sedimentation, or for pollution from vehicle leaks or spills, for all receptors prior to mitigation is *Negligible*.	*Not significant*	Groundwater Quality: significance of pollution not defined in ES or supporting documents however, considered to be *Negligible*.	*Not significant*	*Not significant*
Non-aquifer	Groundwater Recharge: Drainage around foundations (construction and operation)	*Not significant*	Cuttings may intercept groundwater and require dewatering, leading to lowering of the water table. Potential slight loss in recharge but unlikely reduction in supply	*Neutral* *Neutral*	The overall significance of alteration to natural drainage and runoff volumes and rates, prior to mitigation is *Negligible*.	*Not significant*	Groundwater Recharge: not defined in ES or supporting documents however, use of permeable surfacing and temporary drainage features should render impact *Negligible*.	*Not significant*	*Not significant*

Receptor	Impact from Swinford Wind Farm	Significance of Effect	Impact from M1 Junction 19	Significance of Effect	Impact from Yelvertoft Wind Farm	Significance of Effect	Impact from Lilbourne Wind Farm	Significance of Effect	Cumulative Effect
Swinford Lodge Brook and other tributaries of River Avon	Flood risk: Creation of temporary compound and permanent tracks, leading to increased run-off rates (construction and operation)	*Not significant*	Construction works within floodplain of River Avon	*Slight adverse*	Swinford Lodge Brook is over 2.5km to the north of Yelvertoft Wind Farm. No effects from flooding. The overall risk of flooding to all receptors around wind farm is *Negligible* to *Low*.	*None*	Flood risk: hard standings for construction and access tracks will comprise hardcore and gravel, providing permeable surface to maintain existing run-off rates.	*Not significant*	*Not significant*
			Potential increase in flood peak	*Neutral*					
			Change in road run-off rates	*Slight beneficial*					
Swinford Lodge Brook and other tributaries of River Avon	Fisheries: Sediment run-off during construction and from tracks during heavy rain (construction and operation)	*Not significant*	Pollution: Local works in, over and in the vicinity of watercourses during construction	*Slight adverse*	The overall significance of erosion and sedimentation, or for pollution from vehicle movement and leaks or spills, for all receptors prior to mitigation is *Negligible*.	*Not significant*	Significance of pollution and soil erosion not defined in ES or supporting documents however, considered to be *Negligible*.	*Not significant*	*Not significant*
			Introduction of treatment ponds and other pollution prevention measures	*Slight beneficial*					
Swinford Lodge Brook and other tributaries of River Avon	Surface water abstractions: Sediment run-off during construction and from tracks during heavy rain (construction and operation)	*Not significant*	Pollution: Local works in, over and in the vicinity of watercourses during construction	*Moderate / large adverse*					*Not significant*
			Introduction of treatment ponds and other pollution prevention measures	*Slight beneficial*					

Notes:

The landscape cumulative assessment has taken account of the significance of effect of all four developments in the M1 Junction 19 Design Year 15 when it is considered that mitigation planting has reasonably established.

15.6.10 As set out in Table 8, the majority of cumulative effects for the receptors identified have been assessed as *Not Significant*. With the exception being for effects associated with the visibility of the wind farms, in terms of the setting of cultural heritage and the landscape:-

- **Cultural Heritage:** There would be views of all three wind farms, and the proposed M1 Junction 19 Improvements, from parts of Swinford Conservation Area, Swinford Lodge Listed Building and Stanford Hall Park and Gardens. However, due to the proximity of the wind farms from the junction, it is considered that only two or three of these developments would be visible from any one location. Separate impacts for views of the combined developments are relatively minor, but the additional effect of the combined view is still considered to have a local significance and has been assessed as *Minor Adverse*, which remains as recorded in the ES,
- **Landscape:** As for cultural heritage above, there would be views of three or all four of these developments from southern and western parts of Swinford and from parts of the public rights of way network however, as noted above, it is considered that only two or three of the developments would be visible in the same view in any one direction. These views are considered to have a local significance and have been recorded as *Minor Adverse*. In terms of landscape character sensitivity, it is recognised that after 15 years there would be some residual *Slight Adverse* effect remaining from the junction improvement and, in combination with any of the wind farms, this is considered to have a local significance and as such a cumulative effect is recorded as *Minor Adverse*. This assessment also remains as recorded in the ES,

15.6.11 In overall terms the cumulative effects of the junction improvements with all three wind farms, given the combined impacts from the Swinford Wind Farm are noted in a separate direction to those of the Yelvertoft and Lilbourne Wind Farms, is still considered to be *Minor Adverse*, as recorded in the ES.

16. OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

16.1 There are no substantive changes to the Outline Construction Environmental Management Plan presented in the ES.

16.2 An updated version is included at Appendix A of this Supplementary Note.

16.3 Minor amendments to the version published in 2010 are as follows:-

- Skanska's Environmental Management System is now audited by Lloyds Register Quality Assurance
- The Highways Agency's Environmental Information System (EnvIS) has been updated by IAN 84/10[14]
- The list of legal and regulatory requirements has been updated to include recent waste regulations and the National Planning Policy Framework[15] which in turn supersedes several Planning Policy Statements and Planning Policy Guidance notes
- Defra's Construction Code of practice for the Sustainable Use of Soils on Construction Sites[16] has been added.

Page Not Used

17. CONCLUSIONS

17.1 The ES includes a summary table setting out for each topic, the key issue, mitigation measure and overall effect, taking into account the mitigation.

17.2 Table 9 below is an updated version based upon the review the review presented in each of the topic specific Supplementary Notes. Text which has been amended is shown in bold.

17.3 The overall effect presented in the ES is included in brackets for the purpose of comparison.

Table 9: Environmental Effects Summary

Topic	Key Issue	Mitigation Measure	Effect
Air Quality	Dust and emissions from Contractor's vehicles during construction. Pollutants from traffic in particular Nitrogen Dioxide (NO_2) and small particulates (PM_{10})	Construction impacts would be controlled. Traffic emissions are reducing over time due to improvements in technology and tighter controls**, but the rate of reduction is less than that anticipated in 2010**.	Given measures to control dust and emissions, overall effects during construction would not be significant**, but one property on the A5 could potentially exceed Government targets for nitrogen dioxide for a temporary period during a road diversion**. **All** changes in local air quality due to the junction improvement, assessed for the proposed opening year of **2017**, would be ***Not Significant***. The nitrogen dioxide level at one property **on the A5 could potentially** exceed targets set by the Government's Air Quality Strategy, with and without the junction improvement. **The scheme would result in an increase in the level at this property. The operation of the scheme is not expected to create any new exceedances.** Overall effect: ***Not Significant***. *(Neutral)*
Climate Change	Emissions of greenhouse gases, in particular Carbon Dioxide (CO_2).	No scheme specific measures.	Carbon emissions from traffic will increase over time with or without the proposals. The increase would be more with the improvement in place. Overall effect: *Adverse*
Cultural Heritage	Impact on archaeological remains, historic buildings and historic landscapes. There are many heritage features in the area including prehistoric cropmarks, a possible Roman settlement, Scheduled Monuments, historic buildings in the villages and ridge and furrow.	Archaeological investigations would be carried out in advance of construction and any features discovered would be recorded. Proposed landscape measures would protect the setting of historic buildings and landscapes.	There would be a *Moderate Adverse* effect at construction stage on one archaeological site but most effects on archaeological sites would be *Slight Adverse*. Completion of the improvement would benefit the setting of historic buildings in Catthorpe and Shawell due to a reduction in traffic noise, but *Slight Adverse* visual effects would remain for historic buildings in Swinford and for the historic landscape at Stanford Park. The effect on Lilbourne motte and bailey castle, the only Scheduled

Topic	Key Issue	Mitigation Measure	Effect
			Monument potentially affected, would be *Neutral*. Overall effect: *Slight Adverse*
Ecology and Nature Conservation	Impacts on habitats, species and sites of local value. Much of the habitat affected is relatively low value, but features such as the River Avon, ponds, hedgerows and trees are known to support protected species such as otter, bats and great crested newt.	Steps would be taken during construction to prevent harm to all species potentially affected. New habitats including a net gain of 3.1 hectares of wetlands, **7.6** (6.5) hectares of species-rich grasslands and **5.5** (3.6) hectares of woodland would provide enhancements for wildlife. Habitat improvements and pollution controls are proposed for the River Avon.	There would be some initial adverse effects at construction stage, but as new habitats establish these would reduce and by **2032**, 15 years after completion, there would be a net gain for biodiversity. New habitats created would be of higher value than those lost and there would be improvements for the River Avon, with a *Slight Beneficial* effect. There would be some *Slight Adverse* effects for badgers, but most species would benefit from the improved habitats with a *Slight Beneficial* effect. Overall effect: *Slight Beneficial*
Landscape	Impact on landscape and views from properties and public rights of way. Established planting helps to protect the setting of the villages, but the existing junction is already a major feature.	The proposed junction improvement keeps the potential impact to a minimum, its height would be similar to the existing and it enables the retention of surrounding vegetation. New woodland and hedgerow planting would be carried out, combined with mounding in some areas.	The loss of some **5.79** (6.15) hectares of existing planting at construction and the introduction of new structures would have some *Adverse* effects. There would be an initial visual impact for **31** (33) properties, reducing to **19** by **2032**, 15 years after completion, as new tree and shrub planting establishes. By **2032** established planting would also reduce effects on the character and value of the wider landscape to *Slight Adverse*. **Correction: The reduced visual impact has been corrected to 19 properties, consistent with the landscape assessment in the published ES. The 2010 conclusions table and NTS reported this in error as 7.** Overall effect: *Slight Adverse*
Materials	**Disposal of surplus earth offsite.** Re-use of excavated or demolition materials as far as possible to minimise waste and impact of materials. Avoidance of contamination and conservation of soil resources.	A site waste management plan has been developed to promote re-use and recycling of materials. **Balance earthworks as far as possible during construction.** The main area of known **soil** contamination has been avoided **but measures may be required to deal with contaminated ground water**. Agricultural soils would be conserved for re-use.	There would be a risk of *Slight Adverse* effects in terms of contaminated land, **and water from an adjacent site. There is a potential requirement to dispose of 50,000 cubic metres of surplus earth offsite, which would lead to an *Adverse* effect. Within the overall context of earthworks for the project, where overall quantities are much greater, this is not considered to be a significant effect.** Overall effect: ***Adverse*** *(Neutral)*

Topic	Key Issue	Mitigation Measure	Effect
Noise and Vibration	Increased noise during construction. Changes in noise for nearby properties, reductions or increases resulting from changes in traffic flows.	Measures would be undertaken to control noise during construction. The junction improvement would result in traffic reductions on some local roads. A low noise surface would be used for the new sections of motorway and trunk road, but these benefits would occur eventually without the junction improvement as existing surfacing was replaced.	The effect of construction noise would be *Slight Adverse*. The most noticeable changes would be for dwellings affected by local traffic through the villages with decreases in noise for **246** (308) **dwellings** and increases for **204** (224) **dwellings**, as assessed for **2032**. The few dwellings close to the junction would continue to be affected by traffic noise, but would receive some benefit from the introduction of a low noise surface. Overall effect: *Moderate Beneficial*
Pedestrians, Cyclists and Horse Riders	Severance or diversion of public rights of way, impacts on amenity for users. There is a network of footpaths and bridleways, but it is disrupted by the existing junction and there is a project objective to improve conditions.	The proposals include the provision of new public rights of way to replace those which would be closed to accommodate the junction. There would be a direct link between Swinford and Catthorpe adjacent to the local road.	The proposed network would improve safety, increase amenity and reduce severance. Overall effect: *Beneficial*
Local Vehicle Travellers	Temporary loss of access during construction. Removal of direct access to the motorway/ trunk road junction.	Diversions would be put in place during the construction period. The proposals include a new direct link between Swinford and Catthorpe and an improved route to the A5 trunk road.	During construction there would be some inconvenience due to the removal of access to Junction 19 and temporary local road diversions. The loss of access to the junction would be permanent, but on completion of the works this effect would be offset by improved links between the villages and to the A5. Overall effect: *Neutral*
Long Distance Vehicle Travellers	Traveller stress due to congestion, fear of accidents and confusing layout.	Improved junction layout would reduce congestion and accidents.	Traveller stress would be reduced for a large number of road users. Overall effect: *Large Beneficial*
Community and Private Assets	Potential impacts for community land, property, development land, agricultural land, including best and most versatile, and farms. Agriculture is the main land-use. There are proposals for a roadside service area on the A14, but it is uncertain whether the development will proceed in advance of the scheme.	The proposed junction improvement takes less land than other options considered. Temporarily used agricultural land, for example for the site compound and storage areas would be restored on completion. Access would be maintained for commercial and agricultural businesses.	The temporary use of land during construction would result in some disruption for the landowners affected. Approximately **24** (25) hectares of **mainly** agricultural land would be required permanently, just over half described as 'best and most versatile'. One farm would be affected to a *Moderate Adverse* level, but all others would be affected to a *Neutral* or *Slight Adverse* level. There would be a *Large Adverse* effect on proposals for the roadside service area. No community land would be affected. Overall effect: *Slight Adverse*
Water Environment	Pollution risks for surface water and ground water during the construction and operation of the junction	Measures would be put in place to reduce the risk of pollution during construction. The permanent proposals	There would be a risk of a *Moderate Adverse* effect during construction but this would be short term and measures would be in place to reduce

Topic	Key Issue	Mitigation Measure	Effect
	improvement. Water quality in the River Avon is very good. Flood risks from surface run-off and loss of flood plain. **Under the Water Framework Directive, the River Avon is required to achieve good ecological status.**	include five drainage ponds to treat highway run-off and prevent flooding. Flood plain compensation would be provided.	the risk. Drainage proposals would improve the existing condition with a *Slight Beneficial* effect for water quality and flood risk. Overall effect: *Neutral*

17.4 The only substantive change from the published ES is that the overall effect for Materials has been modified from *Neutral* to *Adverse*.

17.5 As set out in the Supplementary Note 5 Materials, this results from an increase in bulk earthworks and the potential requirement to dispose of 50,000 cubic metres of surplus soils offsite.

17.6 This assessment is based on a simple three point scale so there are no degrees of severity for *Adverse*. However this issue is not regarded as a significant effect within the context of a construction project such as M1 Junction 19, where the overall quantities of materials to be imported or moved within the site are much greater. The principles of waste management hierarchy continue to be applied and every effort would be made to reduce or avoid the surplus at detailed design stage.

17.7 All other effects remain as set out in the ES and there continue to be no significant adverse effects, taking into account mitigation measures.

17.8 All of the Supplementary Notes, including this note on the General Environment, have considered the implications of changes to a level of detail equivalent to the assessment for the published ES.

17.9 The ES, together with the Supplementary Notes continues to be a valid assessment of the impacts and effects of the proposed M1 Junction 19 Improvement.

18. REFERENCES

1. The Highways (Environmental Impact Assessment) Regulations 2007
2. European Council Directive 85/337/EEC
3. European Council Directive 97/11/EC
4. Highways Act 1980 (as amended)
5. The Localism Act, November 2011
6. Waste (England and Wales) Regulations, 2011
7. Design Manual for Roads and Bridges, Volume 11 Environmental Assessment
8. Design Manual for Roads and Bridges, Volume 11, Section 3, Part 10, HD 45/09 Road Drainage and the Water Environment
9. Design Manual for Roads and Bridges, Volume 11, Section 3, Part 7, HD 213/11 revision 1 Noise and Vibration
10. Interim Advice Note IAN 153/11 Guidance on the Environmental Impact Assessment of Materials
11. Interim Advice Note IAN 135/10 Landscape and Visual Effects Assessment
12. Interim Advice Note IAN 130/10 Ecology and nature Conservation: Criteria for Impact Assessment
13. Design Manual for Roads and Bridges, Volume 11, Section 2, Part 5, HA 205/08 Assessment & Management of Environmental Effects
14. Interim Advice Note IAN 84/10 Environmental Information System (EnvIS)
15. National Planning Policy Framework, Department for Communities and Local Government, March 2012
16. Construction Code of practice for the Sustainable Use of Soils on Construction Sites, DEFRA, September 2009
17. Design Manual for Roads and Bridges, Volume 12, Section 2, Part 3, The National Trip End Model, November 1997

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APPENDICES

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Appendix A
Outline Construction Environmental Management Plan

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APPENDIX A

16. OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

16.1 Introduction

16.1.1 Environmental management during the construction of the M1 Junction 19 Improvement project would be delivered through the development of a Construction Environmental Management Plan (CEMP). The CEMP would describe how construction and contract maintenance activities would be undertaken and managed in accordance with:-

- environmental commitments and requirements identified during the planning and design stages
- contractual and legislative requirements
- objectives identified and agreed for the scheme

16.1.2 The CEMP would include the following information:-

- details, including timescales and duration, of construction and maintenance activities associated with the project
- a register of commitments made to date (an Environmental Commitments Register)
- an environmental management framework including: -
  - key environmental issues, aspects, potential impacts and mitigation as recorded in a Register of Environmental Aspects and Impacts
  - environmental management procedures including assigned responsibilities for actions
  - emergency preparedness in the event of an incident which could lead to environmental damage
- a register of relevant environmental legislation and regulatory consents
- a training and communication plan
- procedures to ensure compliance with the CEMP including monitoring, inspections auditing and review
- a complaints procedure

16.1.3 The likely contents of the CEMP are described below.

16.1.4 Skanska, the contractor for the project, operates an Environmental Management System (EMS) that has been certified to the International Standard ISO 14001. The system offers demonstrable evidence of consideration and control of environmental impacts, and the commitment to continual improvement. The system is audited regularly, both internally and externally through Lloyds Register Quality assurance (LRQA).

16.1.5 An outline CEMP (OCEMP) has been prepared for the project as the initial stage in the development of the scheme specific CEMP and this is a summary of that document. It takes into account the requirements of the Skanska Civil Engineering EMS and IAN 84/10 Highways Agency Environmental Information System (EnvIS)[14].

16.1.6 The contents and details of the OCEMP would be updated through the outline design, Environmental Impact Assessment (EIA), Statutory Orders and detailed design process to reflect the latest scheme position. In particular it would be developed to take account of:-

- Engineering Design
- Drainage Design

- Archaeological Design
- Ecological Design
- Landscape Design

16.1.7 The Environmental Commitments Register, discussed in more detail at Section 16.3 below, would be reviewed and updated to take account of ongoing consultations and issues arising from a Public Inquiry. The contents of the OCEMP would then be carried forward to the CEMP.

16.1.8 The CEMP is a working document and would be developed by Skanska as the scheme progresses through detailed design into construction and maintenance. At handover of the project into long term management, relevant information would be passed from the CEMP to form the basis of the Handover and Environmental Management Plan (HEMP), including the requirements for any long term monitoring.

16.2 Environmental Policy

16.2.1 A project specific Environmental Policy Statement would be agreed for the project, based on those contained in Skanska's EMS and would include:-

- acknowledgement of environmental responsibilities
- adherence to the requirements of environmental legislation
- commitment to mitigate construction environmental impacts
- commitment to construction best practice and environmental performance including sustainability

16.2.2 The Policy Statement would confirm the commitment of the Project Team to ensure all environmental aspects are effectively managed as stated.

16.3 Environmental Management Framework

Environmental Commitments Register

16.3.1 The Environmental Commitments Register for the project would include all commitments made to all parties from early planning stages of the project to the preparation of the OCEMP, including those made to private individuals and statutory authorities. The register identifies:-

- the nature of the commitment
- the party the commitment has been given to
- the action required
- fulfilment status
- document reference

16.3.2 New commitments would be added as they arise.

The Environmental Aspects and Impacts Register

16.3.3 The Environmental Aspects and Impacts Register would consider construction activities against environmental aspects and potential impacts, in the topic order used for the EIA.

The Register describes the activity, sensitive receptor, potential impact and proposed control or mitigation. Controls may include the development of a specific environmental management procedure as described below. The Register would be updated as the project moves forward.

Environmental Management Procedures

16.3.4 Specific management procedures or plans, including method statements would detail measures required to reduce any potential impact on sensitive environmental features and provide control procedures to all staff.

16.3.5 Plans or procedures are currently envisaged for the following topics for this project, given the potential construction impacts reported in this ES:-

- ecology (to cover licensing issues for protected species, or seasonal constraints)
- management plans for waste, water, noise and vibration, dust, cultural heritage (e.g. protecting known sites or features) soil
- training
- traffic management

Legal and Regulatory Requirements

16.3.6 The contractor would maintain a register of applicable legal and other requirements and would be responsible for reviewing the register to ensure that legislative requirements are met on this project. The legislation, planning policy and other guidance relevant to the project includes:-

- The Air Quality Strategy
- The Air Quality Standard Regulations 2007
- The Environment Act 1995
- Ancient Monuments and Archaeological Areas Act 1979
- Planning (Listed Buildings and Conservation Areas) Act 1990
- Wildlife and Countryside Act 1981 (WCA)
- Countryside and Rights of Way Act 2000 (CRoW)
- Natural Environment and Rural Communities Act 2006 (NERC)
- Conservation (Natural Habitats, etc.) Regulations 1994 (as amended), (or Northern Ireland, 1995) (the Habitats Regulations)
- Berne Convention
- Habitats Directive
- Protection of Badgers Act 1992
- European Habitats Directive
- European Union's Landfill Directive 1999/31/EC
- The Town and Country Planning Action 1990
- The Environmental Protection Act (EPA) 1990
- Waste (England & Wales) Regulations 2011
- The Hazardous Waste Regulations 2005 as amended 2010
- The Environmental Permitting (England and Wales) Regulations 2010
- Site Waste Management Plans Regulations 2008
- The Noise Insulation Regulations (NIR) 1975 as amended in 1988
- Planning Policy Statement 7 : Sustainable Development in Rural Areas

- DEFRA Soil Strategy (2008) / Soil Action Plan (2004-2006)
- Single Payment Scheme
- Mineral Planning Guidance Notes
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, DEFRA, 2009
- Water Resources Act 1991
- Land Drainage Act 1991
- Control of Pollution Act 1974
- EC Water Framework Directive 2000/60/EC and the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003
- The Surface Water (River Ecosystem) Regulations 1994
- The Groundwater Regulations 1998 and EC Groundwater Directive 1980 (80/68/EEC)
- EC Freshwater Fisheries Directive (78/659/EEC)
- Environment Agency's Pollution Prevention Guidelines (PPG)
- National Planning Policy Framework

Project Team Roles, Responsibilities and Authority

16.3.7 The CEMP would clearly define the responsibilities and accountability of the Protect Team from senior management level through to individual subcontractors. The Contractor would identify and describe the specific roles required to ensure the correct implementation and application of the CEMP in line with the Skanska EMS.

16.3.8 Key roles include:-

ECI Project Manager

16.3.9 It is the responsibility of the ECI Project Manager to ensure that adequate resources are made available to the Project Team so that environmental policy is effectively implemented during the construction and maintenance phases and including any long term monitoring requirements. The ECI Project Manager would assist with drawing up and would then sign the project specific environmental policy statement.

Environmental Coordinator

16.3.10 The Environmental Coordinator is responsible for taking the scheme through the environmental aspects of the statutory process, preparing the ES and Environmental Master Plan and developing the detailed design and OCEMP in liaison with the specialist advisors.

16.3.11 During the construction phase the Environmental Coordinator would transfer the OCEMP, Commitments Register and Environmental Aspects and Impacts Register to the Environmental Manager and would provide such advice as necessary throughout construction, maintenance and long term monitoring, to ensure implementation of the detailed environmental design and compliance with the ES.

16.3.12 The Environmental Coordinator would also assist in the preparation of the HEMP to ensure all data required for long term management was carried through and passed on to the relevant management authority.

Environmental Manager

16.3.13 The Environmental Manager would ensure all environmental standards and commitments are adhered to throughout the planning and design, construction maintenance and monitoring period for the scheme. He would also be responsible for:-

- developing and reviewing the CEMP and all associated commitments, method statements, procedures and consents
- liaison with environmental specialists and Public Liaison Officer (PLO) for the project
- facilitating environmental training and inductions to the work force as required
- monitoring compliance of construction activities with the CEMP and all other environmental legislation and requirements and maintaining a record of progress

Environmental Clerk of Works

16.3.14 The Environmental Clerk of Works would be responsible for recording and reporting all environmental activities on the project at construction stage. He would monitor and supervise construction activities where appropriate, maintain auditable environmental records and conduct audits as required by the CEMP and would offer a full time presence on site throughout the construction period.

Environmental Specialists

16.3.15 The team of specialists responsible for the environmental assessment and design of the scheme, under the direction of the Environmental Coordinator, would support the project team on specific issues as required at construction stage. They would undertake preconstruction surveys, apply for applicable consents (such as protected species licences) carry out watching briefs and oversee implementation of mitigation throughout the construction, maintenance and monitoring periods as necessary.

16.3.16 Specialists required for this project would include:-

Landscape Architect

16.3.17 The landscape architect would be responsible for developing the Existing Vegetation and Landscape Design, in coordination with the Ecological Design, monitoring the provenance, quality and supply of plant stock and implementation of landscape works during construction and maintenance phases.

Ecologist

16.3.18 The Ecologist would be responsible for carrying out preconstruction surveys as required, developing the Ecological Design, including ecological mitigation proposals and method statements, legislative compliance including applying for licenses and consents e.g. for the disturbance of protected species and monitoring the implementation of the works throughout the construction, maintenance and into long term management where required by license conditions.

Archaeologist

16.3.19 The Archaeologist would be responsible for developing the Archaeological Design in liaison with English Heritage and the County Archaeologists. The archaeologist would oversee archaeological mitigation works pre construction and during the construction phase as required and for any post excavation works and reporting.

Noise and Vibration / Air Quality Specialist

16.3.20 The specialists would provide input and advice as required to the Project Team including liaison with the local planning authority Environmental Health Officers, the overseeing of noise, vibration or air quality during construction, as required. The Noise Specialist will assess the eligibility of properties to be insulated against traffic or construction noise under the Noise Insulation Regulations (NIR).

Agricultural / Land Use / Soils Specialist

16.3.21 The specialist would provide input into a Soil Management Plan to ensure the correct handling, storage and deployment of materials to achieve the project objectives for habitat creation and restoration of land to agricultural use, and monitor the implementation of the plan as required. The specialist would also provide advice to the Project Team or landowner as required.

Waste Specialist

16.3.22 The specialist would be responsible for legislative compliance, including applying for appropriate licences and consents, developing and overseeing the enforcement of the Site Waste Management Plan (SWMP) to meet project objectives. This would include methods for effective identification and management of hazardous and non hazardous materials, storage and segregation of waste prior to reuse, recycling or disposal.

Competence Training and Awareness

16.3.23 Raising of environmental awareness and understanding amongst the Project Team and all staff associated with the works is essential to ensure the commitments set out in this OCEMP and the CEMP are met.

16.3.24 A Training Plan would be developed for the project to be included in the CEMP at construction stage, which would set out competency requirements for all personnel with environmental responsibilities. It would then identify a programme of training required to achieve the competence level specified for each role or individual, and records of competence and training would be maintained. Training topics would be identified based on the project Environmental Aspects and Impacts Register.

16.3.25 The Training Plan would also consider the needs of other site personnel who may come into close contact with key environmental features during the course of their work, such as protected areas or species. All staff would undergo pre-start induction training in environmental issues specific to the project, with general and aspect specific tool box talks at regular intervals throughout the construction phase.

16.3.26 Additional training may also be required following any incident or near miss, which could have led to environmental damage.

16.3.27 In addition general environmental awareness would be achieved by the use of guidance notes, site notices and posters, regular briefing on method statements and procedures, informal briefings during site inspections.

Emergency Preparedness and Response

16.3.28 The CEMP would detail specific procedures to be followed in the event of an emergency during construction or maintenance. Such events are defined as:-

- an environmental incident – an event , activity or condition that causes or has potential to cause harm to people, damage to property or the environment
- pollution – any harmful impact on the local atmospheric, aquatic or land environment caused by release of hazardous or nuisance causing substances or excessive noise and vibration
- consent infringement – any event where the limits set as conditions of consents or licenses are exceeded or where methods of operation are not in accordance with procedures or conditions set by the regulatory authority

16.3.29 Where necessary, for example where there could be implications for features or species with legal protection or status, or for operations requiring consent, formal approval for a specific emergency procedure would be sought from the relevant Statutory Authority.

16.3.30 The procedures would include:-

- the names and 24 hour contact detail of all emergency personnel and emergency services
- personnel responsibilities during an emergency incident
- the location of on site information on hazardous materials and spill containment materials
- details of incident or pollution controls
- the procedures for reporting and documenting an emergency incident, particularly with a view to identifying trends and reducing further incidents

Monitoring and Reporting

16.3.31 A programme of environmental monitoring during the contract period would be established, including checks against any consent requirements and project specific environmental objectives and targets.

16.3.32 Daily inspections of all construction sites and activities would be undertaken against a scheme specific checklist and findings logged. Any incidents would be reported by managing construction personnel to the Environmental Clerk of Works for record and action as required.

16.3.33 The Environmental Manager would undertake monthly inspections and complete an assessment of environmental performance against environmental standards, relevant legislation and CEMP targets and objectives. The Environmental Manager would also

review records for any monitoring required to demonstrate compliance with consent requirements e.g. noise monitoring data.

16.3.34 He would produce a monthly report detailing environmental performance for review as required by the Project Team.

16.3.35 A project specific Quality Management System would be in operation for document control and the Environmental Manager would maintain copies of all environmental monitoring and review reports as well as relevant reports, consents and licences.

Subcontractor Requirements

16.3.36 To ensure compliance and appropriate competence levels the CEMP would describe job specific subcontractor requirements and the procedure for the management of subcontractors.

16.3.37 Subcontractors would be required to provide the following details before they could be considered for appointment:-

- staff experience, skills, CVs and competencies
- the company environmental policy
- records of previous environmental incidents
- details of current working practices
- health and safety records
- references from previous employers

16.3.38 The information would be assessed for suitability in achieving the requirements of the CEMP and then against other interested subcontractors to ensure the most suitable company is selected for the appointment.

16.4 Non-Conformance and Corrective and Preventative Action

16.4.1 Non-conformance would be considered to have taken place when an environmental incident occurs, for non compliance with environmental legislation or when work is not carried out in accordance with the requirements of the CEMP or Environmental Design.

16.4.2 Procedures would be in place to report and record non-conformance and also to put in place the required corrective or preventative action within a defined time period.

16.4.3 Any deficiency identified within working practices, methodology or systems for construction during inspection would also be addressed by a corrective or preventative action procedure.

16.5 Communication of the CEMP

16.5.1 The CEMP would be distributed to all members of the Project Team, including suppliers and subcontractors as necessary to ensure that environmental requirements are effectively communicated.

16.5.2 The contents of the CEMP would be communicated by the following means:-

- method statements or detailed procedures, including for those mitigation, emergency response and legal consents, would be explained in briefing sessions before each task
- training would be given to ensure that all staff are environmentally aware
- progress meetings would include discussion and review of environmental issues
- a monthly environmental report would be distributed to the Project Team to review performance against targets

16.5.3 Where appropriate, the environmental specialists would liaise with external parties including Statutory Bodies such as the Environment Agency, Natural England, English Heritage, Local Planning Authorities and non-statutory authorities and interest groups.

16.5.4 The Public Liaison Officer (PLO) appointed for the project would liaise with local communities and residents affected by the works and provide regularly updated information on construction programming and activities. A 24 hour contact number would be made available to deal with any issues arising from the works.

16.6 Complaints

16.6.1 All complaints received from the public or any other interested party regarding the construction of the scheme would be recorded. This would provide a valuable feedback mechanism that could help minimise potential impacts on sensitive receptors or features and allow construction practices to be refined and improved.

16.6.2 The CEMP would contain a complaints procedure by which the Project Team could receive and act upon complaints. It is likely that all queries or complaints would be directed to the PLO in the first instance, who would then pass the issue over to the relevant manager to resolve.

16.6.3 All complaints would be recorded and reviewed and a non-conformance raised to ensure the corrective action is carried out to prevent a recurrence.

16.6.4 A monitoring system would be implemented to ensure that all complaints have been logged, addressed and a satisfactory outcome reached for all parties.

16.7 Review

16.7.1 The CEMP would be reviewed at appropriate stages within the project control framework (at least every 12 months) to ensure it remains effective and up to date.

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Appendix B
Uncertainty Log: Summary

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Location	Site	Site area	Land use	Likely no of units / size / jobs		% by 2017	% by 2025	% by 2032
West Northamptonshire JPU (Daventry DC, Northampton BC & South Northamptonshire Council)								
Daventry DC	D3 - Daventry North East			2,500	dwellings	6%	60%	100%
Daventry DC	Monksmoor			1,000	dwellings	42%	100%	100%
Daventry DC	DIRFT3	71 ha	Employment			10%	80%	100%
Daventry DC	N3 - Northampton North			2,000	dwellings	30%	100%	100%
Daventry DC	N3 - Northampton North (Technology Realm)	7 ha	Employment	28,000	sq m GFA	0%	20%	50%
50% in South Northamptonshire 50% in Daventry DC	N4 - Northampton West			1,500	dwellings	3%	100%	100%
Northampton BC	N5 - Northampton South			1,000	dwellings	5%	100%	100%
Northampton BC	N6 - Northampton South of Brackmills (aka Wootton Extension)			1,000	dwellings	0%	100%	100%
Northampton BC	N7 - Northampton Kings Heath (aka Dallington Grange)			3,500	dwellings	19%	60%	100%
Northampton BC	N7 - Northampton Kings Heath (aka Dallington Grange)	10 ha	Employment	40,000	sq m GFA (B2)	10%	50%	80%
Daventry DC	N8 - Northampton North of Whitehills (aka Buckton Fields)			1,000	dwellings	38%	100%	100%
Northampton BC	N9 - Northampton Upton Park			1,000	dwellings	38%	100%	100%
Northampton BC	Upton Lodge			1,588	dwellings	39%	100%	100%
Northampton BC	Avon site / Nunn Mills, near town centre			950	dwellings	55%	100%	100%
Northampton BC	Avon Nunn Mills and Ransome Road, near town centre	30 ha	Employment	18,000	sq m GFA (B1)	10%	50%	80%
Northampton BC	Swan Valley, SV1	9.48 ha	Employment	30,336	sq m GFA (B1)	10%	50%	80%
Northampton BC	Pineham C, M1J15a	14 ha	Employment	48,062	sq m GFA (B2)	80%	100%	100%
Northampton BC	Angel St/ St Johns/ Bridge St, near town centre			2,459	jobs	10%	50%	80%
				44,250	sq m GFA (B1)			
Northampton BC	Castle Station St James Road	5.3 ha	Employment	25,584	sq m GFA (B1)	10%	50%	80%
Northampton BC	Waterside, St Peter's Way	2 ha	Employment	40,000	sq m GFA (B1)	10%	50%	80%
South Northamptonshire	Grange Park (GP1 & GP4), M1J15	18.23 ha	Employment	22,750	sq m GFA (B1)	10%	50%	80%
				20,244	sq m GFA (B2)			
North Northamptonshire JPU (Corby BC, Kettering BC, Borough Council of Wellingborough & East Northamptonshire Council)								
Corby BC	Priors Hall		Residential	5,100	dwellings	10%	80%	100%
	Weldon Park			1,000	dwellings	10%	100%	100%
	West Corby			4,000	dwellings	0%	25%	75%
	Other			4,100	dwellings	20%	80%	100%
Kettering BC	Kettering East		Residential	5,500	dwellings	0%	25%	75%
	Other (e.g. Burton Latimer)			2,700	dwellings	20%	80%	100%
BC of Wellingborough	Wellingborough East		Residential	3,100	dwellings	10%	80%	100%
	Wellingborough North			3,000	dwellings	0%	20%	50%
	Other			1,560	dwellings	20%	80%	100%
BC of Wellingborough	Wellingborough North (off A509 and A510, south of Great Harrowden)		Employment	25,000	sq m GFA (B1)	10%	50%	80%
Corby BC	Priors Hall		Employment	63,000	sq m GFA (B1)	10%	50%	80%
East Northamptonshire	Rushden Lakes (aka Skew Bridge), Rushden		Employment	26,965	sq m GFA (B1)	10%	50%	80%
East Northamptonshire	Rectory Farm, Huntingdon Road, Thrapston		Employment	62,257	sq m GFA (B1)	10%	50%	80%
				28,834	sq m GFA (B2)			
				57,669	sq m GFA (B8)			
East Northamptonshire	Between Finedon Road and Wellingborough Road, Irthlingborough		Employment	53,160	sq m GFA (B1)	10%	50%	80%
				5,700	sq m GFA (B2)			
				11,400	sq m GFA (B8)			
East Northamptonshire	Warth Park, Phase 2, Raunds		Employment	3,348	sq m GFA (B1)	10%	50%	80%
				95,690	sq m GFA (B8)			
Kettering BC	Kettering East, Sites E1 to E3 and District Centre		Employment	24,660	sq m GFA (B1)	10%	50%	80%
Rugby BC								
Rugby BC	Leicester Road / Mill Road, Rugby town centre		Residential	700	dwellings	100%	100%	100%
Rugby BC	Gateway Rugby SUE, north of Rugby, south of M6J1		Residential	250	dwellings	100%	100%	100%
				1,050	dwellings	58%	100%	100%
Rugby BC	Gateway Rugby SUE, north of Rugby, south of M6J1			124,000	sq m GFA (B2 & B8)	20%	80%	100%
Rugby BC	Rugby Radio Station, east of Rugby		Residential	6,200	dwellings	20%	81%	100%
Rugby BC	Rugby Radio Station, east of Rugby			144,000	sq m GFA	0%	20%	50%
Harborough DC								
Harborough DC	Market Harborough town centre		Residential	1100	dwellings	50%	100%	100%
Harborough DC	North West of Market harborough town centre		Residential	1400	dwellings	0%	20%	100%
Harborough DC	North of Lutterworth town centre, off A426		Residential	120	dwellings	100%	100%	100%
				150	dwellings	100%	100%	100%
				290	dwellings	0%	50%	100%

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Appendix C
Changes to the Non-Technical Summary