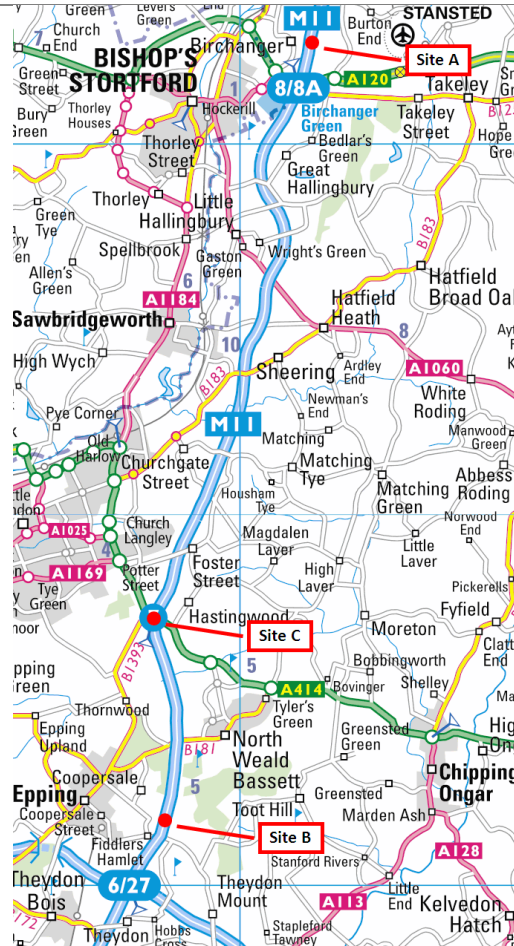


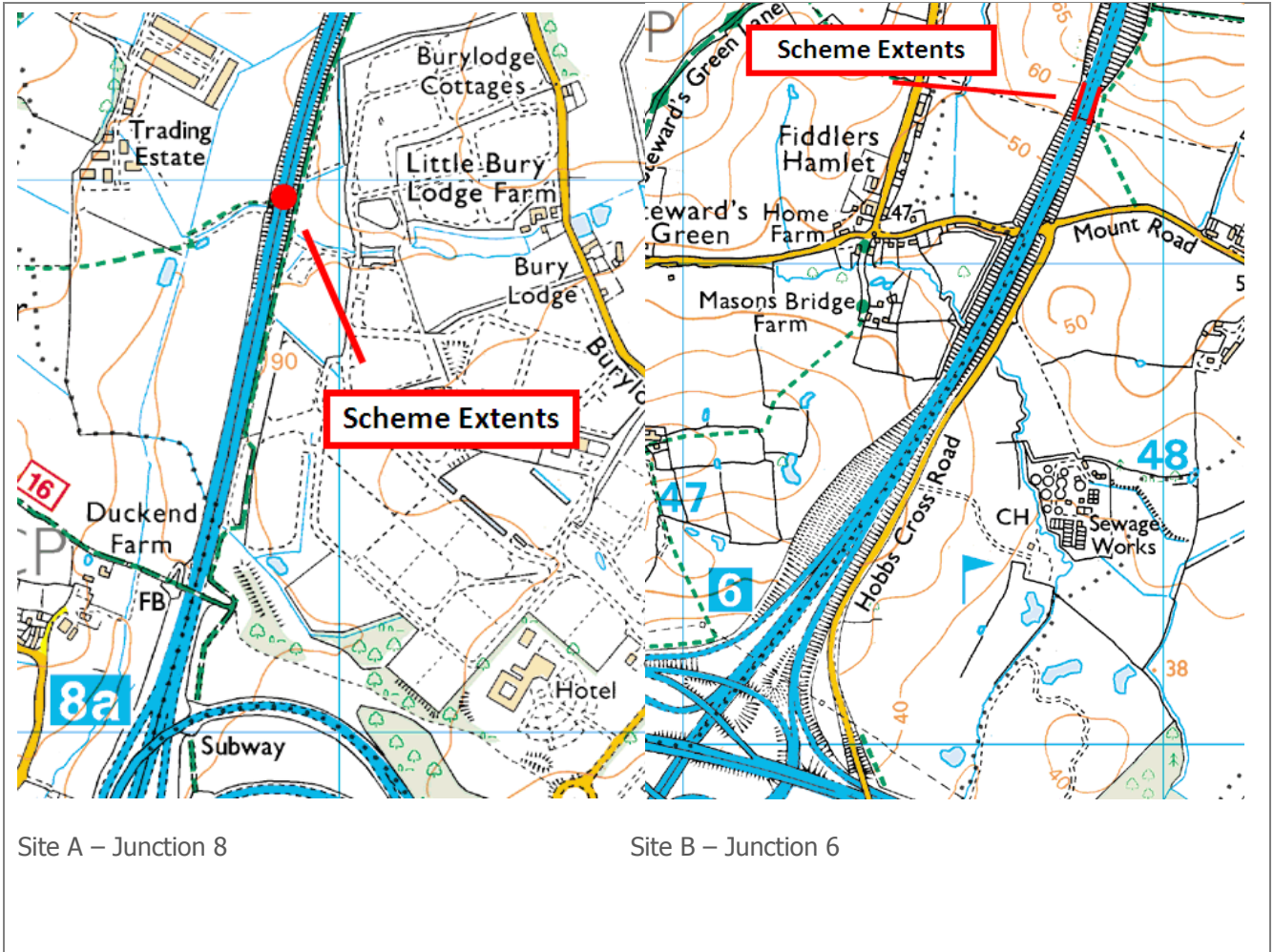


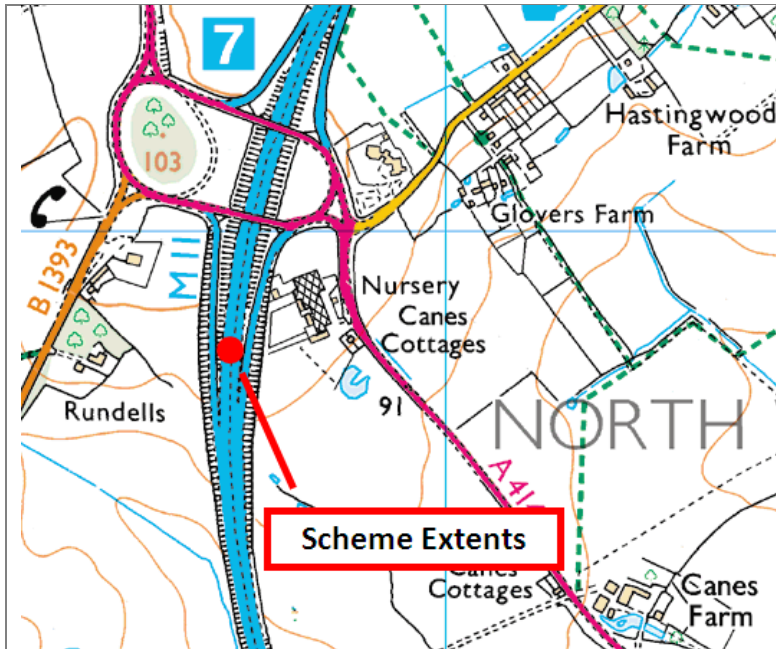
## Environmental Scoping Assessment

	Name	Position	Date
Prepared by	████████████████████	Environmentalist	17/09/2014
Checked by	██████████	Principle Environmentalist	30/09/2014
Received by	████████████████████	Design Team	01/10/2014

<b>Project No:</b>	52200410 52200805 52200806	<b>Scheme Title:</b>	<b>M11 Site A – Junction 8</b> From: X 551879 Y 222942 To: X 551916 Y 222910 <b>M11 Site B – Junction 6</b> X 547836 Y 201297 <b>M11 Site C – Junction 7</b> X 547641 Y 206754
<b>Project description</b>			
<b>Scheme Locations</b>			







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 Site C – Junction 7

### Proposed Schemes

#### M11 Site A – Junction 8

300m of embankment that required remediation, the scope of works includes a small retaining wall to be constructed at the toe of the slope with a granular replacement of the slope above the retaining wall. Associated works include the replacement of a damaged VRS on a concrete beam at the crest of the slope, minor drainage and resurfacing works are also required

#### M11 Site B – Junction 6

2 x 250m of embankment that requires a combination of bulk earthworks / granular replacement and installation of soil nails. Associated works include the replacement of a damaged VRS on a concrete beam at the crest of the slope, minor drainage and resurfacing works are also required

#### M11 Site C – Junction 7

200m of embankment that requires a combination of bulk earthworks / granular replacement and installation of soil nails. Associated works include the replacement of a damaged VRS on a concrete beam at the crest of the slope, minor drainage and resurfacing works are also required.

<p>Traffic Management will comprise a Lane 1 and Hard Shoulder closure. The lane 1 closure will be on during works only with the Hard Shoulder remaining on 24hrs until the scheme is complete.</p> <p>The works are scheduled to commence week beginning 24 November 2014 and will last approximately four weeks. The works are programmed to take place at night (22:00 – 06:00hrs).</p>		
<p><b>This project requires Screening Opinion</b> (EIA Regulations)</p>	<p>YES</p>	<p>NO</p>
<p><b>This project requires a Record of Determination</b> (Applicable to HA work only)</p>	<p>YES</p>	<p>NO</p>
<p><b>This project requires environmental permissions, licenses or consents?</b> (ENVT-EnvAssess-PL-02)</p>	<p>YES</p>	<p>NO</p>
<p><b>What statutory procedures are involved?</b></p>		
<p><i>(List relevant procedures)</i> The schemes are Maintenance schemes and the individual works area is less than 1 ha. Under the EIA Regulations a Record of Determination is not required.</p> <p>The schemes are valued in excess of £500,000, therefore they will require a Detailed Materials &amp; Resources Assessment and an environmental plan.</p>		

**IDENTIFICATION OF POTENTIAL ENVIRONMENTAL EFFECTS**

**AIR QUALITY**

<b>Assessment methodology:</b>	Baseline data has been obtained from a desktop review of the UK Air Quality Archive ( <a href="http://www.airquality.co.uk/">http://www.airquality.co.uk/</a> ), DEFRA’s Multi-Agency Geographic Information for the Countryside (MAGIC) website ( <a href="http://magic.defra.gov.uk/">http://magic.defra.gov.uk/</a> ) and from the Ordnance Survey OpenData website ( <a href="http://www.ordnancesurvey.co.uk/opendata/viewer/">http://www.ordnancesurvey.co.uk/opendata/viewer/</a> ) on 17 September 2014.
<b>Key baseline conditions:</b>	<p><b>Site A – Junction 8</b></p> <ul style="list-style-type: none"> <li>• There are no Special Areas of Conservation (SAC), Special Protection Areas (SPA), Wetlands of International Importance (Ramsar Sites) National Nature Reserves (NR) or Sites of Special Scientific Interest (SSSI) within 2km of the scheme.</li> <li>• Uttlesford District Council currently has four Air Quality Management Areas, however these are greater than 300m from the scheme.</li> <li>• There are no automatic monitoring stations in proximity of the site that can be used to approximate the overall air pollution index. Monitoring sites in the wider area all record bandings in the ‘green zone’ e.g. Low Index 2 or 3 and it is considered that these readings are representative of air quality within the scheme extents.</li> <li>• There are agricultural and commercial properties within 300m of the scheme which includes farms, car parks, industrial units and offices, however the nearest property lies 120m from the scheme.</li> <li>• There are no residential properties, schools, hospitals or care homes within 300m of the scheme.</li> </ul>

**Site B – Junction 6**

- There are no SAC, SPA, Ramsar Sites or NR within 2km of the scheme.
- Two sections of the Epping Forest SSSI that lie 1.1km north east of the scheme.
- Epping Forest District Council currently has two Air Quality Management Areas, however these are greater than 300m from the scheme.
- There are no automatic monitoring stations in proximity of the site that can be used to approximate the overall air pollution index. Monitoring sites in the wider area all record bandings in the 'green zone' e.g. Low Index 2 or 3 and it is considered that these readings are representative of air quality within the scheme extents.
- There are no residential, agricultural, civil or commercial properties and no schools, hospitals or care homes within 300m of the scheme. The area surrounding the scheme comprises farmland.

**Site C – Junction 7**

- There are no SAC, SPA, Ramsar Sites, NR or SSSI within 2km of the scheme.
- Epping Forest District Council currently has two Air Quality Management Areas, however these are greater than 300m from the scheme.
- There are no automatic monitoring stations in proximity of the site that can be used to approximate the overall air pollution index. Monitoring sites in the wider area all record bandings in the 'green zone' e.g. Low Index 2 or 3 and it is considered that these readings are representative of air quality within the scheme extents.
- There are residential, agricultural and commercial properties within 300m of the scheme which include farms, restaurants, a highways maintenance depot and a garden centre.
- There are no schools, hospitals or care homes within 300m of the scheme.

<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.
<b>Temporary effects:</b>	Emissions from plant and machinery are likely to cause deterioration in air quality within the local area. This is considered to last for the duration of the works.
<b>Permanent effects:</b>	No permanent effects
<b>Mitigation / control measures:</b>	
<ul style="list-style-type: none"> <li>• <b>Best practice guidelines of reducing dust and emissions should be followed as outlined in 'the Control of Dust and Emissions from Construction and Demolition; (2006) published by London Councils and The Greater London Authority and adopted UK-wide.</b></li> <li>• <b>Best Practicable Means (BPM) should be employed during construction, for example, should be minimized.</b></li> <li>• <b>Plant will utilise dust extraction and water suppression techniques.</b></li> <li>• <b>All plant and fuel-requiring equipment utilised during construction should be well maintained in order to minimise emissions.</b></li> <li>• <b>Site staff will be instructed to follow the relevant SEPA pollution prevention guidance documents (e.g. PPG 1 and 6).</b></li> <li>• <b>Regular monitoring (e.g. site walkover) must take place when dust generating activities are occurring. In the event that an unacceptable volume of dust is emanating from the site the operation must, where possible, be modified and rechecked to verify that the corrective action has been effective. Actions to be considered include:</b> <ul style="list-style-type: none"> <li>• <b>Minimize cutting Plant idling time, and grinding onsite.</b></li> <li>• <b>Reducing the operating hours.</b></li> <li>• <b>Reposition equipment.</b></li> <li>• <b>Change the method of working etc.</b></li> </ul> </li> <li>• <b>Uttlesford District Council and Epping Forest District Council's Environmental Health Department MUST be notified and made aware of the proposed works and that it is due to be undertaken during night time hours as there are properties located within 50m of the scheme.</b></li> <li>• <b>Where applicable, a letter drop must be undertaken to notify local residents below of the impending works and work schedule. The letter must include contact details (office phone number and email address) for the Project Engineer and an out of hours query number.</b></li> </ul>	



<b>Further action/assessment required?</b>	YES	NO
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<b>ARCHAEOLOGY AND CULTURAL HERITAGE</b>	
<b>Assessment methodology:</b>	Baseline data has been obtained from a desktop review of DEFRA's MAGIC website on 17 September 2014.
<b>Key baseline conditions:</b>	<p><b>Site A – Junction 8</b></p> <p>There are no Scheduled Monuments, listed buildings, Conservation areas, Historic Environmental Records, World Heritage Sites, Registered Parks and Gardens or Registered Battlefields recorded within 300m of the scheme extents.</p>
	<p><b>Site B – Junction 6</b></p> <p>There are no Scheduled Monuments, listed buildings, Conservation areas, Historic Environmental Records, World Heritage Sites, Registered Parks and Gardens or Registered Battlefields recorded within 300m of the scheme extents.</p>
	<p><b>Site C – Junction 7</b></p> <p>There are no Scheduled Monuments, Conservation areas, Historic Environmental Records, World Heritage Sites, Registered Parks and Gardens or Registered Battlefields recorded within 300m of the scheme extents. There is one listed building, 'Rundells' a Grade II listed building 210m east of the scheme.</p>
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.
<b>Temporary effects:</b>	There are no temporary effects, as the noted feature is beyond the scheme extents.
<b>Permanent effects:</b>	There are no permanent effects.

<b>Mitigation / control measures:</b>		
None		
<b>Further action/assessment required?</b>	YES	NO

<b>LANDSCAPE</b>	
<b>Assessment methodology:</b>	The assessment was carried out using a desk stop study using <a href="http://www.googlemaps">www.googlemaps</a> and <a href="http://www.magicmap">www.magicmap</a> .
<b>Key baseline conditions:</b>	<p>Site A</p> <p>The surrounding landscape at this location is mainly rural with largest development being the car parking facility for Stanstead Airport located to the north east and the town of Bishop Stortford located to the south west. The land is mostly used for agriculture with pockets of mature woodland and small developments throughout. The northbound carriageway has open views of the surrounding landscape and the southbound carriageway has intermittent trees scattered throughout the raised verge.</p> <p>Site C</p> <p>The landscape at this location has the town of Harlow located to the north west and various small settlements scattered throughout the landscape. The land is predominately used for agriculture and has extensive mature woodland throughout. The road corridor is tree lined and views of the surrounding landscape are restricted by the raised verges and vegetation.</p> <p>Site B</p> <p>The landscape at this location has the North Weald Airfield located to the east and extensive woodland located to the west and south. There is little in the way of development with only minor settlements throughout the rural landscape which is used for agriculture. The verges are tree lined and rise from the road limiting views of the surrounding countryside.</p>

<b>Key construction activities:</b>	<p>The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.</p>
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>• Possible damage to grass verge through storage of materials and parking of vehicles.</li> <li>• Depositing of materials used for construction works on the verge through carelessness when carrying out works.</li> <li>• Possible spreading of injurious and invasive weed species</li> </ul>
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>• Possible damage to grass verge and surrounding vegetation through the storage of materials and parking of construction vehicles</li> <li>• Possible spreading of invasive and injurious weeds</li> <li>• Possible death to existing trees and woodland</li> </ul>
<b>Mitigation / control measures:</b>	
<p><b>Potential mitigation measures:</b></p> <ul style="list-style-type: none"> <li>• No storage of materials on nearby grass verges as this may destroy the soil structure and damage grass. If damage occurs proper re-installment should be carried out as specified.</li> <li>• Areas within the verges damaged by the proposed works must be reinstated to the specifications provided.</li> <li>• Where areas of invasive and injurious weeds are prominent special measures will be taken to limit their spread and advice sought from a member of the landscape team.</li> <li>• The landscape team must be consulted on any removal of vegetation prior to works commencing.</li> <li>• No items should be stored within the root area of the trees as this will cause compaction and be detrimental to the future health of the trees.</li> <li>• Any excavation adjacent to existing trees should be in accordance with BS 5837 2012 Trees in Relation to Design, Demolition and Construction and advice sought from a member of the landscape team prior to any works commencing.</li> </ul> <p><b><u>GRASS SPECIFICATION</u></b></p> <ul style="list-style-type: none"> <li>• All grass areas should be level with the surrounding heel kerb as maintenance operations are hampered with the various height implications.</li> <li>• Only good quality topsoil to BS3882 should be used in any backfill to a minimum finished depth of</li> </ul>	

<p>100mm, consolidated and sown with grass seed and raked to incorporate grass seed into the seed bed.</p> <ul style="list-style-type: none"> <li>• All debris larger than 50mm should be removed from site and disposed of at an agreed tip.</li> <li>• The area should be left level and free from debris with any damage to existing vegetation being replaced by the contractor.</li> <li>• Grass seed should be sown in the months of April to September at the rate of 25g per m<sup>2</sup> and should consist of species; 30% Creeping Red Fescue, 20% Chewings Red Fescue, 20% Hard Fescue, 10 % Crested Dogstail, 10 % Browntop Bent, 10% Smooth stalked Meadow Grass, or similar species of existing sward.</li> <li>• A pre-seed fertiliser should be used at time of grass seed sowing.</li> </ul> <p>A site visit by a member of the landscape team should be arranged on completion of the works to ascertain if works have been completed to specification.</p>		
<b>Further action/assessment required?</b>	YES	NO
<i>If yes, specify details</i>		

<b>ECOLOGY AND NATURE CONSERVATION</b>	
<b>Assessment methodology:</b>	Baseline data has been obtained from a desktop review of DEFRA's MAGIC website from the Ordnance Survey OpenData website as well as the National Biodiversity Network Website ( <a href="https://data.nbn.org.uk/">https://data.nbn.org.uk/</a> ) on 17 September 2014.
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>• There are no SAC, SPA, Ramsar Sites or NR within 2km of any of the schemes.</li> <li>• There are no SSSI within 2km of Sites A and C. There are two sections of the Epping Forest SSSI lying 1.1km north east of Site B.</li> <li>• There is evidence of protected species in the area surrounding each scheme.</li> <li>• There are 6 ponds within 500m of Site C and 5 within 500m of Site A. Given that Great Crested Newts have a recorded presence within 2.5km and 3km of these works respectively, there is a possibility of disturbing hibernating newts.</li> </ul>
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of

	soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>As works are scheduled for night, there may be disturbance to nocturnal wildlife as a result of lighting and machinery noise.</li> <li>There are</li> </ul>
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>No permanent effects.</li> </ul>
<b>Mitigation / control measures:</b>	
<ul style="list-style-type: none"> <li><b>Amey's Environmental Team must be contacted to allow consideration of potential environmental effects if:</b> <ul style="list-style-type: none"> <li><b>Reduce operating hours.</b></li> <li><b>Reposition equipment.</b></li> <li><b>Change the method of working etc.</b></li> </ul> </li> <li><b>Amey's Environmental Team must be contacted to allow consideration of potential environmental effects if non-native invasive plant species are discovered onsite.</b></li> <li><b>A Habitat Suitability Index (HIS) will need to be carried out on ponds near site A and site C to assess their potential for great crested newts.</b></li> <li><b>If contractors become aware of any protected species during the works particularly Great Crested Newts, bats, otters, red squirrels or badgers and think they may be residing within scheme structures, the works must stop and the environment team notified immediately.</b></li> <li><b>Any artificial lighting required at the site must be directional to avoid the disturbance of wildlife.</b></li> <li><b>Effects from noise should be kept to a minimum through the use of appropriate mufflers and silencers fitted to machinery. All exhaust silencers should be checked at regular intervals to ensure efficiency.</b></li> </ul>	

<b>Further action/assessment required?</b>	YES	NO
<b>A Habitat Suitability Index (HIS) will need to be carried out on ponds near site A and site C to assess their potential for great crested newts.</b>		
This project requires Assessment of Implications on European Sites (AIES)?	YES	NO

<b>GEOLOGY, SOILS AND CONTAMINATED LAND</b>	
<b>Assessment methodology:</b>	Baseline data has been obtained from a desktop review of British Geological Survey (BGS) and JNCC's Geoconservation Review online mapping tools on 17 September 2014.
<b>Key baseline conditions:</b>	<p><b>Site A – Junction 8</b></p> <ul style="list-style-type: none"> <li>• Bedrock geology is indicated to be part of the London Clay Formation (Clay, Silt and Sand) which comprises sedimentary bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period.</li> <li>• Superficial deposits comprise the Lowestoft Formation – Diamicton, which comprises superficial deposits formed under ice age conditions up to 2 million years ago in the Quaternary Period. These rocks were formed in cold periods with Ice Age glaciers scouring the landscape and depositing moraines of till with outwash sand and gravel deposits from seasonal and post glacial meltwaters. There is a band of the Head Formation (Clay, Silt, Sand and Gravel) to the west of the scheme which comprises superficial deposits also formed in the Quaternary Period from the material accumulated by down slope movements including landslide, debris flow, solifluction, soil creep and hill wash.</li> <li>• There are no geologically designated sites within the scheme extents.</li> <li>• The scheme involves excavation works and the site has been previously</li> </ul>

	excavated.
	<p><b>Site B – Junction 6</b></p> <ul style="list-style-type: none"> <li>• Bedrock geology is indicated to be part of the London Clay Formation (Clay, Silt and Sand) which comprises sedimentary bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period.</li> <li>• The scheme area is indicated to have no superficial deposits.</li> <li>• There are no geologically designated sites within the scheme extents.</li> <li>• The scheme involves excavation works and the site has been previously excavated.</li> </ul>
	<p><b>Site C – Junction 7</b></p> <ul style="list-style-type: none"> <li>• Bedrock geology is indicated to be part of the London Clay Formation (Clay, Silt and Sand) which comprises sedimentary bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period.</li> <li>• Half of the scheme area is indicated to have no superficial deposits, with bedrock at surface. The remainder of the scheme area comprises superficial deposits of the Lowestoft Formation – Diamicton, superficial deposits formed under ice age conditions up to 2 million years ago in the Quaternary Period. These rocks were formed in cold periods with Ice Age glaciers scouring the landscape and depositing moraines of till with outwash sand and gravel deposits from seasonal and post glacial meltwaters.</li> <li>• There are no geologically designated sites within the scheme extents.</li> <li>• The scheme involves excavation works and the site has been previously excavated.</li> </ul>
<p><b>Key construction activities:</b></p>	<p>The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor</p>

	drainage and resurfacing works.	
<b>Temporary effects:</b>	There may be potential compaction of soil and grassland from stored plant and machinery and there is likely to be general site clearance	
<b>Permanent effects:</b>	No permanent effects.	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>• <b>Amey's Environmental Team must be contacted to allow consideration of potential environmental effects if non-native invasive plant species are discovered onsite.</b></li> <li>• <b>Should there be any doubt on whether the site is located on contaminated land, please refer to Amey Contaminated Land Guidance.</b></li> </ul>		
<b>Further action/assessment required?</b>	YES	NO

<b>MATERIALS USE</b>	
<b>Assessment methodology:</b>	Baseline data has been obtained from the site engineer
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>• Each embankment slope will be stabilised with a granular fill to the embankment, which would then be topped off with a topsoil to allow for grass seeding or similar (see landscape section).</li> <li>• The damaged VRS will require steel and concrete within minor asphalt requirements for resurfacing.</li> <li>• No general or hazardous waste is to be generated by the works as the expected waste (comprising concrete / hard core, earth and planings (road surfacing)) will be taken to a suitable materials reclamation centre.</li> <li>• As the works are expected to exceed £500,000, an Environmental Plan and a Detailed Materials and Resources Assessment will be required.</li> </ul>



<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.	
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>No temporary effects expected.</li> </ul>	
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>No permanent effects.</li> </ul>	
<b>Mitigation / control measures:</b>		
<b>It is Amey policy to reuse or recycle as much waste as practicable and to source materials from the nearest suitable supplier to the scheme.</b>		
<b>Further action / assessment required?</b>	YES	NO
As the works are expected to exceed £500,000, an Environmental Plan and a Detailed Materials and Resources Assessment will be required.		

<b>NOISE AND VIBRATION</b>	
<b>Assessment methodology:</b>	Baseline data has been obtained from a desktop review the Ordnance Survey OpenData website on 17 September 2014.
<b>Key baseline conditions:</b>	<p><b>Site A – Junction 8</b></p> <ul style="list-style-type: none"> <li>There agricultural and commercial properties within 300m of the scheme which includes farms, car parks, industrial units and offices, however the nearest property lies 120m from the scheme.</li> <li>There are no schools, hospitals or care homes within 300m of the scheme.</li> <li>There are no Non-Motorised User (NMU) facilities within the scheme extents.</li> <li>The M11 is not suitable for pedestrians, cyclists or horse rider sand there are</li> </ul>

	<p>no emergency telephones within the scheme extents.</p>
	<p><b>Site B – Junction 6</b></p> <ul style="list-style-type: none"> <li>• There are no residential, agricultural, civil or commercial properties within 300m of the scheme. The area surrounding the scheme comprises farmland.</li> <li>• There are no schools, hospitals or care homes within 300m of the scheme.</li> <li>• There are no NMU facilities within the scheme extents.</li> <li>• The M11 is not suitable for pedestrians, cyclists or horse rider and there are no emergency telephones within the scheme extents.</li> </ul>
	<p><b>Site C – Junction 7</b></p> <ul style="list-style-type: none"> <li>• There are residential, agricultural and commercial properties within 300m of the scheme which includes farms, restaurants, a highways maintenance depot and a garden centre.</li> <li>• There are no schools, hospitals or care homes within 300m of the scheme.</li> <li>• There are no NMU facilities within the scheme extents.</li> <li>• The M11 is not suitable for pedestrians, cyclists or horse rider sand there are no emergency telephones within the scheme extents.</li> </ul>
<b>Key construction activities:</b>	<p>The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.</p>
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>• There will be a temporary increase in noise levels in the area from the works, however noise emissions at the local scale will be intermittent, transient, temporary and short-lived.</li> </ul>
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>• No permanent effects.</li> </ul>

#### Mitigation / control measures:

- **Uttlesford District Council and Epping Forest District Council's Environmental Health Departments MUST be notified and made aware of the proposed works and that it is due to be undertaken during night time hours as there are properties located within 250m of site A and 120m of site C.**
- **Where applicable, a letter drop must be undertaken to notify local residents below of the impending works and work schedule. The letter must include contact details (office phone number and email address) for the Project Engineer and an out of hours query number.**
- **Best practicable means of noise control, as described within BS 5228-1:2009 'Code of Practice for Noise and Vibration Control on Construction and Open Site', should be implemented in order to minimise the risk of disturbance. The British Standard provides specific detail on suitable measures for noise control in respect to construction operations.**
- **Unnecessary noise should be avoided when carrying out manual operations and when operating plant and equipment.**
- **Reversing warning systems must be switched to the minimum setting required by HSE and, where possible, must utilise 'broadband white noise'.**
- **Appropriate mufflers and silencers should be fitted to machinery. All exhaust silencers should be checked at regular intervals to ensure efficiency.**
- **Worker noise should be minimised.**
- **Regular monitoring (e.g. site walkover) should take place when noise and vibration activities are occurring. In the event that unacceptable noise or vibration is emanating from the site the operation must be modified and rechecked to verify that the corrective action has been effective. Actions to be considered include:**
  - **Reduce operating hours.**
  - **Reposition equipment.**

<ul style="list-style-type: none"> <li>• <b>Change the method of working etc.</b></li> </ul>		
<b>Further action/assessment required?</b>	YES	NO

<b>AFFECTS ON ALL TRAVELLERS</b>	
<b>Assessment methodology:</b>	Baseline data has been obtained from a desktop review of the Department for Transport Traffic Counts ( <a href="http://www.dft.gov.uk/traffic-counts/cp.php?la=Cambridgeshire">http://www.dft.gov.uk/traffic-counts/cp.php?la=Cambridgeshire</a> ), Google Traffic tool and Sustrans ( <a href="http://www.sustrans.org.uk/ncn/map">http://www.sustrans.org.uk/ncn/map</a> ) online mapping tools on the 17 September 2014.
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>• The M11 at each of the scheme locations is a two or three lane motorway with national speed limit applying.</li> <li>• The Annual Average Daily Traffic flows (2000 – 2013) within the vicinity of the schemes are:               <ul style="list-style-type: none"> <li>• Junction 6: - 67,200 signifying a high flow for a Trunk Road;</li> <li>• Junction 7: - 96,184 signifying a high flow for a Trunk Road; and</li> <li>• Junction 8: - 83,887 signifying a high flow for a Trunk Road;</li> </ul> </li> <li>• There are no known congestion issues within each of the scheme extents. However, there are slight congestion issues during commuting hours (07:30 – 09:30 and 16:30 – 18:30) on the slip roads adjacent to Junction 7 and Site C.</li> <li>• There are no accesses or junctions within the scheme extents.</li> <li>• There are no NMU facilities within each of the scheme extents.</li> </ul>
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.

<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>Slight traffic disruption due to lane closure is anticipated, however as the works will be undertaken at night, disruption will be minimised.</li> </ul>		
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>No permanent effects.</li> </ul>		
<b>Mitigation / control measures:</b>			
<ul style="list-style-type: none"> <li><b>Works should be well publicised in advance to make vehicle travellers aware of the possible delays.</b></li> <li><b>Advance warning of traffic management should be given to local residents and farmers with direct access to the scheme.</b></li> <li><b>All temporary traffic management measures will be in accordance with the Department for Transport (DfT) Traffic Signs Manual, Chapter 8, the Traffic Safety Measures and Signs for Roads, Works and Temporary Situations.</b></li> </ul>			
<b>Further action/assessment required?</b>	<table border="1"> <tr> <td>YES</td> <td>NO</td> </tr> </table>	YES	NO
YES	NO		

<b>DISRUPTION DUE TO CONSTRUCTION</b>	
<b>Assessment methodology:</b>	Information from all sections has been assessed for cumulative effects on disruption due to the works.
<b>Key baseline conditions:</b>	<p><b>Site A – Junction 8</b></p> <ul style="list-style-type: none"> <li>There agricultural and commercial properties within 300m of the scheme which includes farms, car parks, industrial units and offices, however the nearest property lies 120m from the scheme.</li> <li>There are no schools, hospitals or care homes within 300m of the scheme.</li> <li>There are no accesses or junctions within the scheme extents.</li> <li>There are no NMU facilities within each of the scheme extents.</li> </ul>

	<ul style="list-style-type: none"> <li>• The planned work is not considered to have a high level of community interest.</li> <li>• Work will be conducted during night time hours to reduce impacts on roads users.</li> <li>• There will be disruption to road user as a result of the need to set up traffic management for the scheme.</li> </ul>
	<p><b>Site B – Junction 6</b></p> <ul style="list-style-type: none"> <li>• There are no residential, agricultural, civil or commercial properties within 300m of the scheme. The area surrounding the scheme comprises farmland.</li> <li>• There are no schools, hospitals or care homes within 300m of the scheme.</li> <li>• There are no accesses or junctions within the scheme extents.</li> <li>• There are no NMU facilities within each of the scheme extents.</li> <li>• The planned work is not considered to have a high level of community interest.</li> <li>• Work will be conducted during night time hours to reduce impacts on roads users.</li> <li>• There will be disruption to road user as a result of the need to set up traffic management for the scheme.</li> </ul>
	<p><b>Site C – Junction 7</b></p> <ul style="list-style-type: none"> <li>• There are residential, agricultural and commercial properties within 300m of the scheme which includes farms, restaurants, a highways maintenance depot and a garden centre.</li> <li>• There are no schools, hospitals or care homes within 300m of the scheme.</li> <li>• There are no accesses or junctions within the scheme extents.</li> <li>• There are no NMU facilities within each of the scheme extents.</li> </ul>

	<ul style="list-style-type: none"> <li>• The planned work is not considered to have a high level of community interest.</li> <li>• Work will be conducted during night time hours to reduce impacts on roads users.</li> <li>• There will be disruption to road user as a result of the need to set up traffic management for the scheme.</li> </ul>		
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.		
<b>Temporary effects:</b>	Slight traffic disruption due to lane closure is anticipated, however as the works will be undertaken at night, disruption will be minimised.		
<b>Permanent effects:</b>	No permanent effects.		
<b>Mitigation / control measures:</b>			
<ul style="list-style-type: none"> <li>• <b>Works should be publicised in advance to make local residents aware of the possible delays.</b></li> <li>• <b>Advance warning of traffic management should be given.</b></li> <li>• <b>Uttlesford District and Epping Forest District Councils must be notified and made aware of the proposed works and that it is due to be undertaken during night time hours.</b></li> </ul>			
<b>Further action/assessment required?</b>	<table border="1"> <tr> <td>YES</td> <td>NO</td> </tr> </table>	YES	NO
YES	NO		

<b>LAND USE</b>	
<b>Assessment methodology:</b>	Baseline data has been obtained from a desktop review of DEFRA's MAGIC website and from the Ordnance Survey OpenData website on 17 September 2014.

<b>Key baseline conditions:</b>	<p><b>Site A – Junction 8</b></p> <ul style="list-style-type: none"> <li>• There agricultural and commercial properties within 300m of the scheme which includes farms, car parks, industrial units and offices, however the nearest property lies 120m from the scheme.</li> <li>• There are no sensitive land uses or community land within 300m of the scheme.</li> <li>• Land surrounding the site is a mix of road space, commercial areas (industrial units and car parking) and agricultural fields adjacent to the route.</li> <li>• There is an unclassified drain culverted beneath the M11 in the vicinity of the scheme.</li> </ul>
	<p><b>Site B – Junction 6</b></p> <ul style="list-style-type: none"> <li>• There are no residential, agricultural, civil or commercial properties within 300m of the scheme. The area surrounding the scheme comprises farmland.</li> <li>• There are no sensitive land uses or community land within 300m of the scheme.</li> <li>• Land surrounding the site is a mix of road space, commercial areas (industrial units and car parking) and agricultural fields adjacent to the route.</li> <li>• There are no classified or unclassified surface water bodies sharing direct or indirect connectivity with the scheme.</li> </ul>
	<p><b>Site C – Junction 7</b></p> <ul style="list-style-type: none"> <li>• There are residential, agricultural and commercial properties within 300m of the scheme which includes farms, restaurants, a highways maintenance depot and a garden centre.</li> <li>• There are no sensitive land uses or community land within 300m of the scheme.</li> <li>• Land surrounding the site is a mix of road space, commercial areas (industrial units and car parking) and agricultural fields adjacent to the route.</li> <li>• There are no classified or unclassified surface water bodies sharing direct or</li> </ul>



	indirect connectivity with the scheme.	
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.	
<b>Temporary effects:</b>	During the works, the site workers and machinery will have a visual presence and a negative visual impact.  Potential compaction of soil and grassland from stored plant and machinery.	
<b>Permanent effects:</b>	No permanent effects.	
<b>Mitigation / control measures:</b>		
<ul style="list-style-type: none"> <li>• <b>Construction vehicles must not left in places where the road verge, soils or vegetation will be damaged.</b></li> <li>• <b>If damage to road verge occurs this must be reinstated with the use of an appropriate seed mix (see landscape section).</b></li> <li>• <b>The size and extent and of storage areas should be limited and wherever possible, materials must be delivered to site when required, thus removing the need for stockpiling.</b></li> <li>• <b>Employ good housekeeping techniques to ensure the site is left clean and tidy.</b></li> </ul>		
<b>Further action/assessment required?</b>	YES	NO

<b>EFFECTS ON THE COMMUNITY AND PRIVATE ASSETS</b>	
<b>Assessment methodology:</b>	Baseline data has been obtained from a desktop review of DEFRA's MAGIC website and from the Ordnance Survey OpenData website on 17 September 2014. In addition information from all sections has been assessed for cumulative effects.

<b>Key baseline conditions:</b>	<p><b>Site A – Junction 8</b></p> <ul style="list-style-type: none"> <li>• There agricultural and commercial properties within 300m of the scheme which includes farms, car parks, industrial units and offices, however the nearest property lies 120m from the scheme.</li> <li>• There are no NMU or community facilities within the scheme extents.</li> <li>• There is no community land within 300m of the scheme.</li> <li>• The planned work is not considered to have a high level of community interest.</li> <li>• Work will be conducted during night time hours to reduce impacts on roads users.</li> <li>• There will be no necessity to access private land during the works.</li> </ul>
	<p><b>Site B – Junction 6</b></p> <ul style="list-style-type: none"> <li>• There are no residential, agricultural, civil or commercial properties within 300m of the scheme. The area surrounding the scheme comprises farmland.</li> <li>• There are no NMU or community facilities within the scheme extents.</li> <li>• There is no community land within 300m of the scheme.</li> <li>• The planned work is not considered to have a high level of community interest.</li> <li>• Work will be conducted during night time hours to reduce impacts on roads users.</li> <li>• There will be no necessity to access private land during the works.</li> </ul>
	<p><b>Site C – Junction 7</b></p> <ul style="list-style-type: none"> <li>• There are residential, agricultural and commercial properties within 300m of the scheme which includes farms, restaurants, a highways maintenance depot and a garden centre.</li> </ul>

	<ul style="list-style-type: none"> <li>• There are no NMU or community facilities within the scheme extents.</li> <li>• There is no community land within 300m of the scheme.</li> <li>• The planned work is not considered to have a high level of community interest.</li> <li>• Work will be conducted during night time hours to reduce impacts on roads users.</li> <li>• There will be no necessity to access private land during the works.</li> </ul>		
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.		
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>• Nearby local residents may have visual intrusion and suffer from noise pollution during the works</li> </ul>		
<b>Permanent effects:</b>	No permanent effects.		
<b>Mitigation / control measures:</b>			
<ul style="list-style-type: none"> <li>• <b>All traffic management measures are in accordance with the DfT Traffic Signs Manual, Chapter 8, the Traffic Safety Measures and Signs for Roads, Works and Temporary Situations.</b></li> <li>• <b>Works should be well publicised in advance to make vehicle travellers aware of the possible delays.</b></li> <li>• <b>Where appropriate, a letter drop must be undertaken to notify local residents below of the impending works and work schedule. The letter must include contact details (office phone number and email address) for the Project Engineer and an out of hours query number.</b></li> </ul>			
<b>Further action/assessment required?</b>	<table border="1"> <tr> <td>YES</td> <td>NO</td> </tr> </table>	YES	NO
YES	NO		

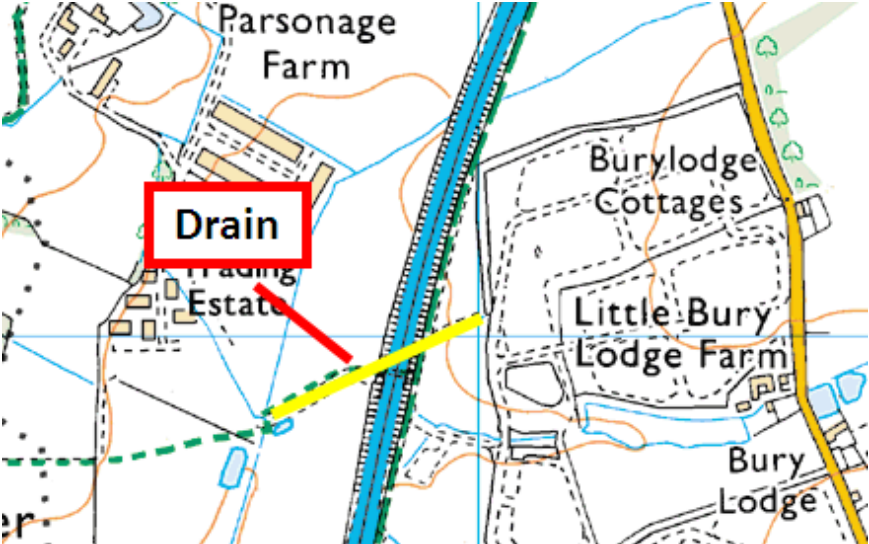
## DRAINAGE AND THE WATER ENVIRONMENT

**Assessment methodology:** Baseline data has been obtained from a desktop review of the Environment Agency's What's in my backyard Maps ([http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=\\_e](http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=_e)) and from the Ordnance Survey OpenData website on 17 September 2014.

**Key baseline conditions:**

**Site A – Junction 8**

- The proposed scheme is not located within an area that is potentially vulnerable to flooding.
- The scheme is located within a Nitrate vulnerable zone for surface waters.
- Road drainage is via filter drains adjacent to the northbound carriageway and top entry road gullies adjacent to the southbound carriageway.
- There is an unclassified field drain culverted beneath the M11 in the vicinity of the scheme as indicated below.



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	<p><b>Site B – Junction 6</b></p> <ul style="list-style-type: none"> <li>• The proposed scheme is not located within an area that is potentially vulnerable to flooding.</li> <li>• The scheme is located within a Nitrate vulnerable zone for surface waters.</li> <li>• Road drainage is via top entry road gullies adjacent to the carriageways.</li> <li>• There are no classified or unclassified surface water bodies sharing direct or indirect connectivity with the works area within 300m of the scheme.</li> </ul>
	<p><b>Site C – Junction 7</b></p> <ul style="list-style-type: none"> <li>• The proposed scheme is not located within an area that is potentially vulnerable to flooding.</li> <li>• The scheme is located within a Nitrate vulnerable zone for surface waters.</li> <li>• Road drainage is via top entry road gullies adjacent to the carriageways.</li> <li>• There are no classified or unclassified surface water bodies sharing direct or indirect connectivity with the works area within 300m of the scheme.</li> </ul>
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.
<b>Temporary effects:</b>	Potential for spillage, leakage and/or seepage of fuels and oils associated with the plant escaping into the water environment.
<b>Permanent effects:</b>	No permanent effects.
<b>Mitigation / control measures:</b>	
<ul style="list-style-type: none"> <li>• <b>Best practice will be applied by referring to method statements and risk assessments for substances and materials used during construction.</b></li> <li>• <b>During the site induction site personnel must be informed of the location of any watercourses.</b></li> <li>• <b>SEPA’s PPG’s e.g. PPG8, must be followed and any pollution incident must be first contained and then reported to Amey immediately.</b></li> </ul>	

- **Spill kits must be available on site at all times and all subcontractors and personnel be trained/briefed on Amey's spillage procedure.**
- **All Storage and refuelling areas (if required) should be stored at least 10m from any road drainage or / and watercourses.**
- **All measures must be taken to ensure that any liquid of a hazardous nature is controlled in accordance with COSHH Regulations.**
- **Where possible, vehicles must not be parked within 10m of any watercourses.**

<b>Further action/assessment required?</b>	YES	NO
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### ENERGY AND LIGHTING

<b>Assessment methodology:</b>	Baseline data has been obtained from the site engineer.
<b>Key baseline conditions:</b>	Works will be undertaken at night, therefore mobile lighting units will be utilised to illuminate works areas.
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.
<b>Temporary effects:</b>	Light pollution to local wildlife and residents.
<b>Permanent effects:</b>	No permanent effects.
<b>Mitigation / control measures:</b>	
<b>Lighting columns should be directed to only illuminate the immediate works area.</b>	

<b>LED lights could be used to reduce energy consumption.</b>		
<b>Further action/assessment required?</b>	YES	NO

<b>WASTE</b>	
<b>Assessment methodology:</b>	Baseline information has been obtained from the Project Engineer.
<b>Key baseline conditions:</b>	<ul style="list-style-type: none"> <li>The cost of the overall scheme will exceed £500,000, an Environmental Plan and a Detailed Materials &amp; Resources Assessment will be required.</li> <li>No general or hazardous waste is to be generated by the works as the expected waste (comprising metals, earth and planings (road surfacing)) will be taken to a suitable materials reclamation centre.</li> <li>There is no asbestos survey for this section of road.</li> <li>None of the waste is likely to be hazardous.</li> </ul>
<b>Key construction activities:</b>	The works are to be carried out as Routine Maintenance under the Planned Maintenance programme. Works on the three schemes will comprise embankment works (a combination of bulk earthworks / granular replacement and installation of soil nails) with the replacement of a damaged VRS on a concrete beam, minor drainage and resurfacing works.
<b>Temporary effects:</b>	<ul style="list-style-type: none"> <li>Waste if not contained and disposed of appropriately could lead to environmental harm.</li> </ul>
<b>Permanent effects:</b>	<ul style="list-style-type: none"> <li>No permanent effects.</li> </ul>
<b>Mitigation / control measures:</b>	
<ul style="list-style-type: none"> <li><b>It is Amey policy to reuse or recycle as much waste as practicable.</b></li> <li><b>Waste must only be disposed of at a suitably licenced waste management site.</b></li> </ul>	

- **It is advised to follow Amey's Asbestos Procedure and use the Asbestos Checklist to assess any required asbestos management action.**
- **It is Amey policy to reuse or recycle as much waste as practicable.**
- **All waste should be segregated appropriately in their waste streams and stored in a safe manner.**
- **Waste to be considered for reuse/recycling, suitable on and off site options should be considered, but must remain appropriate to the scheme value.**
- **All sub-contractors removing waste from site must possess a current Waste Carrier's License.**

<b>Further action / assessment required?</b>	YES	NO
<b>Site Waste Management Plan recommended?</b>	YES	NO
As the works are expected to exceed £500,000, an Environmental Plan and a Detailed Materials and Resources Assessment will be required.		