

Area 3

Maintenance Requirements Plan

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1 Introduction

1.1 Contract Summary

This Maintenance Requirements Plan (MRP) has been compiled to ensure compliance with the Highways England Asset Maintenance and Operational Requirements (AMOR) Area 3 Specific Requirements, dated May 2017 part of the Asset Support Contract documents. Following a Deed of Variation for Progressive Asset Delivery bringing key aspects of AMOR into Highways England, the document utilises the original AMOR to ensure that as a collaborative partnership the AMOR requirements are still delivered, albeit that the May 2017 document is superseded by the AMOR setting out the remaining requirements for the *Provider*.

This document aims to set out the requirements both for Highways England (*Employer*) and the Service Provider Kier (*Provider*) with regard to inspections, proactive and reactive maintenance and defect management of the assets in area 3.

When planning any works within this document due consideration will be given to the Network Occupancy Plan and works will be planned in such a way to secure expeditious movement of traffic on both the area network and adjoining local authority road networks.

For each of the asset groups listed in AMOR Parts 5 – 16 the MRP will detail how the service provider will achieve the stated outcomes and performance requirements using a risk based approach to the inspection and make safe and repair processes as defined in AMOR Part 0.

AMOR Part	Asset Group
5	Drainage
6	Fences, Screens and Environmental Barriers
7	Geotechnical Assets
8	Lighting
9	Paved Areas
10	Road Markings and Road Studs
11	Road Restraint Systems
12	Road Traffic Signs
13	Soft Estate
14	Structures
15	Sweeping and Cleaning
16	Tunnels

1.2 Relevant Documents

This Maintenance Requirements Plan should be read in conjunction with the following documents:

[Link to plans](#)

Note: Links in this document will require permission to Kier systems.

- Design Manual for Roads and Bridges (DMRBs)
- Highways Agency Asset Maintenance and Operational Requirements - Area 3 Specific Requirements (AMOR)
- Area 3 Watchman Plan
- Network Occupancy Plan
- Incident Response Plan
- Severe Weather Plan
- Geotechnical Asset Management Plan
- Environmental Management Plan
- Lighting Asset Management Plan
- Pavement Asset Management Plan
- Drainage Asset Management Plan
- Road Markings Asset Management Plan
- Technology Asset Management Plan
- Boundary Fence Asset Management Plan
- Traffic Signs Asset Management Plan
- VRS Asset Management Plan
- Structures Asset Management Plan
- Traffic Signals Asset Management Plan
- Hindhead Tunnel Asset Management Plan
- Hindhead Tunnel Maintenance Requirements Plan

1.3 Smart Motorways

There is an ongoing programme of Smart Motorway construction.

In the lead up to the construction periods there is discussion with the scheme provider to establish the precise extent of the Area 3 network effected by the scheme. A Detailed Local Operating Agreement (DLOA) is drawn up and agreed by all stakeholders. The DLOA identifies the routine maintenance activities and asset inspections/surveys that will be carried out by the scheme provider during the construction phase. Generally the regime for all such activities will follow those described in this plan.

Routine maintenance and inspections/surveys of all of the (non-technology) assets will resume as described in this plan when a newly constructed section is handed back to Kier.

2 Methodology

2.1 Risk Based Asset Management

This Maintenance Requirements Plan has been developed around a risk based methodology aligned to the following processes as detailed in AMOR May 2017 Part 0:

- Risk Based Inspection Process (AMOR fig 0.3)
- Risk Based Make Safe and Repair Process (AMOR fig 0.4)

The overarching process has been termed Risk Based Asset Management and is summarised below and in the flowchart in Figure 2.

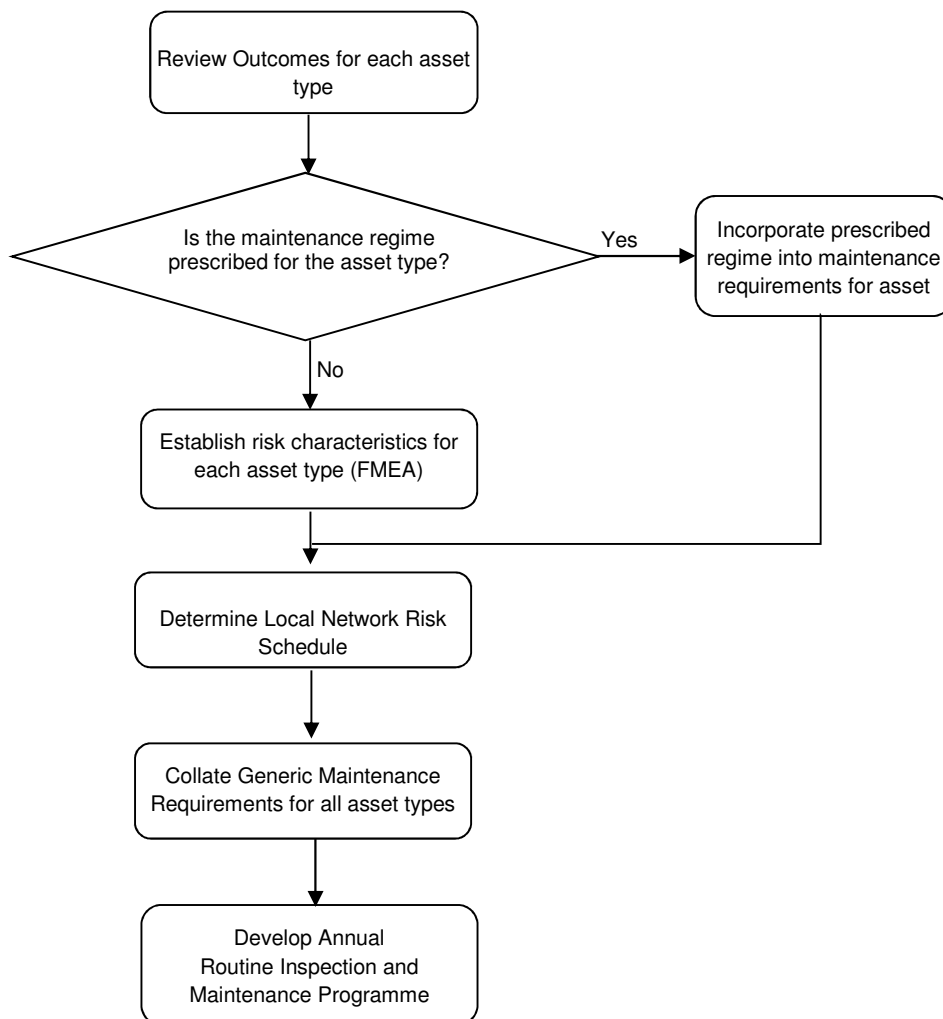


Figure 2: Risk Based Asset Management Process

2.1.1 Review Outcomes for each asset type

The Outcomes for each asset type in the May 2017 AMOR document – including all referenced documents and procedures (e.g. TD25, BD63, HD41 etc.) were reviewed to ensure they are included in the risk characteristic analysis.

2.1.2 Determine if any prescribed maintenance regimes exist

Where an asset maintenance regime is prescribed by an existing Highways England standard, such as for structures (BD63) or road traffic signs (TD25), these have been incorporated into this Maintenance Requirements Plan (MRP) for that asset type.

2.1.3 Establish risk characteristics for each asset type

In establishing the risk characteristics for each asset type an approach that has its origins in reliability engineering and lean processes has been adopted. Before the start of the contract, for each asset type, the required function of the asset was determined and the ways in which the asset may fail to meet this function identified. The risks associated with each of these failure types was then assessed. This technique is known as Failure Mode & Effect Analysis (FMEA) and is an internationally recognised methodology designed to identify potential failure modes, to assess the risk associated with those failure modes, to rank the issues in terms of importance and to identify the most suitable regime to mitigate against each failure mode. The frequencies of maintenance and asset inspection/survey activities described in this MRP are the result of that analysis

2.1.4 Determine local network risk schedule

It is recognised that the risk characteristics for some asset types are also influenced by factors associated with the location of the asset, in addition to the generic “functional” risks identified above. This is reflected in the precise maintenance regime, which is developed based upon network knowledge and experience.

2.1.5 Develop annual inspection/survey and maintenance programme

The annual programme is optimised to combine, where possible, inspections with routine activities in a “Service – Inspect” approach.

Adoption of risk based asset management will ensure that the level of effort invested in each asset is consistent with the risk presented should the asset fail to perform its intended function and subsequently fail to deliver the required outcome.

2.2 Defect Categorisation and Risk Management

It is inevitable that defects will occur on the network. As defined in the AMOR a defect to the asset is such that it:

- Causes an unintended hazard, nuisance or danger to the users of the Highway
- Represents a deterioration from the normal condition
- Prevents an item from acting in the intended manner
- Is damaged
- Is likely to increase the rate of deterioration of another item

A key aspect of this MRP is the safe and effective identification and control of defects through the “Risk Based Inspection and Make Safe and Repair Processes” (AMOR figs 0.3 & 0.4). This will be achieved via a defect decision matrix in order to assess the required treatment options for identified defects, based on severity and risk, i.e. make safe, undertake a permanent repair or include in the preventative maintenance programme.

All defects are categorised as either “Safety Critical” or “Non - safety” dependant on whether the defect presents a hazardous risk to the road user or asset.

2.2.1 Safety Critical Defect Definition

Safety Critical defects are those defects that require prompt attention because there is an immediate or imminent risk of either one or more of the following:

- Injury to any party using or repairing the network
- Failure of an asset to fulfil its intended function where such an asset protects the road user and/or facilitates the safe use of the network
- Failure to effectively enforce the legality of an asset that has a mandatory or prohibitory function
- Liable to leave the Secretary of State in breach of one or more of his statutory duties
- Causes offence to road users, e.g. from graffiti that is obscene, blasphemous or otherwise offensive

2.2.2 Examples of Safety Critical Defects

Not an exhaustive list:

- Potholes in trafficked areas and hard shoulders ≥ 150 mm diameter, or of a depth \geq than that of the surface course thickness, or of \geq depth than 40mm
- Local Surface Deformation (when measured under a 2m straight edge) ≥ 40 mm in trafficked areas and hard shoulders
- Ironwork in trafficked areas and hard shoulders where the difference in level ≥ 25 mm
- Any step change that may constitute a trip hazard on any paved area subject to pedestrian use ≥ 25 mm
- Excessive standing water and excessive water discharging on to and/or across the road
- Damage to road restraint systems that is classified as high risk in accordance with the “Repair Risk Assessment Matrix” in AMOR Appendix 11
- Certain debris and spillage in traffic lanes (including metre strips)
- Damaged lighting columns and other street furniture deemed in danger of collapse
- Certain damaged, defective, displaced or missing mandatory/warning traffic signs or signals
- Certain dirty or otherwise obscured mandatory/warning traffic signs and signals
- Trees, shrubs and hedges that by virtue of their position or condition constitute an immediate hazard to road-users, e.g. fallen or overhanging limbs etc., including footways and cycleways
- Certain damage to road structures, e.g. impact damage to superstructures, supports or parapets, flood damage, insecure expansion joints
- Certain damaged boundary fences, e.g. where livestock or public could gain access to the network

- Earth slips where significant debris has encroached or is likely to encroach on to the road
- Rocks or rock faces deemed to constitute an immediate hazard to road users

2.2.3 Defect Prioritisation

All defects will be prioritised for action according to the severity and risk posed using a 4 x 4 consequences / likelihood risk matrix as shown below in Fig 3:

MAJOR	CONSEQUENCE OF EVENT	4	4	8	12	16	SAFETY CRITICAL - MAKE SAFE & MITIGATE WITHIN 24 HOURS
MODERATE		3	3	6	9	12	NON SAFETY HIGH - PERMANENT REPAIR WITHIN 28 DAYS (RISK ASSESSMENT DEPENDANT)
MINOR		2	2	4	6	8	NON SAFETY MEDIUM - TO BE INCLUDED WITHIN IN YEAR SCHEME PROGRAM
INSIGNIFICANT		1	1	2	3	4	NON SAFETY LOW - *
			1	2	3	4	
			UNLIKELY	POSSIBLE	PROBABLE	LIKELY	

Fig 3: Defect Risk Matrix

- * Appropriate asset custodian will consider for inclusion in asset renewal programme or schedule more detailed inspection.

3 Maintenance Requirements

For each asset type the risks, in terms of safety and availability, to not achieving the associated Outcomes (“Outcomes” are detailed for aspects of network management and the various asset types in the AMOR) have been evaluated using the methodology described in the previous section, with the suitable mitigation strategies identified forming the basis of the inspection and maintenance requirements.

Particular emphasis is placed on ensuring that the risks to safety are controlled to ensure that the Area Network is not dangerous to traffic and provides Highways England with a ‘special defence’ under Section 58 of the Highways Act 1980.

3.1 Approach to Inspection Management

Highway inspections and surveys are performed to ensure that:

- the network is free of defects that are dangerous to the highway user
- there are no items of infrastructure that have the potential to lead to deterioration in the general condition of the highway
- suitable asset condition data is collected to contribute to asset life cycle decisions

Highways England undertakes the following types of highway inspections/surveys in Area 3:

3.1.1 Safety & Debris Patrols

These patrols identify safety critical defects on the network, supplementing the planned Safety Inspections (see below). Safety & debris patrols are ad hoc and will be carried out by AIWs and HETOs.

On detection, a safety critical defect will be reported to the RCC/NCC immediately who will take further action as necessary and in accordance with the incident management process.

3.1.2 Safety Inspections

Safety Inspections of the network are carried out weekly by *Highways England's* Asset Incident Watchmen (AIWs) in a vehicle travelling at normal traffic speed. Any defects observed, such as debris, potholes, blocked gullies, broken covers/gratings or standing water etc, will be assessed using the matrix in 2.2.3 and the details loaded into the defects database. If the defect is likely to cause an immediate hazard to road users it will be notified to the RCC/NCC and, if the AIW is equipped and trained to do so, they will make the hazard safe. If not then the RCC/NCC will instruct the Service Provider to attend (LS).

3.1.3 Asset Surveys

Asset Surveys will be carried out by the AIWs, or other appropriate resource, to record the condition of the asset. The approach is detailed under each asset.

Asset condition is recorded, and results are periodically passed to the Asset Data Manager for analysis. The Asset Data Manager prepares appropriate reports for each of the asset custodians.

Condition ratings are stored in local databases and can be loaded into Highways England Asset management system (IAM-IS) where the system allows. Any specific defects identified during an asset survey will be recorded and loaded onto the IAM-IS / Mobile Workforce Database, as 3.1.2.

The condition of each asset will be rated on a four-point scale (Condition 5 is for analytical purposes):

Condition	Description
1	More than 10 years before replacement required
2	Less than 10 years but more than 5 years before replacement required
3	Less than 5 years but more than 2 years before replacement required
4	Less than 2 years before replacement required
5	Failed / Unserviceable
0	Unable to inspect

Any asset that cannot be assessed on the day scheduled for its asset survey will be reported, by the Asset Data Manager, to the appropriate asset custodian. The asset custodian will assess the potential risk of not updating the condition rating. If it is deemed a condition assessment is required a re-visit will be programmed.

3.2 Drainage

This section describes the approach to the routine inspection and maintenance of the drainage assets, including gullies, manholes, catch pits, filter drains and piped drainage.

3.2.1 Outcomes for drainage assets:

1. The drainage system is managed and maintained to minimise the risk of flood events on trafficked surfaces and remove standing water from trafficked surfaces
2. The drainage system is managed and maintained to remove sub-surface water to enhance the longevity of paved areas and associated earthworks
3. The drainage system is managed and maintained to minimise the risk of pollution to receiving water courses

Deliverables

Deliverables for drainage assets:

- Validation of Priority Drainage Assets A to D will be undertaken in accordance with AMM 130/10 and associated HADDMS guidance to achieve the Outcome 1.
- Validation of flood hotspots will be undertaken in accordance with AMM 122/10 and associated HADDMS guidance to achieve the Outcome 3

3.2.2 Summary of Maintenance Strategies

The table below summarises the maintenance strategies, for each asset type, to minimise the risk of failing to meet the Outcomes above:

Asset Types	Recommended Maintenance Strategy	Standard Frequency
Manholes	Covers in paved area subject to weekly safety inspections. All covers subject to annual condition asset survey. Maintenance will be instructed on a reactive basis according to defects identified.	Weekly/Annual
Gullies & Catchpits	Weekly safety inspection. Gully and catchpit emptying based upon network knowledge and experience.	Weekly / Max 2 years
Channels	Weekly safety inspection. Channel sweeping and cleaning based upon network knowledge and experience.	Weekly/ Max 2 Years
Grassed Surface Water Channel or Swale	Weekly safety inspection. 5 yearly Asset Survey. Maintenance will be instructed on a reactive basis according to defects identified.	Weekly/ 5 yearly
Filter Drain	Asset Inspection to establish condition. Maintenance will be instructed on a reactive basis according to defects identified.	5 Yearly
Ditches, Outfalls and Soakaways	Weekly safety inspection. Asset Inspection to establish condition – maintenance ordered as required. Highways England guidance followed to determine frequency	Weekly/ 5 Yearly
Grips	Weekly Safety inspection to establish serviceability. Clear and recut as instructed on a reactive basis according to defects identified.	Weekly
Counterfort Drains	Inspections as scheduled in the GAMP (Geotechnical Asset Management Plan). Maintenance will be instructed on a reactive basis according to defects identified.	As per GAMP
Pipework	d Reactive Inspections as identified. Maintenance will be instructed on a reactive basis according to defects identified. Approved schemes carried out.	None
Culverts (< 900mm dia.)	Reactive inspections following flood reporting, Targeted inspection of known flood risk locations when severe weather warnings received or during prolonged period of heavy rain. Maintenance will be instructed on a reactive basis according to defects identified.	Inspections as required and five yearly asset condition Inspection
Pollution Control Devices	Asset Inspection to establish condition – maintenance ordered as required, includes. Interceptors, Spill Kits, Wing Walls, etc.	Annual
Flow Control Devices	Asset Inspection to establish condition – maintenance ordered as required. Includes hydro-brakes, weirs etc. Maintenance will be instructed on a reactive basis according to defects identified.	Annual
Screens	Asset Survey to establish condition – maintenance ordered as required.	Annual
Balancing Ponds	Asset Inspection to establish condition – maintenance ordered as required. Check following local spill.	2 Yearly

Flooding	Reactive inspection at incident. Targeted inspection of known flood risk locations when severe weather warnings received or during prolonged period of heavy rain.	Inspections as required
Pump Stations (excluding Hindhead Tunnel)	Telemetry installed. Reactive Inspection following automatic defect reporting. Pumps to be inspected and maintained to manufacturers recommendations Approved schemes carried out.	Inspection as required

3.2.3 Approach to Routine Maintenance

The inspection and maintenance programme will ensure that each asset is inspected and maintained in accordance with the risk characteristics for each asset type. Any defects identified will be recorded and loaded onto the IAM-IS / Mobile Workforce Database and managed in accordance with the defect prioritisation matrix.

In addition to the specific approaches below there will be a regime of targeted inspections of known flood risk locations when weather warnings are received and routinely during the autumn and winter periods and times of heavy rainfall in the spring and summer.

Gullies & Catchpits emptying will be based upon network knowledge and experience, used to build a targeted programme. However high risk areas will be inspected and swept or gullies emptied on a more frequent basis during the autumn and winter periods when leaf fall can cause problems.

Channels will be swept as required to prevent the build-up of silt and detritus that could get washed into the drainage system. Trunk road (i.e. non-motorways) channels are the responsibility of local authorities, although responsibility for taking action to prevent flood events remains with Kier. However high-risk areas will be inspected and swept or emptied on a more frequent basis during the autumn and winter periods when leaf fall can cause problems.

Filter Drains will be inspected every 2 years to establish condition. The results will be made available to the asset custodian.

Ditches, Outfalls and Soakaways: Potential issues with blocked ditches, outfalls and soakaways will be identified during the Asset Survey. Any clearance work will be programmed, either under a scheme or alongside other network activities.

Grips will be inspected and re-cut as required following inspections.

Counterfort Drains: Asset Inspection to establish condition – maintenance ordered as required. (Service Provider)

Pipework inspection will be instigated in reaction to the symptom of a potential problem being identified; this could be a gully or catchpit blockage or recurring flooding hotspot.

Culverts (< 900mm dia.) will be inspected on a reactive basis when potential problems are identified through the watchman process or the 5 yearly ditch inspection/ asset survey.

Pollution Control Devices (Interceptors, Valves, Stop Walls, etc.) will be inspected for sediment build up and contaminants. If required each device will be maintained, emptied and re-charged with clean water according to the requirements set out by the manufacturer.

Flow Control Devices (Hydro-brakes, Wing Walls etc.) will be inspected for sediment build up and contaminants. If required each device will be maintained according to the requirements set out by the manufacturer.

Balancing Ponds are to be inspected to establish condition as per the DAMP or as specified in the pond strategy. Vegetation clearance is to be undertaken if required.

Pumping Stations are situated across the network to alleviate flooding. Each pump is remotely monitored and reports telemetry direct to the NCC in Area 3 and drainage team. Pumps are inspected and maintained as per manufacturers' recommendations.

3.2.4 Records

The following is a sample of forms that can be used, accessed from Sub Process 4.01:

- Gully & Catchpit Cleansing – Daily Record Sheet
- Ditching Record Sheet
- Sweeping Record Sheet

All of the maintenance records are kept on systems approved by the Service Manager.

3.2.5 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work.

All liquid waste generated from the emptying of gullies, catch pits and interceptors etc. will be treated as hazardous waste and disposed of accordingly.

Protected species, including reptiles, great crested newts and nesting birds, inhabit balancing pond areas, so ecological input is required prior to any works.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between Highways England and *Provider*.

3.3 Fences, Screens and Environmental Barriers

This section describes the approach to the routine inspection and maintenance of fences, screens and environmental barriers.

3.3.1 Outcomes

Outcomes for Fences, Screens and Environmental Barrier assets:

1. Fences, screens and environmental barriers are safe and stable and fulfil their intended safety purpose.
2. Fences, screens and environmental barriers are managed to identify defects that would adversely impact upon their intended functional purpose.

3.3.2 Summary of Maintenance Strategies

The table below summarises the maintenance strategies, for each asset type, that have been determined at FMEA / risk characterisation phase to minimise the risk of failing to meet the Outcomes above:

Asset Types	Recommended Maintenance Strategy	Standard Frequency
Boundary Fencing	Asset Inspection	2 Yearly
Safety Screen	Asset Inspection	2 Yearly
Other Fencing	Asset Inspection	2 Yearly
Environmental Barriers	Asset Inspection	2 Yearly

3.3.3 Approach to Routine Maintenance

The inspection and maintenance regime will ensure that all fences, screens and environmental barriers are maintained to achieve the Outcomes. Any defects identified will be recorded and loaded onto the IAM-IS / Mobile Workforce Database and repaired in accordance with the defect prioritisation matrix.

If the defect is likely to cause an immediate hazard then it will be notified to the NCC who will arrange for a relevant resource to attend, they will be equipped to make safe hazards either on a temporary basis or in some instances will be able to implement a permanent repair.

Asset surveys will be carried out by Highways England to record the condition of the assets as per the condition rating table, 3.1.3.

3.3.4 Records

All defect data to be recorded on the IAM-IS / Mobile Workforce Database.

3.3.5 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work.

All of the maintenance records are kept on systems approved by the Service Manager

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between Highways England and *Provider*.

3.4 Geotechnical Assets

This section describes the approach to the routine maintenance of Geotechnical Assets in Area 3.

The requirements for this section relate to the approach to be undertaken for the inspection and routine maintenance of the geotechnical asset including pavement sub-grades, embankments, cuttings and generally any subsoil conditions that may affect the Network. For specifics on dealing with defects, such as subsidence or dene holes, the Geotechnical Asset Management Plan should be consulted.

3.4.1 Outcomes

Outcomes for Geotechnical assets:-

1. Potential Defects with geotechnical assets are identified.
2. Defects are managed to minimise risks to road users.
3. Defects are managed to minimise risk of damage to other assets.

All geotechnical assets are to be assessed, documented and repaired in accordance with HD41/15 - Maintenance of Highway Geotechnical Assets and HD22/08 – Managing Geotechnical Risk and no further risk analysis is deemed necessary. Therefore, no additional FMEA has been undertaken.

The Geotechnical Asset Management Plan (GAMP) is prepared to the required format and defines the maintenance strategies to be employed, forming an integral part of the maintenance requirements plan for the geotechnical assets.

3.4.2 Inspection & Defect Identification

Safety inspections are carried out on a weekly basis by Highways England. Any defects observed, such as soil slips or subsidence of the verge, will be recorded and loaded onto the appropriate database. If the defect is likely to cause an immediate hazard to road users, then the *Provider* will be notified and appropriate safety measures put in place.

Asset inspections, incorporating Principal and Repeat Inspections, are carried out by the *Provider* according to HD41/15 in order to assess and record the condition of the geotechnical asset including embankments, cuttings and rock slopes. Principal and Repeat Inspections are carried out on a risk based approach as outlined in the current GAMP.

Detailed inspections are carried out on foot, where appropriate, by competent geotechnical personnel, in order that detailed visual assessments of the asset and any associated defects can be clearly recorded.

Asset condition and defect identification are recorded using Pocket GAD, a proprietary system that allows for the download of historic condition data from HAGDMS onto a handheld device prior to inspection. Details are confirmed or amended during the inspection and then uploaded back into HAGDMS.

The asset is broken down into 'Significant Earthworks' (embankments, cuttings or bunds with a maximum vertical height of greater than or equal to 2.5m) and 'At Grade' sections (vertical height below 2.5m). Earthworks are then further classified based on their location, geology and geometry. Within each earthwork observations are recorded for particular defects or conditions noted during the inspection (such as hydrophilic vegetation, soil slips and tension cracks).

All earthwork defects are categorized by class and location in order to derive a risk level as referenced in HD41/15.

Further to the Principal and Repeat Inspections regime, "Severe" and "High Risk" defects are incorporated into a programme of monitoring that allows for more regular inspections, typically on

a bi-annual or annual basis, to ensure these defects do not deteriorate to such a point as to cause a hazard to the road users.

3.4.3 Approach to Routine Maintenance

Routine maintenance of the geotechnical asset relates both to the updating and development of the asset inventory within HAGDMS and the actual maintenance of the embankments, cuttings, bunds and rock slopes that make up the asset.

3.4.4 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work.

All of the maintenance records are kept on systems approved by the Service Manager.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary.

3.5 Lighting

This section describes the approach to the routine maintenance of the Lighting asset in Area 3, including lighting columns, illuminated signs and bollards, pedestrian walkway, cycleway and subway lighting, Belisha beacons and wig-wag signs.

3.5.1 Outcomes

Outcomes for lighting assets:

1. Lighting does not present a hazard to the road user, road worker or third parties.
2. Road lighting continues to fulfil its intended purpose as an accident reduction measure.
3. Other lighting continues to fulfil its intended purpose, i.e.:
 - road traffic signs lighting to highlight the location of a road traffic sign
 - gantry lighting to highlight the presence of the sign and to help read the sign
 - other lighting (subway & access) is to provide route guidance and hazard identification.

The Lighting Asset Management Plan (LAMP) is prepared to demonstrate how the outcomes and deliverables of the AMOR will be achieved, defining the maintenance strategies to be employed, forming the principal document for the maintenance requirements plan for the lighting assets. Therefore, no additional FMEA has been undertaken.

3.5.2 Objectives

Lighting provides visual guidance for road users and contributes to the security of other paved areas. Efficient lighting reduces energy consumption so contributing to lower operating costs and reduced environmental damage. Lighting must remain structurally and electrically safe, so as not to present a hazard to the road users or workers on the paved area. Damage to components or their deterioration may result in a hazard or loss of economic life.

3.5.3 Inspection & Defect Identification

Lighting Operational Performance Surveys (“scouting”) are undertaken as detailed in the LAMP, in accordance with AMOR, (also encompassing all lit signs). These lighting ‘scouts’ are carried out by the Asset Incident Watchman Service at set frequencies defined within the LAMP. All defects are recorded and passed back to the electrical needs team to record on the appropriate database and programme for rectification depending on the category as laid down in TD23/99

Any defects arising from incidents that result in damage or failure of lighting equipment, including lit signs and bollards, will be passed to Highways England for assessment and rectification according to the defect priority matrix (Section 2.2.3) and the make safe and repair process.

3.5.4 Approach to Routine Maintenance

Bulk lamp change and cleaning, structural testing and feeder pillar maintenance will all be carried out and recorded as detailed in the LAMP.

Electrical testing of the feeder pillars and lighting columns will be carried out at the same time.

3.5.5 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work.

Recycling of used electrical equipment will be carried out in accordance with the Waste Electrical and Electronic Equipment (WEEE) directive.

All of the maintenance records will be stored on the relevant management systems approved by the Service Manager.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary.

3.6 Paved Areas

This section describes our approach to the routine maintenance of paved areas, encompassing the following assets that fall within the Area Network:

- Pavement and paved areas (including carriageway, traffic islands, paved central reserves and crossovers, hard standings and hard shoulders)
- Footways and cycle tracks (including bridleways, paved pedestrian areas and pedestrian crossings)
- Covers, gratings, frames, boxes (surface elements when within paved areas)
- Kerbs, edgings and preformed channels

3.6.1 Outcomes

Outcomes for Paved Areas assets:

1. The paved area provides a safe and even surface for all road users.

3.6.2 Summary of Maintenance Strategies

The table below summarises the maintenance strategies, for each asset type, that have been determined at FMEA / risk characterisation phase to minimise the risk of failing to meet the Outcome above:

Asset Types	Recommended Maintenance Strategy	Standard Frequency
Pavement and Paved Areas	Asset Survey to establish condition	Annual
	HE SCRIM survey	Annual
	HE TRACS survey	Annual
Footways and Cycle Tracks	Asset Inspection to establish condition	Annual
Kerb, Edgings and Preformed Channels	Asset Inspection to establish condition	Annual

3.6.3 Objectives

In order for the paved areas to achieve the outcome of a safe, even surface for all road users the maintenance requirements have been designed to ensure that the following objectives are met:

- The surface is free of potholes, cracking and deep rutting etc.
- Paved areas are free of hazardous ironwork.
- Obstructions / debris are removed from traffic surfaces.
- Kerbs / edgings do not present a tripping hazard.
- Skidding resistance is not impaired.

If a defect occurs for one of the reasons given in HD31 (as below) the defect is considered beyond lump sum maintenance and its repair should be treated as a renewals scheme. In these cases, the maintenance response will be to make safe and warn the travelling public:

- a) Failure of road foundation due to poor drainage or other subgrade problems
- b) The gradual deterioration of the bituminous surface material with age, with it eventually breaking up forming crazed areas and potholes
- c) Water penetration and frost damage of the pavement layers, reducing load bearing capacity of the structure causing the road surface to break up
- d) Volume of traffic causing failure through overloading

3.6.4 Inspection & Defect Identification

Safety & debris patrols will be carried out on an ad-hoc basis by Highways England.

Highways England will carry out weekly safety inspections of the network as described in section 3.1.2.

The weekly safety inspection of footways & cycle ways that are hidden from view of carriageway will be carried out on foot by Highways England. No traffic management will be required for the visual inspection.

Any defects observed will be assessed using the matrix in 2.2.3 and managed as detailed in section 3.1.2.

Asset surveys will be carried out by Highways England to record the condition of the assets as per the condition rating table. This asset condition data is recorded on DCDs or portable GPS enabled tablet PCs and downloaded into the appropriate database. Any specific defects identified will be recorded and loaded onto the IAM-IS / Mobile Workforce Database, as 3.1.2.

3.6.5 Approach to Routine Maintenance

Debris is to be removed from the carriageway immediately upon discovery. If the debris is in live lane then police or traffic officer assistance shall be requested via the RCC/NCC.

Potholes will be assessed for severity by a trained HE inspector when identified and, if deemed to be safety critical, they will be reported to the ROC or RCC/NCC for immediate repair by the *Provider* if traffic conditions allow, or for make safe and repair within 24hrs, outside peak periods.

All defects will be managed in accordance with the matrix in 2.2.3.

Ironwork that is either damaged or missing and deemed to be safety critical will be reported to the RCC/NCC to be dealt with according to the defect priority matrix (Section 2.2.3).

Kerbs & Edgings that are uneven, rocking or broken and might present a hazard to pedestrians or motorists will be dealt with according to the defect priority matrix (Section 2.2.3).

Drainage Channels will be swept as required to prevent silt and debris from being washed into gullies and blocking the drainage system.

Kerb lines on APTR are the responsibility of the local authority to sweep. Where sweeping is required this will be brought to the attention of the local authority. *Highways England* will offer the use of any traffic management availability that we have planned for the local authority to take advantage of.

Vegetation - From the footway inspections, defects may be identified such as any encroaching vegetation on footways / cycle ways. This will be cut back by the appropriate crews or sub-contractor as instructed.

Slippery Roads identified by investigations such as SCRIM surveys will be signed with slippery road signage.

3.6.6 Records

Records of routine maintenance will be kept as required on the appropriate sheets or forms that can be accessed via links in Sub Process 4.01.

All of these maintenance records are kept on systems approved by the Service Manager.

3.6.7 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between the Highways England and *Provider*.

3.7 Road Markings and Road Studs

This section describes the approach to the routine maintenance of road markings and road studs in Area 3.

3.7.1 Outcomes

Outcome for road markings and road studs:

1. Road markings and road studs are safe and visible.

The inspection and routine maintenance of road markings and road studs is to be undertaken in accordance with the requirements of TD26. The inspection regime will follow a risk based approach.

3.7.2 Objectives

In order to achieve the outcome of safe and visible road markings and studs the maintenance requirements have been designed to ensure that the following objectives are met:

- Road markings are clean and visible, with reflectivity complying to TD26
- Road markings are audible and tactile where required
- Road studs comply to TD26
- Road studs are adequately fixed in/on the surface
- Road studs maintain good reflectivity or light source characteristics complying with direction 57 of TSRGD

Skid resistance has not been considered a priority inspection requirement due to the cyclical maintenance approach used on the network, having a proactive frequency. As encouraged in TD26, a HSM (High Speed Monitor) skid resistance survey has been undertaken on a sample of the asset to assess if the risk of skid resistance is a priority. As a result of this sample it is proposed repeat the survey every six years to identify any need to revise the risk based inspection plan. See the Road Markings Asset Management Plan for more detail.

3.7.3 Inspection & Defect Identification

Highways England will carry out safety inspections of the network as described in section 3.1.2. Any defects observed will be recorded on the appropriate database, for rectification according to the defect priority matrix (Section 2.2.3).

A HSM survey may be carried out annually, subject to funding, to assess the condition of the asset. This survey benefits the value management process and provides suitable accuracy to assess deterioration rates. If an HSM condition survey is not carried out an Asset Survey of road markings will be carried out by the Service Provider.

Any markings that are regularly failing prematurely are captured through the Highways England safety inspections and are rectified in accordance with TD26/17.

Routine visual inspections of the road studs will be carried out by Highways England every 6 months. These will be alternate daytime and night time. Results will be assessed in accordance with TD26 Annex C. Any critical (as defined in TD26 Annex C, Figure C1 and C2) defects will be corrected or made safe according to the defect priority matrix (Section 2.2.3) and the make safe and repair process.

Asset Survey condition ratings are as described in 3.1.3; a comparison of these ratings with the HSM condition rating and TD 26 Annex E, Table C.1 score is shown here:

Condition rating (Section 3.1.3)	1	2	3	4	5
HSM condition rating	A	B	C	D	E
Equivalent TD26 score	50	40	30	20-10	0

Extract from TD26/17:

Table C.1: Visual Assessment Scoring for wear

Assessment	Score	Defect type when score averaged
Non-existent, residue only	0	Critical Defect
Barely visible	10	Critical Defect
Visible, but has randomly spaced small bare spots	20	Potentially Critical Defect – judgement required taking into account location and function and plan shall be put in place to manage
Marginal – some visible wear, larger bare spots	30	Non-Critical Defect
Very little wear	40	Non-Critical Defect
No obvious wear	50	Not a defect

3.7.4 Approach to Routine Maintenance

There is not any routine maintenance applied to the road marking or road stud asset. The assets are refurbished or replaced as they approach the end of their service life.

Road studs and road marking defects identified as non-safety low defects will be grouped together into scheme packages for the funding in the following financial years programme of works.

Summary of approach to refurbishment/renewal:

- Over-spraying of existing edge road markings will be with cold applied water-borne acrylic paint system or other appropriate system of paint.
- Hot applied thermoplastic materials will be used for lane lines and junction markings where over spraying is deemed unsuitable.
- MMA material shall be used at interchanges and junctions where suitable. This is promoted by schemes.

3.7.5 Records

If data is not recorded on DCD/ tablet then the following forms can be used from Sub Process 4.01:

- Road Markings & Stud Inspection Record

All of the maintenance records are kept on systems approved by the Service Manager.

3.7.6 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work

Cold applied water-borne acrylic paint systems meet both health & safety and environmental requirements in that no heat sources or solvents are used in the application process.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between the Highways England and *Provider*.

3.8 Road Restraint Systems

This section describes the approach to the routine maintenance of Road Restraint Systems in Area 3. This encompasses all vehicle restraint systems and pedestrian restraint systems within the Area Network, including: vehicle safety barriers, crash cushions, terminals, transitions, pedestrian guard rails, vehicle parapets and pedestrian parapets on bridges and other structures.

3.8.1 Outcomes

Outcomes for Road Restraint Systems assets:

1. Road restraint systems are managed and maintained to function in accordance with their intended design and performance requirements.

3.8.2 Summary of Maintenance Strategies

The table below summarises the maintenance strategies, for each asset type, that have been determined at FMEA / risk characterisation phase to minimise the risk of failing to meet the Outcome above:

Asset Types	Recommended Maintenance Strategy	Standard Frequency
Safety Fence	Asset Condition Survey	2 Yearly
	Routine re-tensioning programme (tensioned systems only)	2 Yearly
End Terminals (P4s) / Crash Cushions	Asset Condition Survey	2 Yearly
	Inspection in accordance with manufacturer's recommendations	As Required
Pedestrian Guard Rail	Asset Condition Survey	2 Yearly
Emergency Crossing Points (ECPs)	Asset Condition Survey	2 Yearly
	Inspection in accordance with manufacturer's recommendations	As Required
Structure Parapets	Inspection in accordance with associated structure inspection regime	2 Yearly (GI) 6 Yearly (PI)

3.8.3 Objectives

The maintenance requirements for road restraint systems have been designed with the following objectives to ensure compliance with the outcome stated above:

- Implement a road restraint systems inspection regime (incorporating manufacturer's inspection specifications for proprietary systems) to assess condition and identify defects including, but not limited to:
 - Areas of corrosion, cracking, spalling or other material deterioration
 - Broken, loose or missing components
 - Potential signs of fluid and gas build up in metal parapets
- Make safe defects (as per AMOR section 11)
- Maintain barrier tension in accordance with manufacturer's recommendations or in accordance with BS 7669-3, in the absence of manufacturer's recommendations

3.8.4 Inspection & Defect Identification

Safety & debris patrols will be carried out on an ad-hoc basis by Highways England as described in section 3.1.1. These patrols help to identify potential safety defects (such as damaged safety fence with no identified culprit) on the Network, in advance of the planned Safety Inspections undertaken by the AIW as described in section 3.1.2.

Any defects to the restraint systems will be recorded and loaded onto the appropriate database. If the defect is likely to cause an immediate hazard to road users then it will be notified to the RCC/NCC. If the workforce attending are equipped and trained to do so, they will make safe the hazard, if not the RCC/NCC will arrange for additional resource to attend. If the area is already sterile, close coning of the safety fence will take place. A risk assessment will be carried out as detailed in Appendix 11 of AMOR and repairs programmed as required.

All defects will be managed as per the May 2017 AMOR Appendix 11.

Asset Inspections of the road restraint system will be carried out on a 2 yearly basis by the *Provider* to assess condition, in conjunction with the re-tensioning programme for tensioned systems.

3.8.5 Approach to Routine Maintenance

All works carried out on vehicle and pedestrian restraint systems will be done by trained operatives who are accredited to (or working towards accreditation) the Highways Sector Scheme 2B.

General Maintenance of the road restraint system will be carried out at the same time as the Asset Survey / re-tensioning. This will include minor repairs and the replacement of defective components of a safety critical nature.

Damage to road restraint system: When attending an incident where the road restraint system has been damaged a report of the damage will be provided to the RCC/NC. An assessment of the damage in accordance with AMOR Appendix 11 will be carried out to determine what level of priority is given to the permanent repair.

Repairs carried out to the road restraint system will be recorded on the appropriate record sheets.

Records of works carried out to repair collision damage will be forwarded to the *Provider* third party claims department who will follow the Damage to Crown Property (DCP) procedure.

3.8.6 Associated Documentation:

- Amor Appendix 11
- Barrier Damage Assessment Form
- Accident History Map
- Traffic Speed Map
- Traffic Flow Map
- HGV Flow Map

3.8.7 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work

All of the maintenance records are kept on ECM.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between the Highways England and *Provider*.

3.9 Road Traffic Signs

This section describes the approach to the routine maintenance of road traffic signs in Area 3, including all posts, supports and fastenings; all bollards; reference marker posts and mechanical variable message signs.

In addition to this requirement, lighting and electrical aspects are covered by the LAMP (see Section 3.5), structural aspects (for signs classified as structures in BD 63) are covered by the structures maintenance requirements (Section 3.11) and visibility aspects covered by soft estate maintenance requirements (Section 3.10). Light emitting variable message signs (VMS) are not part of the ASC and are the responsibility of the RTMC. Proprietary Motorway Service Area signs are out of scope, but posts are included.

3.9.1 Outcomes

Outcome for Road Traffic Signs:

1. Road traffic signs are safe and clearly legible.
2. Road traffic signs give effect to regulatory provision.

The inspection and routine maintenance of traffic signs is to be undertaken in accordance with the requirements of TD25_15. In accordance with TD25_15 a risk analysis has been carried out for the frequency of the Asset Survey. The frequency has been set at 2 yearly intervals.

3.9.2 Objectives

In order to achieve the outcomes above the maintenance requirements for road traffic signs have been designed to ensure that the following objectives are met:

- Road traffic signs are inspected in accordance with TD25_15
- Road traffic signs are clean and legible with reflectivity complying to TD25_15
- Road traffic signs defects are managed in accordance to TD25_15
- Road Traffic signs comply with the current TSRGD. Those that are not in compliance are identified and promoted as future schemes
- Road traffic signs ceasing to have effect and obsolete are identified and promoted as future schemes

3.9.3 Inspection & Defect Identification

Highways England will carry out safety inspections of the network as described in section 3.1.2. Any Safety Critical defects observed such as damaged or missing regulatory or warning signs will be notified to the RCC/NCC to arrange any make safe mitigation as required, with details recorded on the appropriate database for rectification according to TD25_15.

The AIW will carry out the Asset Surveys to assess condition and deterioration of the sign faces, fixings and posts.

Signs will be tested for retro-reflectivity 10 years after installation, and every two years thereafter in accordance with TD25_15. Results will be stored in an inventory suitable database. The data will be regularly reviewed by the signs team leader and any sign faces showing a reflectivity below or near to the required level will be assessed for inclusion in a renewal scheme or individual treatment, based on priority.

RTMC Signs (variable message and other electronic signs) - The brackets/ straps and fixings that hold the RTMC signs to structures form part of the structures inspection programme to be carried out by the Service Provider. This also includes sign structures over 7m in height and gantries.

3.9.4 Approach to Routine Maintenance

Sign Cleaning will be carried out when required by the *Provider* for those signs that are easily accessible from the ground. Dirty signs that cannot be easily accessed from the ground will be added to the forward works programme and rectified in accordance with the defect categorisation timescales (Section 2.2.3).

Vegetation Management will be carried out in accordance with the soft estate maintenance requirements (Section 3.10).

Marker post maintenance will be carried out by the Service Provider during planned/unplanned lane closures for other works or via hard shoulder working or verge working where safe to do so. Marker posts are to be kept in vertical alignment and legible. Missing or damaged marker posts will be recorded via the defect reporting procedure and may be promoted for inclusion in a renewal scheme.

Black and white safety bollard maintenance will be carried out by the Service Provider during planned/unplanned lane closures for other works or via hard shoulder working or verge working where safe to do so. The bollards are to be kept in vertical alignment and legible. Missing black and white bollards will be recorded via the defect reporting procedure and will be promoted for inclusion in a renewal scheme.

Electrical Testing is detailed in the LAMP (see section 3.5).

3.9.5 Records

- Cleaning of sign faces is recorded on a Sign Cleaning Record Sheet, which can be accessed via Sub Process 4.01

All of the maintenance records are kept on ECM.

3.9.6 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work.

Detergents to be used will be chosen to ensure that they are environmentally friendly.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between the Highways England and *Provider*.

3.10 Soft Estate

This section describes the approach to the routine maintenance of the soft estate asset in Area 3, including the semi-natural, improved / semi-improved and landscaped parts within the Area Network, including cultural heritage assets and hard landscaping areas but excluding any engineering or operational part of the highway.

3.10.1 Outcomes

Outcomes for the soft estate are that the soft estate is managed and maintained to:

1. minimise risks to road users, road workers and adjacent affected parties
2. protect and maintain designated and protected habitats / species, improved / semi-improved / landscaped parts
3. meet existing commitments to:
 - Public inquiries
 - Planning consents
 - Third parties
 - Protection of designated sites (international and national)
 - Protected habitats / species

The Soft Estate Strategy is prepared to demonstrate how the outcomes and deliverables of the AMOR will be achieved, defining the maintenance strategies to be employed, forming the overarching document for the maintenance requirements plan for the soft estate assets.

3.10.2 Objectives

Management of the vegetation must allow for the safety of road users and maintenance personnel and the ability to maintain all built elements of the highway. This is managed so as to promote nature conservation and biodiversity and to integrate the soft estate into the surrounding landscape.

The Soft Estate Strategy is designed to achieve the following objectives:

- Maintain and preserve road users':
 - sight lines and stopping distances at junctions, access points and bends
 - visibility of road traffic signs and signals
- Ensure illumination from lighting is not obscured.
- Preserve CCTV camera visibility splays.
- Maintain soft estate to minimise risk of fire hazards.
- Maintain soft estate to facilitate safe access to technology equipment.
- Maintain soft estate to facilitate safe access to footways, cycle tracks, bridle ways and paved pedestrian areas.
- Minimise the risk of trees falling on trafficked or pedestrian areas.
- Manage the soft estate to minimise the spread or increase of instances of injurious and invasive weeds.
- Manage and maintain soft estate to minimise the risk of adversely affecting the stability, integrity or operation of other highway assets.
- Manage soft estate to meet existing landscape, amenity, screening functions and/or other commitments.
- Maintain and update knowledge of protected habitats / species present or likely to be present within the soft estate.

3.10.3 Inspection & Defect Identification

Highways England will carry out safety inspections of the network as described in section 3.1.2. Any defects observed will be recorded and loaded onto the appropriate database. If the defect is likely to cause an immediate hazard to road users then the NCC/RCC will be notified and appropriate safety measures implemented.

There is in existence an A31 New Forest Model Agreement document covering work with agreed assent under Section 28H of the Wildlife and Countryside Act 1981 (as amended) allowing routine functions within the New Forest Site of Special Scientific Interest.

3.10.4 Approach to Routine Maintenance

Grass and Vegetation Cutting

Grass cutting will be carried out to the following standards:

- Safety (sightlines on long bends (including central reserves), junctions, directional signs, signals and the like): where required, cuts will be carried out by strimmers, rotary cutters and / or flail cutters.
- Safety (adjacent to pathways, rights of way, bus stops, lay-bys, etc.): where required cuts will be carried out by strimmers, rotary cutters and / or flail cutters.
- Access points (steps / cabinets / culverts / soakaways): where required cuts will be carried out by brush cutters and flail cutters.
- Open grassland: maintained in accordance with the Area 3 Soft Estate Strategy

Injurious Weed Control

There are two types of control:

- Injurious weeds on the soft estate (Japanese Knotweed and giant Hogweed, etc.): where 1 - 2 applications per annum would be carried out by pedestrian carried hand operated spraying equipment.
- Ragwort will be controlled as laid out in Area 3's Ragwort Control Policy document drawn up in accordance with the Code of Practice on How to Prevent the Spread of Ragwort published by DEFRA.

Herbicides shall not be used within environmentally sensitive areas (such as the A31 New Forest). Other methods shall be used for weed control such as cutting and hand pulling in these areas.

Shrub / Tree Cutting

There are four types of shrub / tree cutting:

- Maintain sightlines to signs, signals, junctions and the like: where required operations will be carried out with hand pruners and saws, chain saws and in some instances with mobile platforms.
- Safety refuges and clearance of safety systems such as road restraint barriers: where required operation will be carried out with hand pruners and saws. Flail cutters shall only be used when agreed with the landscape manager.
- Height above carriageways: to be carried out as and when the problem occurs. This would be carried out with hand pruners and saws, chain saws. This operation will require the use of tree climbers or workers using mobile platforms.
- Woodland management will be undertaken in accordance with the Area 3 Soft Estate Strategy.

Tree Inspection

Trees are inspected once every five years as part of a 20% annual inspection cycle. These are carried out by tree surveyors with the relevant qualifications and experience to carry out tree surveys. Records of each survey are to be stored in the appropriate database.

Tree inspections shall be carried out as required under the guidance of the DMRB Volume 10 Landscape Management Handbook.

Target Delivery and Environmental Outputs

Information required under the contract shall be inspected by a landscape manager or ecologist as appropriate and placed into EnvIS for recording and management.

3.10.5 Records

If data is not recorded on DCD/ tablet then the following forms can be used:

- Site Visit Report Sheets
- HECC log and progress sheet
- Environmental Alert Form
- Environmental Screening / Scoping Assessment Form
- Watchman Forms

All of the maintenance records are kept on ECM.

3.10.6 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between the Highways England and *Provider*.

3.11 Structures

This section describes the approach to the routine maintenance of Highway Structures in Area 3 including:

- Overbridges;
- Underbridges of enclosed length less than 150m;
- Subways of enclosed length less than 150m;
- Footbridges;
- Cycle bridges;
- Retaining walls;
- Culverts with a clear span or internal diameter > 0.9m;
- Buildings;
- Fences, walls, screens and environmental barriers >3m in height;
- Gantries, signs, lighting columns or catenaries, CCTV masts, classified as structures in BD 63:
- Minor structures as classified in BD94

3.11.1 Outcomes

Outcomes for structures assets:

1. Structures and their constituent parts are managed and maintained to minimise risks to road users.
2. Structural defects are identified in a timely manner to enable a proactive approach to asset management and scheme development.

All structures assets are to be inspected and documented in accordance with BD63-07 – Inspection of Highway Structures and no further risk analysis is deemed necessary.

3.11.2 Inspection & Defect identification

The Safety Inspections carried out by the AIW as described in section 3.1.2 will also serve to identify any safety critical defects in highway structures. Any defects observed, such as parapet damage; concrete damage etc. will be recorded and loaded onto the appropriate database. If the defect is likely to cause an immediate hazard to road users then it will be notified to the RCC/NCC. If the AIW is equipped and trained to do so, they will make safe the hazard. If not then the RCC/NCC will instruct the *Provider* to arrange an appropriate resource to attend.

Additionally, the structures routine maintenance operatives, working to the routine maintenance schedules for individual structures, will report back to the Kier Asset Development Team any defects that they observe via the Structures Routine Maintenance Record Sheet.

General Inspections (GIs) are undertaken on every structure every 2 years and are technical inspections carried out by qualified engineering staff from the Kier Asset Development Team. (Bridge Inspectors).

Principal Inspections (PIs) are undertaken on every structure every 6 years and are very detailed technical inspections carried out by qualified engineering staff from the Kier Asset Development Team. (Bridge Inspectors).

The defects observed and recorded by both General and Principal Inspections are used to identify structural elements or components that have become unserviceable because of general wear and tear or have deteriorated for other reasons. These defects are used to promote structural maintenance schemes via the annual value management process.

Special Inspections (SIs) are scheduled typically on an annual basis to investigate element-specific defects in order to determine cause, extent and severity. The results of these inspections

are then used to scope and prioritise remedial works. Special Inspections are cost reimbursable and would not be carried out using the routine maintenance budget. These will not be undertaken without prior acceptance of the Highways England Service Manager. The Highways England Routine Maintenance Service Delivery Manager will also be informed.

Post-tensioned Special Inspections are undertaken in accordance with BD54/15 (replacing BD54/93 and BA 50/93) and overseen by a Chartered Civil Engineer. These are carried out to determine risk management plans for all structures with post-tensioned elements. These structures have a high risk of sudden failure if not managed appropriately, and Area 3 has an unusually high number of these structures. Post-tensioned Special Inspections are cost reimbursable and would not be carried out using the routine maintenance budget. These will not be undertaken without prior acceptance of the Highways England Service Manager. The Highways England Routine Maintenance Service Delivery Manager will also be informed.

Inspections for Assessment are carried out to determine appropriate condition factors of specific, usually deteriorated, structural elements for use in structural analysis. These are typically scheduled in a similar manner to Special Inspections and are thus cost reimbursable.

Monitoring Inspections are a particular type of Special Inspection to monitor any changes to known defects at intervals less than the normal 2-yearly GI or PI.

All inspection personnel are approved by the Structures Value Stream manager.

3.11.3 Approach to Routine Maintenance

The routine activities for structures are regarded as those that relate to servicing rather than repair and that will usually be undertaken regularly at pre-determined intervals in accordance with the routine maintenance schedule held in SMIS. Routine activities do not cover the repair or renewal of structural elements or components that have become unserviceable because of general wear and tear or have deteriorated for other reasons.

Any defects from GIs and PIs that have been marked to be dealt with by routine maintenance are identified when a routine maintenance report for a given structure is run via SMIS.

These mainly comprise:

- Offensive graffiti removal will be removed within 24 hours. Non offensive graffiti will be identified and promoted through the value management process for inclusion in future schemes.
- Vegetation clearance from on and in close proximity to structures is undertaken in-house on the routine visits.
- Clearance of all bridge drainage and bearing shelves and reporting of any defects not already recorded on SMIS to the Asset Development Team
- Checking of parapet fixings and tighten or replace where necessary. Reporting of any defects not already recorded on SMIS to the Asset Development Team

3.11.4 Records

Routine maintenance schedules for structures are held in SMIS and can be edited, to be structure-specific, by deletion or addition of items.

All of the maintenance records are kept on ECM.

3.11.5 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between the Highways England and *Provider*.

3.12 Sweeping and Cleaning

This section describes our approach to the routine maintenance activity of sweeping and cleaning in Area 3.

The responsibility for sweeping and cleaning of litter and refuse on the APTRs in Area 3 is the responsibility of the local, district and borough councils, except for the A27 from its junction with M27 to the A3M off slip E/B and from A3M on slip to the start of the M27 W/B, a total of 3.7km. All motorway litter is the responsibility of Kier and will be cleansed in accordance with the environmental litter guidance.

3.12.1 Outcomes

Outcomes for sweeping and cleaning:

1. The Area Network is predominantly free from litter, refuse and detritus.
2. Amenity facilities are safe and serviceable.
3. The functionality of the Area Network is not impeded by litter, debris, refuse, detritus or animal carcasses.
4. Offensive graffiti is managed to ensure that the adverse impact on road users of the Area Network is minimised.
5. Remove, identify, store and seek to inform owners of cat and dog fatalities discovered on the Area Network

3.12.2 Inspection & Defect Identification

Safety & Debris Patrols will be carried out by Highways England. These patrols help to identify safety critical defects on the network, in advance of the planned Safety Inspections.

The AIW will carry out safety inspections of the network as described in section 3.1.2. The vehicle will travel at normal traffic speed and additional traffic management provided if required for the inspection. Any defects observed such as debris, fly-tipping or excessive litter etc. will be recorded and loaded onto the appropriate database. If the defect is likely to cause an immediate hazard to road users then it will be notified to the RCC/NCC who will contact the *Provider* to arrange an appropriate resource to attend and make safe. Offensive Graffiti is to be notified to the Provider for removal within 24 hours.

Accumulations of litter on the APTR network will be reported to the relevant Local, District or Borough Council for remediation, apart for those sections mentioned above, which will be dealt with in the same way as motorways. These authorities should also be informed of planned traffic management, and especially grass cutting works, to enable litter clearance prior to commencement of the work.

On motorways, litter picking will be undertaken to maintain the appropriate litter grade by maintenance crews in a programme of targeted litter clearance, especially at time leading up to and including holiday periods. Litter will be graded as per the DEFRA code of practice:

<https://www.gov.uk/government/publications/code-of-practice-on-litter-and-refuse>

Response times for Litter clearance must be adhered to:

Maintain Paved Areas (Carriageway, paved verges and paved central reservations of motorways and APTRs) to grade A as defined in the Code of Practice on Litter and Refuse.	Restore to grade A from grade B or C as defined in the Code of Practice on Litter and Refuse within 28 days
	Restore to grade A from grade D as defined in the Code of Practice on Litter and Refuse within 7 days
Maintain Paved Areas (motorway and APTR roundabouts and lay-bys, approach	Restore to grade A from grade B or C as defined in the Code of Practice on

and slip roads) to grade A as defined in the Code of Practice on Litter and Refuse.	Litter and Refuse within 14 days
	Restore to grade A from grade D as defined in the Code of Practice on Litter and Refuse within 7 days
Maintain all other parts of the Area Network (non-paved) to grade B as defined in the Code of Practice on Litter and Refuse.	Restore to grade B from grade C as defined in the Code of Practice on Litter and Refuse within 28 days
	Restore to grade B from grade D as defined in the Code of Practice on Litter and Refuse within 7 days

Maintenance crews will remove any debris on the carriageway. Live lane working is not permitted so the responder will call for traffic officer or police support.

Where any canine/feline fatalities are identified on inspection or reported the procedure for managing canine and feline fatalities will be followed in accordance with AMOR. The procedure outlines the process for removing, identifying, storing and seeks to inform owners of cat and dog fatalities discovered on the Area Network.

Litter Bins: Highways England will identify litter bins to be emptied prior to them spilling over during weekly inspections. The *Provider* will be instructed to clear the bins as required.

Amenity facilities: Highways England will implement a risk based intervention regime to manage the amenity facilities. The Service Provider will be instructed to maintain and clean the amenity facilities.

3.12.3 Approach to Routine Maintenance

Sweeping of Drainage Channels - detritus and vegetation that is likely to obstruct the flow of water in open drainage concrete V-channels will be removed by sweeping and recorded on relevant form.

Hazardous Debris such as oil spillages (safety critical defect), which is encountered through the course of a normal working day or during programmed safety inspections, is reported through the RCC/NCC and dealt with via the Incident Response Plan. If necessary the relevant resource or Service Provider to remove the debris/oil spillages from the network will be mobilised as a secondary response.

3.12.4 Records

The following forms will be used, which can be accessed via Sub Process 4.01:

- Sweeping Record Form
- Daily Record Sheet - Litter Picking

All of the maintenance records are kept on ECM.

3.12.5 Health and Safety and Environmental Protection

All works will be carried out in accordance with approved Health, Safety & Environment systems, including the use of risk registers and appropriate safe systems of work

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between the Highways England and *Provider*.

3.13 Tunnels

3.13.1 Hindhead Tunnel Maintenance Requirements

The Hindhead Tunnel is the only tunnel in Area 3.

The maintenance requirements for the Hindhead Tunnel are managed by Highways England, including associated access and service infrastructure. These are contained separately in the Hindhead Tunnel Operation and Maintenance Manuals and Hindhead Tunnel Maintenance Requirements Plan. These documents can be accessed via Sub Process 4.01.

In the event of a defect being identified in relation to the Hindhead Tunnel, M&E or technology equipment this will be managed in accordance with the current set of tunnel-related processes and procedures to meet the AMOR and DMRB requirements of maintaining and operating tunnels.

Refer to *Schedule of Maintenance Requirements* table in Section 4 for inspection and maintenance summary and responsibilities between the Highways England and *Provider*.

4 Schedule of Maintenance Requirements

Maintenance requirements by asset type:

AMOR Part	Asset Category	Asset Types	Recommended Strategy	Inspection Category	Inspection Frequency	Inspection Resource	Maintenance Frequency	Maintenance Resource	IAM-IS Inventory Code	IAM-IS Inventory Description
5	Drainage	Manhole (cover)	Survey to establish condition	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	DRMH	Manhole
				Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	DRMH	Manhole
		Gullies & Catchpits	Inspection & clear covers as required	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	DRGU	Gully
				Emptying based upon network knowledge and experience.	N/A	N/A	N/A	within 2 years	Service Provider (LS)	DRGU
		Edge Channels	Inspection & clear as required	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	DREC	Edge Channel
				Sweeping, cleaning based upon network knowledge and experience.	N/A	N/A	N/A	within 2 years	Service Provider (LS)	
		Grassed Surface Water Channel or Swale	Survey to establish condition	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	DRSC	Swale or Grassed Channel
				Asset Survey	5 Yearly	Highways England	As instructed	Service Provider (LS)	DRSC	Swale or Grassed Channel
		Filter Drain	Inspection to establish condition	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	DRFD	Filter Drain
				Asset Inspection	5 Yearly	Service Provider (PDS)	As instructed	Service Provider (LS)	DRFD	Filter Drain
		Ditches, Outfalls & Soakaways	Inspection to establish condition	Asset Inspection	5 Yearly	Service Provider (PDS)	As instructed	Service Provider (LS)	DRDI	Ditch
				Asset Inspection	5 Yearly	Service Provider (PDS)		Service Provider (LS)	DROF	Outfall

AMOR Part	Asset Category	Asset Types	Recommended Strategy	Inspection Category	Inspection Frequency	Inspection Resource	Maintenance Frequency	Maintenance Resource	IAM-IS Inventory Code	IAM-IS Inventory Description
5	Drainage	Grips	Inspection Clear weed growth when water flow is impeded	Ad hoc Incident	As Required	Highways England	As instructed	Service Provider (LS)	DRGP	Grip
				Safety Inspection	Weekly	Highways England		Service Provider (LS)	All above	All above
		Counterfort Drains	Inspections as scheduled in the GAMP PIs and GIs	Technical Inspection	As per the GAMP	Service Provider (PDS)	As instructed	Service Provider (LS)	DRC D	Counterfort Drain
		Pipework	Reactive Inspections / Investigation	Ad hoc Incident	As Required	Highways England	As instructed	Service Provider (LS)		
				Reactive Survey	As Approved	Service Provider (PDS)	As instructed	Service Provider (LS)		
				Asset Survey	12 Yearly	Service Provider (PDS)	As per the DAMP	Service Provider (LS)		
		Culverts (< 900mm dia.)	Screen reactive inspection of known flood risk locations when severe weather warnings received	Ad hoc Incident	As required	Highways England	As instructed	Service Provider (LS)	DRCU	Culvert
			Reactive Inspections / Investigation	Ad hoc Incident	As required	Highways England	As instructed	Service Provider (LS)	DRCU	Culvert
				Reactive Survey	As Approved	Service Provider (PDS)	As instructed	Service Provider (LS)	DRCU	Culvert
		Pollution Control Devices (Interceptors, Spill Kits, Wing Walls etc.)	Inspect to establish condition Empty As instructed	Asset inspection	Annual	Highways England	As instructed	Service Provider (LS)	DRIN	Interceptor
			Inspect and check contents of spill kits	Asset inspection	Annual	Highways England	As instructed	Service Provider (LS)	SPKT	Spill Kit
		Flow Control Devices (Hydro-brakes, Weirs etc.)	Inspection to establish condition Empty as required	Asset Inspection	Annual	Highways England	As instructed	Service Provider (LS)	DRFC	Flow Control Device
		Screens	Inspection to establish condition	Asset Inspection	Annual	Highways England	As instructed	Service Provider (LS)		
		Pump Stations	Reactive inspection following automatic defect reporting	Reactive inspection	As approved	Service Provider (PDS)	As instructed	Service Provider (LS)		

AMOR Part	Asset Category	Asset Types	Recommended Strategy	Inspection Category	Inspection Frequency	Inspection Resource	Maintenance Frequency	Maintenance Resource	IAM-IS Inventory Code	IAM-IS Inventory Description
		Pumps	Inspection and Maintenance in accordance with manufacturer's instructions	Routine inspection	As manufacturer instructions	Highways England	As instructed	Service Provider (LS)		
		Balancing Ponds	Inspection to establish condition Empty as required	Asset Inspection	2 Yearly	Highways England	As instructed	Service Provider (LS)		
		All	Reactive inspection of known flood risk locations when severe weather warnings received	Ad hoc Incident	As Required	Highways England	As instructed	Service Provider (LS)	All above	All above
6	Boundary Fence	Boundary Fence & Safety Screens	Survey to establish condition	Asset Survey	2 Yearly	Highways England	As instructed	Service Provider (LS)	FEBW	Fences, Environmental Barriers and Walls
		Other Fencing including Environmental Barriers	Survey to establish condition	Asset Survey	2 Yearly	Highways England	As instructed	Service Provider (LS)	FEBW	Fences, Environmental Barriers and Walls
		All	Safety Inspection	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	FEBW	Fences, Environmental Barriers and Walls
7	Geo Technical	Embankments and Cuttings	Inspections as scheduled in the GAMP	Technical Inspection	As per the GAMP	Service Provider (PDS)	As instructed	Service Provider (LS)		
		Rock Slopes	Inspections as scheduled in the GAMP	Technical Inspection	As per the GAMP	Service Provider (PDS)	As instructed	Service Provider (LS)		
		All Geotechnical	Safety Inspection	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
8	Lighting	Feeder Pillar	Electrical inspections as scheduled in the LAMP	Electrical Inspection	5 yearly	Service Provider	As instructed	Service Provider (LS)	FEPI	Feeder Pillar
		Lighting Point	Lighting inspections scheduled as defined in the LAMP	Scouting Visual Assessment	As per the LAMP	Highways England	As instructed	Service Provider (LS)	LIPO	Lighting Point
		Lighting structures	Structural testing	Structural testing	5 yearly	Service Provider (PDS)				

AMOR Part	Asset Category	Asset Types	Recommended Strategy	Inspection Category	Inspection Frequency	Inspection Resource	Maintenance Frequency	Maintenance Resource	IAM-IS Inventory Code	IAM-IS Inventory Description
		Lamps	Bulk Lamp Change	N/A – All LED	N/A – All LED	N/A	As Instructed	Service Provider (LS)		
		All	Safety Inspection	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	FEPI LIPO	
9	Paved Areas	Highway	Surveys to establish condition (including TRACS and SCRIM)	Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	HWAY	Highway
		Crossover	Survey to establish condition	Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	XOVE	Crossover
		Central Island	Survey to establish condition	Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	CEIS	Central Island
		Kerb and Edgings	Survey to establish condition	Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	KERB	Kerb
		Preformed Channels	Survey to establish condition	Asset Survey	1 Yearly	Highways England		Service Provider (LS)	CHAN	Channel
		Hardstanding	Survey to establish condition	Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	HDST	Hard Standing
		Covers, Gratings, Frames and Boxes	Survey to establish condition	Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	DRGU	Gully
		Footways & Cycle Tracks	Survey to establish condition	Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	FOOT	Footway
				Asset Survey	1 Yearly	Highways England		Service Provider (LS)	BIKE	Cycle Track
				Asset Survey	1 Yearly	Highways England		Service Provider (LS)	NMUX	NMU Crossing
		Pedestrian Crossing	Survey to establish condition	Asset Survey	1 Yearly	Highways England	As instructed	Service Provider (LS)	PEDX	Pedestrian Crossing
All	Safety Inspection	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	All above	All above		

AMOR Part	Asset Category	Asset Types	Recommended Strategy	Inspection Category	Inspection Frequency	Inspection Resource	Maintenance Frequency	Maintenance Resource	IAM-IS Inventory Code	IAM-IS Inventory Description
10	Road Markings and Road Studs	Longitudinal Road Markings	Condition assessment in accordance with TD26	Asset Survey	1 Yearly	Service Provider (PDS)	As instructed	Service Provider (LS)	LORM	Longitudinal Road Markings
		Hatched Road Markings		Asset Survey	1 Yearly	Service Provider (PDS)	As instructed	Service Provider (LS)	HARM	Hatched Road Markings
		Transverse and Special Road Markings		Asset Survey	1 Yearly	Service Provider (PDS)	As instructed	Service Provider (LS)	TRRM	Transverse and Special Road Markings
		Road Studs		Visual Assessment	6 monthly	Highways England	As instructed	Service Provider (LS)	ROST	Road Studs
		All	Safety Inspection	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	All above	All above
11	Road Restraint Systems	Safety fence	Inspect to establish condition Re-tension TCB	Asset Inspection	2 Yearly	Service Provider	As instructed 2 yearly retensioning programme	Service Provider (LS)	M CPR	VRS Add On Motorcycle Protection
				Asset Inspection	2 Yearly	Service Provider		Service Provider (LS)	VRS	
		End Terminals	Programme inspection in accordance with manufacturer's recommendations	Asset Inspection	2 Yearly	Service Provider	As instructed.	Service Provider (LS)	EDTM	End Terminals
				Technical Inspection	As per manufacturer's spec					
		Crash Cushions	Programme inspection in accordance with manufacturer's recommendations	Technical Inspection	As per manufacturer's spec	Service Provider	As instructed	Service Provider (LS)	CRCU	Crash Cushion
		Structure Parapets		Technical Inspection	2 Yearly (GI)	Service Provider	As instructed	Service Provider (LS)		

AMOR Part	Asset Category	Asset Types	Recommended Strategy	Inspection Category	Inspection Frequency	Inspection Resource	Maintenance Frequency	Maintenance Resource	IAM-IS Inventory Code	IAM-IS Inventory Description
			Programme inspection in accordance with associated structure inspection regime		6 Yearly (PI)					
		Emergency Crossing Points (ECPs)	Programme inspection in accordance with manufacture recommendations	Asset Inspection	2 Yearly	Service Provider	As instructed	Service Provider (LS)	SNGA	Snow Gates
				Technical Inspection	As per manufacturers spec					
		Pedestrian Guard Rail	Inspection to establish condition	Asset Inspection	2 Yearly	Service Provider	As instructed	Service Provider (LS)	PEGR	Pedestrian Guard Rail
		All	Safety Inspection	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
12	Road Traffic Signs	Signs & Sign Posts	Inspection to establish condition	Asset Inspection	2 Yearly	Highways England	As instructed	Service Provider (LS)	SGFA & SGPO	Sign Face & Posts (signs)
			Retro reflectivity Assessment	Retro reflectivity Assessment	2 Yearly	Service Provider	As instructed	Service Provider (LS)	SGFA	Sign Face
			Sign lighting inspections scheduled as defined in the LAMP	Visual Assessment	As per the LAMP	Service Provider	As instructed	Service Provider (LS)		
		Safety Bollards	Inspection to establish condition	Asset Inspection	2 Yearly	Highways England	As instructed	Service Provider (LS)	SABO	Safety Bollard
			Illuminated Bollard Inspections scheduled as defined in the LAMP	Visual Assessment	As per the LAMP	Service Provider	As instructed	Service Provider (LS)		
		All	Electrical inspections	Electrical Inspection	5 yearly	Service Provider	As instructed	Service Provider (LS)		
		All, where appropriate	Structural inspection	Structural inspection	5 yearly	Service Provider	As instructed	Service Provider (LS)		
		All	Safety Inspection	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)	All above	All above

AMOR Part	Asset Category	Asset Types	Recommended Strategy	Inspection Category	Inspection Frequency	Inspection Resource	Maintenance Frequency	Maintenance Resource	IAM-IS Inventory Code	IAM-IS Inventory Description
13	Soft estate	Soft estate	Inspected and maintained in accordance with the Area 3 Soft Estate Asset Management Plan and section 3.10.4 and managed via EnvS,	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Verge		Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Tree		Technical Inspection	As per the AMP	Service Provider	As instructed	Service Provider (LS)		
		Hedge		Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Soft estate	Safety Cuts – sightlines, visibility etc including CCTV camera visibility splays	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Soft estate	Access clearance	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Soft estate	Injurious weed control	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
14	Structures	All	Inspected and maintained in accordance with the BD63 and managed via SMIS	Technical Inspection (GI,PI,SI and maintenance)	As per BD63 & SMIS	Service Provider	As instructed	Service Provider (LS)		
		All		Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
15	Sweeping & Cleaning	Highway	Inspection & clear as required	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Channel		Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Verge		Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Rest Areas		Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		

AMOR Part	Asset Category	Asset Types	Recommended Strategy	Inspection Category	Inspection Frequency	Inspection Resource	Maintenance Frequency	Maintenance Resource	IAM-IS Inventory Code	IAM-IS Inventory Description
		Network	Offensive Graffiti	Ad-hoc	As identified	Highways England	As instructed, within 24 hours	Service Provider (LS)		
		Employer's Litter bins	Inspect for condition and empty before overflowing	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		
		Amenity Facilities	a risk based intervention regime to manage, maintain and clean amenity facilities.	Risk based inspection	As required	Highways England	As instructed	Service Provider (LS)		
16	Tunnels	Tunnel	Inspected, maintained and operated in accordance with the BD53 and the tunnel specific O&M Manual	Technical Inspection	As per BD53 and the tunnel O&M manual	Service Provider	As instructed	Service Provider (LS)		
		All	Safety Inspection	Safety Inspection	Weekly	Highways England	As instructed	Service Provider (LS)		

*note: LS – Lump sum duty, PDS – Project Development Support.

