HIGHWAYS AGENCY

Routine and Winter Service Code

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INTRODUCTION

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Introduction

(i) General

The requirements and advice for the management of maintenance on the motorway and trunk road network are described in 2 documents

Network Management Manual ("the NMM")
Routine and Winter Service Code ("the Code")

Routine and winter service is the name for the work traditionally carried out under the name of routine and winter maintenance but is now better described as the provision of a service to the road users. The term 'service' also more adequately describes many of the activities traditionally referred to as routine maintenance. Elsewhere in the UK, the term "winter service" is also used and has been adopted for local roads in England. The name routine and winter service has therefore been adopted in the Code, which describes the requirements for routine and winter service activities on the trunk road network.

The Code covers the Performance Requirements for highways and structures and the operational winter service on the motorway and trunk road network. It shall be noted that nothing in the Code shall relieve or absolve the Service Provider of any of its obligations to comply with legal and legislative requirements. The Service Provider is also reminded that compliance with all relevant standards and codes of practice forms an implicit and inherent part of the Code. Much of the work is covered by lump sum duties in many Managing Agent Contractor (MAC), Maintenance or Managing Agent (MA) and Term Maintenance Contractor (TMC) contracts. Where the routine and winter service activities are not covered by a lump sum payment, the Code should be read in conjunction with the NMM for bidding, allocation and outturn of funds for these activities.

Version 1 of Volume 2 of the TRMM was issued in November 1992 and was revised in February 1996. This version of the Code supersedes Volume 2 of the TRMM issued in 1996 and its subsequent amendments.

As it is a new version of the Code, the amendments summary sheet will start again at Amendment 0.

Amendments (excluding minor typographical errors) are shown by a vertical bar in the left hand margin in addition to the change in version / amendment number shown at the bottom of each page. Such bars only show changes effected from the previous version.

(ii) Parts

This Code is in four parts.

- Part 1 describes the overall concept of the Code and outlines the general requirements for the routine and winter service on the Network.
- Part 2 contains the Performance Requirements for each Technical Area making up the routine and winter service. This includes the assessment of performance and the time available to improve low levels of performance.
- Part 3 contains references to related documents providing further information on the requirements for the routine and winter service.
- Part 4 provides definitions for use with the Code.

(iii) Style of presentation

In the Code, various aspects of the requirements are highlighted with colour:

Overall Requirement for the Technical Area

Performance Requirement for the Technical Area

Long-Stop Condition Requirement for the Technical Area

Part 2 of the Code defines the terms used in the requirements.

(iv) List of Principal Abbreviations

APTR	All-Purpose Trunk Road
CCTV	Closed Circuit Television
CIM	Central Inventory Module (of HAPMS)
DMRB	Design Manual for Roads and Bridges
EPA	Environmental Protection Act
HABAP	Highways Agency Biodiversity Action Plan
HAGDMS	Highways Agency Geotechnics Data Management System
HAIL	Highways Agency Information Line
HAPMS	Highways Agency Pavement Management System
HAUC	Highway Authorities And Utilities Committee
ILE	Institution of Lighting Engineers
ISU	Incident Support Unit
MA	Maintenance or Managing Agent
MAC	Managing Agent Contractor
MCHW	Manual of Contract Document for Highway Works
MIDAS	Motorway Incident Detection Automatic Signalling
NMM	Network Management Manual
O&MM	Operation and Maintenance Manual
RRS	Road Restraint Systems
TMC	Term Maintenance Contractor
TSRGD	Traffic Signs Regulations and General Directions

(v) Enquiries

Enquiries about the content of this Code should be made to:

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Piccadilly Plaza
MANCHESTER
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(vi) Summary of Amendments

Amendment No.	Issue Date	Part No.	Chapter No.	Section No.	Initials	Date
1	17/11/06	All	All	All		
2	30/01/07	All	All	All		
3.	07/08/09	All	All	All		

PART 1 - APPROACH TO ROUTINE AND WINTER SERVICE

CONTENTS

1.1 Routine and Winter Service

1.1.1 Introduction

The Highways Agency has a key objective to provide safe roads and reliable journeys for the road user. Effective maintenance of the Network plays an important role in achieving that objective.

Under the Highways (Miscellaneous Provisions) Act 1961, highway authorities have an obligation to maintain public highways to reasonable standards. The current provisions are incorporated in the Highways Act 1980, Section 41 (duty to maintain) and Section 58 (special defence in actions for damages for non-repair). The importance of Section 58 is that it provides the defence "that the Authority had taken such care as in all the circumstances was reasonably required to secure that the part of the highway to which that action related was not dangerous for traffic". Effectively, this legislation requires highway authorities to categorise their networks in terms of location and usage, linking those categories to standards of inspection and maintenance. In court, the interpretation of reasonableness is a matter for each individual case, but it is normal for judgements to take into account precedents from earlier cases.

1.1.2 Purpose

The Code identifies the basic requirements for the routine and winter service activities on the motorways and all-purpose trunks roads (APTRs) for which the Highways Agency is responsible, on behalf of the Secretary of State for Transport, as the highway authority. Throughout the Code, unless otherwise stated, reference to trunk roads shall be taken as meaning both motorways and APTRs. For the purposes of the Code, urban trunk roads are those APTRs with a mandatory speed limit of 40 mph or less.

For consideration of the Identification or Verification of defects for the Network, the roads are further broken down into Road Categories A, B and C. The allocation of individual road lengths to these Categories are as follows:

Category A:	Most motorways
Category B:	Heavily trafficked APTRs
Category C:	All other roads

A link in the network may comprise more than one category but there is no minimum length for a category. However, it is unlikely that a length of 100m of road will be made up of more than one category. Both carriageways of dual carriageways have the same category. Network classification information for the whole network is held in Highways Agency Pavement Management System (HAPMS).

1.1.3 Technical Areas

Routine and winter service operations include both cyclic and unplanned activities that may be used to keep the highway safe and serviceable, and are needed to preserve the asset value. These activities include reactive repairs and winter, flood and emergency responses but exclude preventative and programmed renewals maintenance. Information from routine activities, however, makes an important contribution to the planning of these other works.

Routine and winter service activities that are required for the operation of the Network are considered in 17 Technical Areas that make up 4 technical groups:

INFRASTRUCTURE

- Paved Areas
- Drainage
- Geotechnical Assets
- Structures
- Tunnels
- Road Restraint Systems
- Technology Systems
- Road Markings and Road Studs
- Road Traffic Signs
- Road Traffic Signals
- Lighting
- Inventory Management
- Fences, Walls, Screens and Environmental Barriers

INCIDENT MANAGEMENT

- Incident Management

ENVIRONMENT

- Soft Estate
- Sweeping and Cleaning

WINTER SERVICE

- Winter Service

1.2 Basis of the Code

1.2.1 Performance Requirements

Rather than specifying prescriptive methods for activities on the Network, the Code defines the level of performance required from the Service Provider, whilst still maintaining a minimum standard for the Identification, Verification and repair of defects. The Code is developed on the basis that the service will be delivered in accordance with all relevant and applicable standards. It is the responsibility of the Service Provider to propose in the quality submission how the required performance will be achieved.

In the Code, Performance Requirements for each Technical Area define the level of service necessary to provide a safe and serviceable Network; consistency across similar parts of the Network; maintenance of the asset value, and; generally, provide a safe highway that is fit for purpose. These Performance Requirements also provide the framework for a robust defence for the Secretary of State in the event of third party claims.

The Code provides opportunities for continual improvement through innovation and novel approaches to meeting the Performance Requirements. Within the defined Performance Requirements, wherever possible the Service Provider can choose the way to achieve these requirements.

Rather than adopt the Performance Requirements in the Code for all or part of the Network, alternative performance levels may be proposed by the Service Provider (see 2.1.5). This may be for a variety of reasons that may or may not be directly related to traffic using the Network (e.g. lengths of APTR with a higher speed limit and lengths of motorway that, for most maintenance purposes, have urban characteristics). The Service Provider may develop methods for achieving higher targets for a particular activity and this may be offered to the Service Manager if the Service Provider can demonstrate the provision of better value for money. An alternative performance level may represent an action that provides an improved level of service to the road users or better value for money for the Service Manager. When local problems prevent the achievement of the Performance Requirements an alternative level of service may be acceptable to the Service Manager. All changes to the required levels of service must be authorised by the Service Manager in accordance with the departures process in the NMM.

Although the routine and winter service generally comprises short-term activities, they cut across wider objectives and disciplines. It is neither possible nor desirable to prescribe all activities, so the Code encourages the Service Provider to be pro-active and innovative in the ways the service is delivered. Examples of how the Service Provider may approach the provision of the required performance levels are:

- The requirements in the Code encourage the Service Provider to think ahead (e.g. which defects might arise in the next year and where to look for them). Traditionally, the occurrence of defects has been identified by detailed, general or principal inspections, but in the Code there is now freedom for the Service Provider to develop alternative cycles of inspection or other means of monitoring to achieve the requirements. For example, remote monitoring, CCTV or combinations of inspections and routine service activities may be considered providing the additional uses do not prejudice the original function of the equipment.
- The Service Provider identifies unusual situations where more defects than expected occur on a length of road. This may result in more frequent attention but also enables the Service Provider to bring forward planned maintenance to remove the source of the defects
- The Service Provider may identify the occurrences of a cluster of incidents. The Service Provider can then propose ways to improve the achieved level of performance to reduce the number of incidents
- When new advice and standards are introduced there may be an effect on the maintenance requirements for the Network. The Service Provider should identify the implications caused by

new standards and advise the Service Manager on the implications on the maintenance requirements for the Network

- Activities are required across Technical Areas (e.g. geotechnics, drainage and landscape maintenance). The Service Provider may see opportunities for combining activities in different areas to provide better value for money.
- Seeking continual improvement in the service provided while leading to solutions with better value for money and enhanced levels of service.

In setting Performance Requirements, the Code encourages "joined-up" thinking by the Service Provider as alterations in service delivery in one Technical Area can have a significant impact on another. For example, altering grass-cutting regimes for environmental purposes may make it easier to inspect and maintain items of infrastructure installed in verges. To help achieve this, an efficient system for holding records will enable the examination of information on different aspects of the routine service.

In specific circumstances, Performance Requirements higher than those stipulated for each Technical Area may be required by the Service Manager or may be offered by the Service Provider. To support the case for amending the requirements, a cost-benefit analysis, an environmental impact assessment and an affordability study should be undertaken by the proposer. The whole life costs of a proposal should be considered in any analysis rather than merely initial costs. If removal of a new material in the future is expensive either in works costs or in costs of disruption to the road user, then even if the material appears attractive when new, it may not be so beneficial when considering the cost over the whole life of the material. Similarly, application of a new technique that limits the maintenance options in the future to a small number of suppliers may not provide good value for money in the long term.

Servicing of mechanical and electrical equipment forms part of the provision of the routine and winter service. Manufacturer's recommendations for servicing intervals are usually provided in an operation and maintenance manual. Maintenance plans or operation and maintenance manuals may be designed, or evolve, to suit local circumstances with the help of local parties (e.g. the Police). At the start of the Service Provider's commission, any existing plans and manuals shall be adopted as appropriate and may form the Performance Requirement. There is, however, still a need to review and improve the plans regularly through the period of the commission.

1.2.2 Application of Routine and Winter Service Code

Lessons learned from past experiences, new techniques, research and current practice all contribute to enable work to be carried out more effectively and consistently over time while maintaining a process of continual improvement. Whilst the Code does not provide a formal specification on how routine and winter service activities are to be undertaken, the NMM contains some mandatory requirements, advice on good practice based on past experience or recent technical or procedural developments.

Such advice is a guide on how the service may be undertaken to enable the Performance Requirements to be met, but does not preclude the Service Provider from developing innovative approaches that will deliver an equal or better service delivery.

1.2.3 Continual Improvement

Good organisation is essential to achieving effective maintenance through a considered strategic approach and a competent and experienced contractor. In establishing an effective management team, senior operational and maintenance staff should ideally be appointed first with the appointments structured to cover the spectrum of management, technical and operational skills needed and to provide effective communications with the other stakeholders.

Continual improvement in the delivery of the routine and winter service can be achieved by improvements based on experience gained from providing the service on the Network but also by taking advantage of developments elsewhere. The following areas to consider for improvement include:

- Basing services on the needs of the user and community rather than the convenience of the Service Provider
- Incorporating the results of research and development into best practice
- Recognising the needs of all Network users (e.g. pedestrians, cyclists, equestrians and the mobility impaired)
- Effectively managing and using complaints, compliments and third party claims
- Identifying improvements to standards and advice notes

To provide the delivery of quality services and the introduction of new techniques requires the provision of skilled staff. All staff must have the necessary qualifications, knowledge and experience to carry out their duties and responsibilities effectively. Staff should not be assigned to duties unless they have received the necessary training and have been formally assessed for competence to serve in the post.

A continuous training programme, including refresher courses, should ensure the members of the Service Provider's team retain and improve their skills. The aim of the training, in addition to passing on the techniques to use, is to make sure that best industry practice is passed on to all staff and a continuous process of improvement in the delivery of the service is achieved. Records should be kept of the training received by staff and reviews undertaken to identify the need for new training and its suitability.

1.2.4 Planned maintenance

The Service Provider should not rigidly follow formulae, but consider and manage the risks posed to the road user and local residents by maintenance actions or by the failure to maintain or take action.

Reactive Maintenance can be costly in the provision of labour as it is generally of a random nature and cannot be planned efficiently. There needs to be a balance between carrying out the more disruptive works, usually associated with Reactive Maintenance and repairs, and planned corrective and Preventative Maintenance. Preventative Maintenance is employed as a planned maintenance operation when the benefits are that the whole life value associated with reactive repairs, and third party claims, are reduced and more substantial maintenance is reduced or deferred. Carrying out planned maintenance on one part of the infrastructure can also provide the opportunity to carry out routine activities on other adjacent parts, without increasing the disruption to road users.

Without Preventative Maintenance, safety hazards may appear more frequently, and these may lead to more third-party claims than would be the case had Preventative Maintenance been carried out. Consequently, if Preventative Maintenance is adopted, it may be possible to make cost savings by reducing the frequencies of other activities.

1.2.5 Information Management

Integrated maintenance management requires data collection and records, repair arrangements, monitoring of utility works, prioritisation of maintenance and customer contact arrangements. There is a need for an Integrated Information System, using common information from other related databases, as referred to in the NMM. The Central Inventory Module (CIM) of HAPMS records the road network inventory and the Service Provider is responsible for ensuring, through the Integrated Information System, that the routine and winter service activities are recorded in the Highways Agency's inventory databases, including information from:

- Inspections
- Previous surveys and audits
- Reports from the public, including complaints that may indicate areas to be considered for maintenance

- Records of emergency and temporary repairs

Information from records of repairs can help to indicate areas for more detailed consideration and demonstrate that reasonable measures in maintaining the Network have been taken. For example, a high incidence of repairs, including patches and temporary repairs, at a location can highlight the need to consider a more extensive treatment. Records of assessments, planned actions and actions taken should be used for benchmarking and efficiency. In all cases, records of inspections, defects and intended repairs, including nil returns, are essential.

A database enables trends to be examined that may indicate the need for increased maintenance. These include, for example, levels of valid third party claims or the proportion of the budget spent on Reactive Maintenance compared with Preventative or Renewal Maintenance.

Records provide information on past performance on which future decisions may be made, evidence that acceptable standards are achieved and information for future costing. In many cases, keeping adequate records is a statutory requirement and represents verification of compliance with legal obligations for testing and maintenance. Retaining test records, up to date manuals, drawings etc. are essential requirements for effective maintenance management and the safe operation of the Network. Records will be generated by different parts of the operations and maintenance organisation and procedures should be developed to make the information readily accessible.

Management procedures should ensure that records are retained in an appropriate archive for the necessary period, such that they remain secure, accessible and retrievable. The Integrated Information System forms part of the quality management system and should be used for analysis of the records collected and the production of summaries of the information at appropriate levels of detail. Statistical, logistical and financial analyses of the records enable the performance of engineering assets to be assessed. On a site-specific basis, the analyses may indicate significant trends in performance, which may be related to changes in operational and maintenance strategies, or the potential for, and timing of, equipment failures.

1.3 Health & Safety and Quality Management

1.3.1 Health and Safety

In all aspects of quality management, attention should be paid to the requirements of the contract and current and relevant legislation with regard to health and safety and risk assessment. In every case, procedures should ensure that the appropriate health and safety regulations have been identified and fully adhered to at all times, with the aim of adopting an integrated approach between quality and health and safety. Reference should also be made to the health and safety section of the NMM.

1.3.2 Risk Assessment

In all aspects of quality management, attention should be paid to the requirements of the contract with regard to risk. In every case, procedures should ensure that the requirements of the contract have been fully adhered to at all times, with the aim of adopting an integrated approach between quality and risk.

Risk analysis and management is an integral part of the management of the Network and the provision of the routine and winter service. The Management of Health and Safety at Work Regulations of 1992: Health and Safety Commission Approved Code of Practice 1992 (revised 2000) requires risk analyses to be regularly carried out, recorded and to include for the safety of employees, the public and those nearby. The risk analysis process involves the identification of hazards, assessment of the likelihood of occurrence, estimation of the consequences and, ultimately, the management of the actions taken. This involves identifying, evaluating and reviewing the options for controlling the risks.

1.3.3 Quality Plans

As part of the quality management system, the Service Provider must set out, in a Quality Plan, the approach to be adopted for provision of the routine and winter service. The Quality Plan will be in accordance with requirements of the contract. The Quality Plan shall incorporate statements that outline the Service Provider's approach to delivering the routine and winter service to meet the overall performance requirement but does not need to include detailed procedures that relate to specific activities. Where detailed plans, processes and procedures are held elsewhere these should be identified and their locations stated in the Quality Plan.

The Quality Plan should not be considered in isolation. An integrated approach should be taken that links together all plans necessary for the provision of routine and winter service. Management of the Network as a whole is reliant on quality and hence the contract and the quality element cannot be separated, as one cannot function without the other.

It should be noted that contingency planning takes place at a high level for major incidents on the Network. Whilst there should be an integrated approach to all plans, specific details relating to contingency planning are contained within the NMM.

The Quality Plan describes the management strategy that sets clear and sustainable performance objectives, delegates responsibility and establishes lines of communication. The topics in BS EN ISO 10005 for the content of a Quality Plan which cover the requirements for the routine and winter service include:

- **Definition of the scope of the Quality Plan**
- **Management responsibilities** (individuals and levels of responsibility for the activities listed)
- **Associated documentation** (how it should be applied, where it may be found and who is responsible for it)
- **Arrangements for contract review** (when to be undertaken, how and by whom)

- **Document and data control** (document and data access issues and arrangements for review and approval)
- **Purchasing** (of products and sub-contracted services)
- **Customer supplied products** (identification and control of products)
- **Product identification and traceability** (definition of scope and extent of identification / traceability)
- **Process control** (control of production, installation and servicing processes)
- **Inspections and testing** (inspection plan and where, when and how inspections are to be undertaken)
- **Control of inspection, measuring and test equipment** (control, identification and calibration of equipment)
- **Inspection and test status** (specific requirements and methods for the status of inspections)
- **Control of non-conforming products** (identification, control, disposal and prevention of misuse)
- **Corrective and preventative action** (activities to avoid poor maintenance)
- **Control of quality records** (control of records, to include issues such as storage, archiving etc.)
- **Quality audits** (nature of audits, when they are required and how results will be used)
- **Training** (specific training required by personnel)
- **Servicing** (including regulatory and legislative requirements, industry codes etc)
- **Statistical techniques** (if applicable, the plan should indicate where specific statistical techniques are required and how they are to be used)

Regular meetings between the Service Manager and the Service Provider should be held to review the Quality Plan to keep it up to date for all service activities.

PART 2 - PERFORMANCE REQUIREMENTS

CONTENTS

2.1 Introduction

2.1.1 Defect Definitions

Defects occur in the condition of all aspects of the Network. The general definition of a defect to an asset is that it:

- 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, or
- Causes an unintended hazard or nuisance.

Definition of the performance required from the routine and winter service is contained in the Performance Requirements for each Technical Area. As well as direct measurements of the performance, the presence of defects indicates that the performance has yet to be achieved or indicates why the required performance may not be achieved in the future. Performance will be achieved if defects are identified, categorised and repaired within the Hazard Mitigation and Permanent Repair Periods given in the Performance Requirement tables for each Technical Area.

There are two categories of defects.

Category 1 defects are those 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
- Significant disruption to the normal flow of traffic through the Network
- Structural deterioration of part of the Network
- Damage to a third party's property or equipment
- Damage to the environment
- Liable to leave the Secretary of State in breach of one or more of his statutory duties
- Failure to effectively enforce the legality of an asset that has a mandatory or prohibitory function
- 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, or
- Offence to road users from graffiti that is obscene, blasphemous or otherwise offensive

Annex 2.1.1, located at the end of this sub-section, contains examples of aspects of condition that may be considered as Category 1 defects.

Category 2 defects are all other defects.

The Service Provider must investigate reports and complaints on the condition of the Network received from all sources.

2.1.2 Performance Requirements

Performance Requirements are set for each Technical Area with respect to the delivery of routine and winter service by the Service Provider. Each requirement is a measurable outcome, particularly as experienced by road users. There is also an Overall Requirement specified for each Technical Area with which the Service Provider must comply and will comply if all the underlying Performance Requirements are met. Each Performance Requirement has up to 4 parameters that specify time constraints for the achievement of the Performance Requirements:

- Identification or Verification Period
- Hazard Mitigation Period
- Permanent Repair Period (Category 1 defects)
- Permanent Repair Period (Category 2 defects)

Each of the specific Performance Requirements, where relevant, are further broken down such that different sets of parameters apply to different parts of the Performance Requirement.

2.1.2.1 Identification and Verification

Category 1
The Service Provider must identify or verify that defects do not exist on the Network within the Identification or Verification Periods given in figure 2.1 below. The Identification or Verification of defects can be carried out by safety inspections and safety patrols, but other means are possible and may be proposed by the Service Provider (e.g. continuous surveillance). Where adopted these other methods must be described in the Quality Plan. Where defects are or are not identified or verified then these shall be recorded by the Service Provider in the Integrated Information System and the appropriate action instigated. The Identification Period for a category 1 defect shall apply from the last time defects were found not to be present. The Verification Period for a category 1 defect shall apply from the receipt by the Service Provider of a third party report of a potential hazard.

An Identification or Verification Period is given in figure 2.1 below for category 1 defects for each of the 3 road categories (A, B and C). Where the Identification or Verification Period differs for the road categories, the periods are shown associated with each category. Where categories are not shown, the Identification or Verification Period is the same for all roads in the Network. The Identification or Verification Period for slip roads and link roads within interchanges is the same as the main carriageway. The road category has no effect on the Permanent Repair times for these defects.

Category 2
Category 2 defects need not be directly identified as part of the Routine Service activities so there is no Identification or Verification Period for category 2 defects.

The Identification or Verification Periods for Category 1 defects are summarised in Figure 2.1.

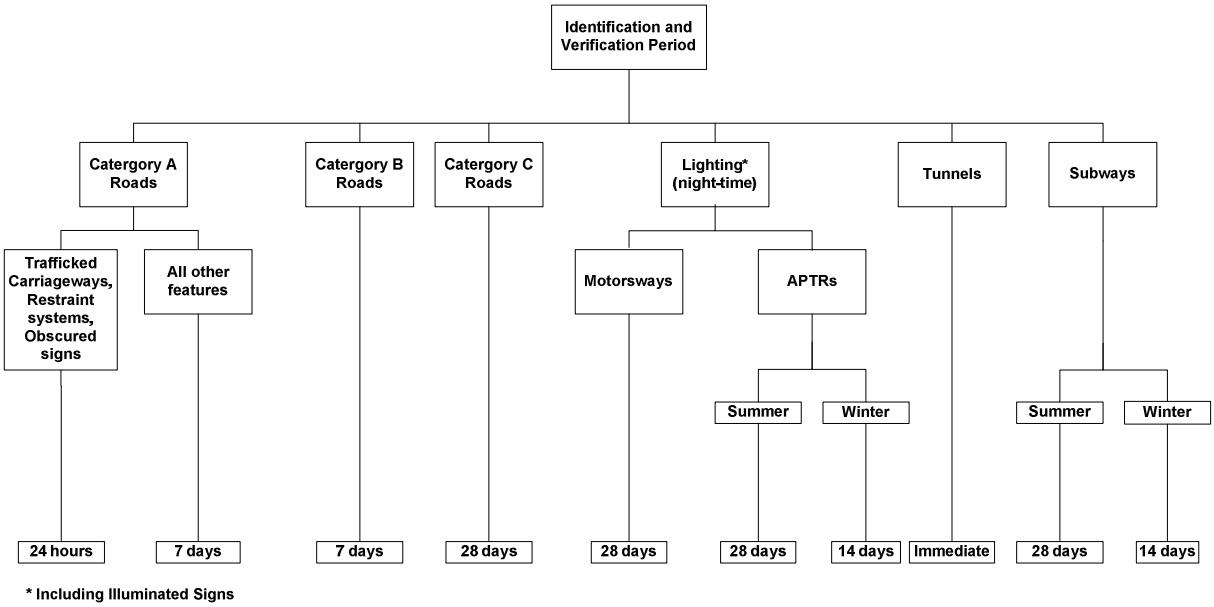

Figure 2.1 Identification and Verification Periods for Category 1 Defects

2.1.2.2 Hazard Mitigation

Hazards detected on the Network should, where reasonably practical, be corrected when identified or verified. Where not reasonably practical, the Service Provider shall make safe or otherwise protect and report for action later. In this context, making safe may constitute displaying warning notices, coning off or fencing off the defect to protect the public. A temporary or Permanent Repair is to be effected within the time specified under Hazard Mitigation in the Performance Requirements tables. This is the same as defects traditionally recorded by a safety inspection. The Hazard Mitigation Period for identified defects commences from the point in time of Identification. However, the Hazard Mitigation Period for verified defects commences from the receipt by the Service Provider of a third party report of a potential hazard.

Where temporary repairs are adopted, these shall be monitored sufficiently to show that the repair provides the required performance until a Permanent Repair is completed within the time specified under "Permanent Repair" in the Performance Requirements tables.

Category 2 defects are, by definition, not hazardous so do not have a Hazard Mitigation Period.

2.1.2.3 Category 1 Permanent Repair

Where possible the Permanent Repair should be made when the defect is identified or verified. If this is not possible, the maximum time available for completing the Permanent Repair is as given in the Performance Requirement tables. The Permanent Repair Period shall commence from the commencement of the Hazard Mitigation Period. The Service Provider must adopt a pro-active approach in Identification of Category 1 defects.

The process for effecting a Permanent Repair is shown in Figure 2.2

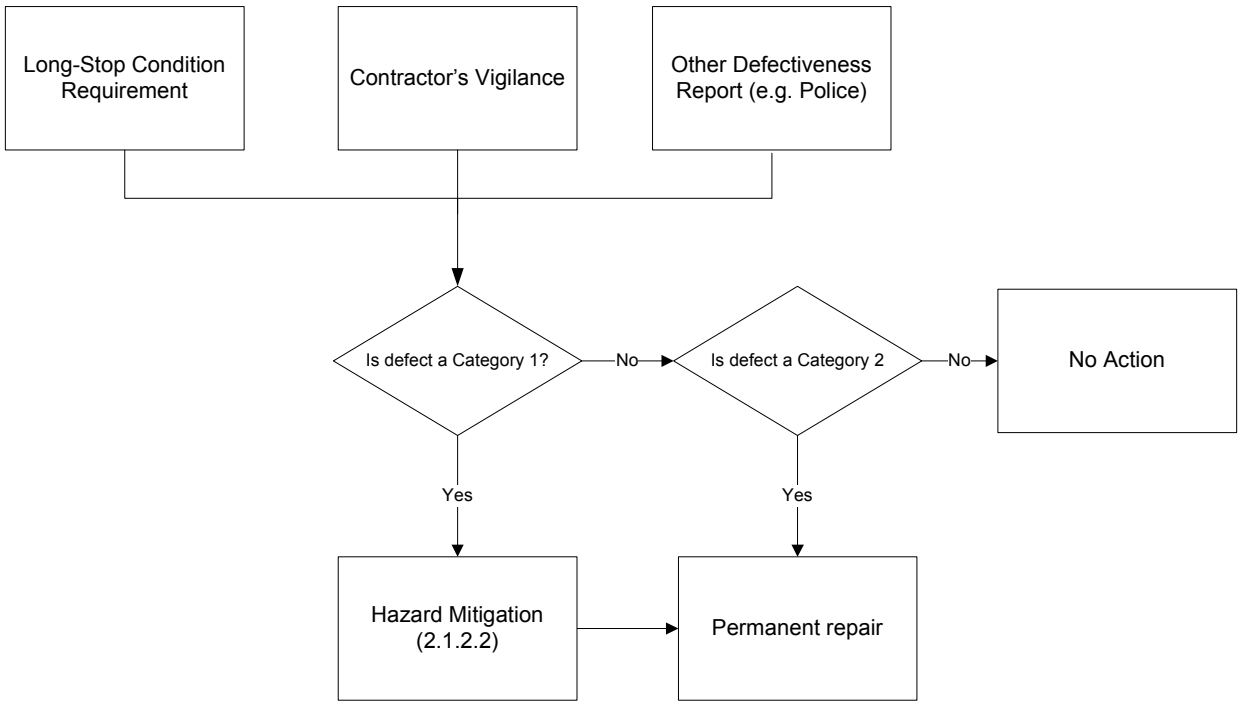

Figure 2.2. Permanent Repair Process

2.1.2.4 Category 2 Permanent Repair

Category 2 defects are sub-divided into two categories:

- Category 2.1 – Not superficial
- Category 2.2 – Superficial (ie does not change the characteristic or function of the asset/item)

Category 2.1 defects are to be repaired within the time specified by the Permanent Repair Period shown in the Performance Requirements Tables unless:

- The defect is due to be repaired as part of a programmed renewal, improvement scheme or Forward Programme and delaying the repair will not lead to long term damage of the asset, or
- Repair of the defect is the responsibility of a public utility or other third party.

Category 2.2 defects are superficial and are not likely to deteriorate and therefore will not require intervention unless they are to be repaired as part of a programmed renewal or improvement scheme.

The time periods available for the repair of Category 2 defects are as given in the appropriate Performance Requirement tables and shall apply from the time when defect is identified or verified, whether that is through safety inspections, safety patrols, other means proposed by the Service Provider or inspections/assessments required by the Long Stop Condition Requirement. The Service Provider must adopt a pro-active approach in Identification of Category 2 defects.

2.1.2.5 Repairs

The Service Provider is to design and carry out repairs using appropriate materials and methods that are in accordance with the standards identified in the contract.

2.1.3 Long-Stop Condition Requirement (LSCR)

Some aspects of asset condition are subject to gradual deterioration rather than sudden failure but the Performance Requirements in many of the Technical Areas are specified by the level of performance required rather than the regular measurement of condition that has been used in the past. A consequence of this is that there may be no information recorded about the condition and, hence, the change in condition of some aspects of the Network. To overcome this lack of information, the requirements in some Technical Areas include a regular assessment and reporting of the condition. These assessments are referred to as the LSCR and involve recording the state of the asset in accordance with the Highways Agency's routine maintenance management system. In addition to providing a formal record of condition, information on the change in condition will enable the Service Provider to predict the time when the Performance Requirements will no longer be met. This information should then be used in determining an effective planned maintenance programme.

Traditionally these assessments have been accomplished by detailed inspections, but other means may be possible. For example, the LSCR may be for a record of condition every 6 years whether specific structural defects are present or not. This may be achieved by principal inspections, but the Service Provider may develop alternative methods of providing this information. Whatever frequency or method the Service Provider adopts, there must be a mechanism for recording the condition, including the location and the date of the condition check. The time periods available for the the LSCR are as given in the appropriate LSCR tables.

The condition of an asset observed at a LSCR inspection should be recorded by the Service Provider as:

- As New
- Satisfactory

- Nearing End of Serviceable Life

This will allow the Service Provider to monitor the condition of the Network and determine when certain parts are of a condition that, whilst not defective, at a stage where renewal needs consideration.

The LSCR recording interval cycle begins every time the Permanent Repair is carried out and lasts for the period specified in the LSCR tables. In practice, however, the Service Provider may reduce the interval period for the repaired asset in order to align the LSCR with that of other assets on the Network.

The Service Provider's records of the assessments shall be stored in the Integrated Information System database and reference should be made to the relevant requirements in the NMM.

2.1.4 Record Management

Records to be kept must include the following:

1. Reports and complaints relating to the condition of the Network received from all sources and actions taken
2. Details of all relevant inspections;
3. Details of actions taken in respect of the performance, including response to incidents, winter service provided and temporary protective measures and repairs;
4. Details of Cyclic Maintenance, and;
5. Assignment of responsibility for removal of litter for each length of the Network

Such records including nil returns where appropriate are retained until advised by the Service Manager on behalf of the Secretary of State and recorded in an Integrated Information System.

2.1.5 Alternative Performance Requirements

Where local circumstances suggest the use of levels of performance different to those shown in the Performance Requirement tables, these may only be considered if departure approval has been granted by the Service Manager. The changes may be to differing levels of performance and involve innovations in materials and/or methods.

Alternative levels of performance are most likely to result from physical characteristics of the road length or from funding constraints so it is not therefore appropriate to provide general advice. On lengths of road where alternative levels of performance are proposed by the Service Provider then supporting information must be submitted to justify any proposed changes.

Annex 2.1.1

Category 1 Defects - Examples of Condition

In addition to those defects listed in Section 2.1.1 the following defects are examples of the type that constitute a Category 1 defect. The list should not be regarded as exhaustive.

a) Potholes and other local defects in the carriageway/footway/cycle track, including defective ironware;
b) Excessive standing water and water discharging on to and/or flowing across the road;
c) Damaged road restraint systems and other barriers;
d) Debris and spillage in traffic lanes or on hardshoulders;
e) Kerbing, edging and channel defects;
f) Damaged lighting columns and other street furniture;
g) Damaged, defective, displaced or missing traffic signs or signals;
h) Dirty or otherwise obscure traffic signs and signals;
i) Trees, shrubs and hedges which by virtue of their position or condition constitute a hazard to road-users;
j) Displaced roadstuds (particularly the "Catseye" type) lying in the carriageway, hardshoulder or laybys;
k) Defective, missing or loose roadstuds;
l) Faults in road structures e.g. impact damage to superstructures, supports or parapets, flood damage, insecure expansion joints;
m) Difference in level (exceeding 20mm) between abutting concrete slabs at transverse or longitudinal joints in the carriageway/footway/cycle track;
n) Rocking gratings or covers in urban areas causing intrusive noise;
o) Damaged boundary fences where animals or children could gain access;
p) Defective road and sign lighting;
q) Overhead wires in a dangerous condition
r) Blocked gully and piped grip gratings and obstructed channels, grips and slot drains;
s) Earthslips where debris has encroached or is likely to encroach on to the road;
t) Rocks or rock faces constituting a hazard to road users.

INFRASTRUCTURE

2.2 Paved Areas

The requirements for paved areas relate to carriageways, footways, cycle tracks, paved pedestrian areas, hardstanding paved areas, paved central reserves and cross-overs, covers, gratings, frames, boxes, kerbs, edgings and preformed channels.

Paved areas are to provide a safe, even and comfortable surface for all users, including pedestrians, cyclists and other vulnerable road users (e.g. horse riders). The surface should not allow standing water as this may be hazardous to traffic. In freezing conditions, standing water can be a hazard to all road users. It is a statutory requirement to remove obstructions from trafficked surfaces. Satisfactory surfaces on footways and cycle tracks may encourage walking and cycling respectively.

The restoration of adequate skidding resistance is not a routine service activity. However, there is a need to warn road users of slippery conditions and to clear paved areas of debris and spillages that could give rise to slippery conditions.

The requirements for gratings, covers, frames and boxes relate to repairs and, where necessary, replacement of such items. Although the requirements do not relate to repairs to items that are the responsibility of other parties, it may be necessary on occasions, if there is a hazard to road users, to make such defects safe and to recover the costs incurred from the responsible parties.

Only those types of defect likely to require routine maintenance rather than those to establish general structural condition should be recorded, although the defects recorded may indicate the need to bring forward a structural condition survey. Some defects recorded may be repaired within structural or Renewal Maintenance work due to be carried out within the timescale of the Long-Stop Condition Requirement record interval.

Infrastructure - Paved Areas

OVERALL REQUIREMENT
A safe, even and comfortable surface for all users, without standing water, obstructions and slippery conditions.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.2.1	Carriageways are free from obstructions (including vegetation).	2 hours	24 hours	N/A
	Footways, cycle tracks, paved pedestrian areas, hardstanding paved areas, paved central reserves and cross-overs are free from obstructions (including vegetation).	2 hours	7 days	N/A
2.2.2	Carriageways have an even, comfortable and quiet running surface free from defects (e.g. potholes, cracks, ruts or unevenness that are below the allowed condition).	24 hours	28 days	6 months
	Footways and cycle tracks have an even and comfortable surface free from defects (e.g. potholes, cracks, ruts or unevenness that are below the allowed condition).	24 hours	28 days	6 months
	Hard-standings, paved central reserves and cross-overs have a surface free from defects.	24 hours	28 days	6 months
2.2.3	Covers, gratings, frames and boxes are free of defects	24 hours	28 days	6 months

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.2.4	Paved areas are free from water that would represent a hazard by virtue of its position or depth.	24 hours	28 days	6 months
2.2.5	Paved areas are free of defective kerbs, edgings and pre-formed channels	24 hours	28 days	6 months
2.2.6	Following skid resistance surveys, carriageway locations with skid resistance at or below the investigatory level as defined in DMRB are prioritised for investigation to determine whether treatment to improve skid resistance is required.	28 days	N/A	N/A
	If, following investigation, remedial action is required then slippery road warning signs are erected in accordance with DMRB until such time as planned remedial works have been carried out.	24 hours	28 days	N/A
	Carriageways are clear of materials that could give rise to slippery conditions.	2 hours	28 days	6 months
	Footways and cycle tracks are clear of debris and spillages that could give rise to slippery conditions.	24 hours	28 days	6 months

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.2.7	Assess and record condition of paved areas:	
	Motorways/rural APTR carriageways	1 year
	Urban APTR carriageways/footways/cycle tracks	6 months
	Rural APTR footways/ cycle tracks	3 years

2.3 Drainage

The requirements for drainage relate to all elements of the drainage system from the point at which water drains from the paved or other areas, structures and subsoil, to the outfall or soakaway.

The requirements for drainage also relate to the prevention and mitigation of the effects of flooding.

The purpose of drainage is to remove water from trafficked surfaces, where it may represent a hazard and disrupt the free flow of traffic, and from sub-layers of the pavement and adjoining earthworks, where its presence may damage the pavement or other structures. In removing the water, the drainage system must be maintained to its design performance or similar to prevent pollution of ground and surface water, and flooding of adjoining property or services. This requirement includes drainage systems that interface with parts of the highway drainage system. The Service Provider should therefore adopt a pro-active approach to identifying potential defects in drainage systems owned by others that could affect the performance of the Network. The drainage system must remain structurally sound so as to be safe and avoid subsidence and deterioration.

To mitigate the effects of flooding from all sources, documented contingency plans for dealing with the flooding of any part of the Network should be prepared in advance and implemented as soon as flooding occurs.

Parts of the drainage system may support wildlife, therefore routine activities on drainage must take into account ecological requirements.

A flexible approach based on operational experience should effectively target critical points in drainage systems. The supply of clean water for flushing, cleaning, and refilling operations cannot be guaranteed so the Service Provider should make their own arrangements for the supply of water.

Infrastructure - Drainage

OVERALL REQUIREMENT
The drainage system is structurally sound and removes water from trafficked surfaces and sub-layers, without causing pollution and flooding. The effects of any flooding are mitigated.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.3.1	Each element of the drainage system is maintained by cleaning, clearing and/or emptying from the point at which water drains from the paved or other areas, structures and subsoil to the outfall into receiving waters or soakaway.	24 hours	28 days	6 months
	Drainage flow, treatment and balancing systems, and spillage control devices function correctly.	24 hours	28 days	6 months
	The location and means of operation of all parts of the drainage system are recorded adequately to permit the correct operation in an Emergency.	24 hours	28 days	6 months
2.3.2	Surface water discharge systems perform their proper function and the discharge to groundwater complies with legislation.	24 hours	28 days	6 months
2.3.3	Water is removed from paved areas such that there is no standing water or risk of flooding on adjacent land.	24 hours	28 days	6 months
2.3.4	Drainage location drawings are readily available and up to date	24 hours	28 days	N/A

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.3.5	Assess and record condition of drainage assets in accordance with DMRB:	
	Piped drainage systems and piped grips	10 years (10% each year)
	Soakaways, manholes, filter drains, fin/narrow filter drains, ditches.	5 years (20% each year)
	Balancing ponds (no outflow controls), retention tanks	2 years
	Linear drainage systems, grassed surface water channels, grips, gullies, catchpits, grit traps, culverts, headwalls and tidal flaps, aprons, pump wet wells.	1 year
	Interceptors	6 months
	Vegetative Treatment Systems, sluices and tidal flaps	6 months
	Ecological condition of ditches and balancing ponds (with outflow controls)	6 months
	Pumps, valves, penstocks and other specialised equipment	In accordance with manufacturer's recommendations

2.4 Geotechnical Assets

The requirements for geotechnical assets relate to pavement sub-grades, embankments and cuttings, and generally any subsoil conditions that may affect the Network. The requirements relate to identifying potential problems and carrying out routine maintenance only. Any large scale maintenance work needed would be classed as Renewal Maintenance.

Failures of geotechnical assets may create hazards to users, cause damage to paved areas, structures, services or other property, and disrupt the free flow of traffic and other road users. Identifying failures in their early stages of development is advantageous as they can often be stabilised before more serious consequences occur.

The geotechnical assets are likely to incorporate landscaping and support wildlife, therefore routine activities on geotechnical assets must take into account ecological requirements.

The DMRB sets out the requirements for the management of geotechnical risk and identifies hazards that may affect these assets. However geotechnical defect features may also be identified as a result of routine activities, such as the Identification of Category 1 defects, recording of condition of other assets, or following other reports or complaints. On identifying any such defects, the Service Provider's Geotechnical Maintenance Liaison Engineer (as defined in the DMRB) should be contacted immediately in order that an appropriate risk assessment may be made and appropriate actions identified.

Principal inspections are initially to be carried out every five years, and at a rate of at least 20% of the Network per year so as to phase any necessary remedial work. Thereafter the frequency of re-inspection may be reduced or increased to reflect the risk to the Network in accordance with the DMRB.

Infrastructure - Geotechnical Assets

OVERALL REQUIREMENT
Geotechnical assets are safe, stable and aesthetically pleasing, with potential problems identified early.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.4.1	Geotechnical assets are assessed, documented and repaired in accordance with DMRB, and match adjacent surroundings where possible	24 hours	In accordance with the DMRB	In accordance with the DMRB

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.4.2	Assess and record condition of geotechnical assets (in accordance with the DMRB)	
	Annual inspection	1 year
	Principal inspection	5 years initially, completing at least 20% of Network each year, and subsequently in accordance with DMRB.
	Enter and approve principal inspection forms in the Highways Agency's Geotechnical Data Management System (HAGDMS).	Within 3 months after completion of inspection.

2.5 Structures

The requirements of this section apply to structures as defined in the DMRB

The structure maintenance manual maintained by the Service Provider must contain the routine service schedules as required by the DMRB.

The requirements for structures relate to cyclical maintenance and identifying potential problems, and do not relate to repairs or to work that would be classed as, or linked to, Renewal Maintenance.

For structures or parts of structures over, under or alongside the Network not owned, or maintained by the Service Manager, the Service Provider should adopt a pro-active approach to those structures that could affect the safety of the Network and clarify the responsibilities for their maintenance.

Structures and their foundations must remain structurally safe and sound, free from deformation, vibration and settlement likely to affect the performance or durability of the structure. To prevent corrosion and the build-up of ground-water pressure the accumulation of water should be avoided. The preservation of structures by cyclical maintenance contributes to avoiding later, more expensive repairs or the replacement of structures and disruption to the free flow of traffic. The appearance of structures is important as it contributes to the image of the Network. Structures with poor appearance may undermine public confidence in the safety of the Network.

Parts of structures may support wildlife, therefore routine activities on structures must take into account ecological requirements. The requirements for non-structural elements are contained in other sections of this Code. However any immediate or imminent structural hazard observed during these activities should be treated as a Category 1 defect.

Infrastructure - Structures

OVERALL REQUIREMENT Structures are safe, sound, operate as intended and clean.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.5.1	Structures and their constituent parts are repaired and maintained in accordance with DMRB, and aesthetically match adjacent parts where possible.	24 hours	28 days	6 months
2.5.2	Structures are free from graffiti and other deleterious material	24 hours	28 days	6 months
2.5.3	All non-structural items including hoists, winches and electrical fixings are safe, operate correctly, are clean and lubricated as appropriate	24 hours	28 days	6 months

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.5.4	Assess and record condition of structures in accordance with DMRB General inspection (not using ancillary equipment) Principal inspection (including use of ancillary equipment)	 2 years 6 years

2.5.1 Structure Maintenance Manual

A structure maintenance manual should exist for all structures in accordance with DMRB and should be reviewed and updated yearly. The specific requirements for the structure should be followed, along with any recommendations from the manufacturers of components used on the structure. However, manufacturer's recommendations are often at set time intervals, rather than as a function of the degree of use to which the items are subjected. These may vary with time and from location to location. Therefore, with competent judgement, manufacturers' recommendations may be varied in the light of local conditions and experience.

2.6 Tunnels

The requirements for Tunnels relate to highway tunnels and portals, associated equipment, service buildings and plant rooms. For the purpose of classification for provision of safety facilities, a road tunnel is defined as any subsurface highway structure enclosed for a length of 150m or more. In addition to the requirements that are unique to tunnels, where appropriate, requirements for items contained in other sections (e.g. paved areas) apply within tunnels.

Specific requirements for the operation, emergency response and service activities will have been determined for each tunnel and set out in the operation and maintenance manuals (O&MM) for the tunnel. These requirements are subject to continuous review, risk assessment and improvement during the life of the tunnel. In general, efficient operation and a rapid response in the event of equipment failure or other emergency will be required. Equipment must operate correctly at all times for the safety and comfort of road users and those who work in the tunnel, and to avoid disruption to road users from unplanned tunnel closures. Equipment must operate efficiently. Escape facilities must function as intended at all times. The tunnel structure and equipment must remain structurally and electrically safe, so as not to present a hazard to the public or workers in the tunnel. As repairs or the replacement of tunnels and equipment are costly, effective maintenance is likely to be the best way of preserving the value of the tunnel and equipment in order to obtain best value for money.

The pollution of ground and surface water from discharges into the tunnel drainage system following tunnel cleaning or an accidental spillage must be prevented.

Emergencies in tunnels can have major effects. Contingency plans for emergencies should be covered in the O&MM for each tunnel. Training and exercises, both desktop and full rehearsal, in association with the emergency services are required.

Infrastructure - Tunnels

OVERALL REQUIREMENT Tunnels are safe, sound, operate as intended and clean

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.6.1	Tunnels and their constituent parts are maintained in a manner that ensures they are safe, structurally sound, operate as intended, clean and provide a safe environment for the user	1 hour	Next planned closure	Within next 2 planned closures
2.6.2	Tunnel escape facilities and all non-structural tunnel equipment, including ventilation and lighting systems are maintained in good working order Routine maintenance carried out and defects repaired in accordance with the requirements of the tunnel O&MM	Immediate	Next planned closure	Within next 2 planned closures

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.6.3	Tunnel incidents are managed effectively and efficiently			
	Contingency arrangements for incidents in place	Immediate	Next planned closure	Within next 2 planned closures
	Deal effectively with tunnel incidents, including fire and spillage	Immediate	N/A	N/A
	Liaise with emergency services	Continuous	Continuous	Continuous
	Hold emergency exercises.			3 years
2.6.4	Continual improvement of tunnel procedures			
	Monitor tunnel performance and safety measures	Continuous	N/A	N/A
	Carry out comprehensive emergency exercises and risk assessment	N/A	N/A	1 year
	Implement improvements to procedures where identified.	24 hours	1 month	Within next 2 planned closures
2.6.5	Discharges from the tunnel meet environmental requirements	Immediate	N/A	N/A
	Discharges via the drainage and ventilation systems do not introduce contamination	12 hours	Next planned closure	Within next 2 planned closures
2.6.6	Corrosive anti-icers/de-icers are NOT used within the tunnel or within 200m of tunnel entrance or exit.	Continuous		
2.6.7	Update tunnel O&MM, including emergency procedures and Health and Safety file	Continuous		

Ref.	LONG STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.6.8	Assess and record condition of tunnel structure in accordance with DMRB	
	Visual inspection (not using ancillary equipment)	1 years
	Detailed examination (including use of ancillary equipment where necessary)	3 years
2.6.9	Assess and record condition of tunnel equipment in accordance with DMRB	
	Visual inspection (not using ancillary equipment)	1 years
	Detailed examination (including use of ancillary equipment where necessary)	3 years
2.6.10	Annual report of information concerning hazardous incidents and tunnel maintenance and operation in accordance with BD53.	1 year

2.6.1 Operation & Maintenance Manual

An O&MM should exist for each tunnel and its specific requirements should generally be followed, along with any manufacturer's recommendations. However, the Service Provider shall review the tunnel operational, emergency and maintenance procedures and update the O&MM accordingly. This should be carried out annually and following any serious or disruptive incident. Records of tunnel performance

should be reviewed. The review process should include updating risk assessments, reviewing emergency procedures and liaising with the emergency services.

2.7 Road Restraint Systems

The requirements for Road Restraint Systems (RRS) includes both vehicle restraint systems and pedestrian restraint systems and relate to all types of vehicle safety barriers, crash cushions, end terminations, transitions and pedestrian guard-rails. They also relate to parapets and guard-rails on bridges and other structures.

The purpose of RRS is to avoid danger to users as well as the protection of structures and other vulnerable roadside features. For this reason, they must be operational at all times in accordance with the intended design and performance described in the manufacturer's recommendations. Particular service requirements may be covered in the manufacturer's recommendations. Reference should be made to TD19/06 – Requirement for Road Restraint Systems.

Site uniformity should be retained by maintaining the vehicle restraint systems and pedestrian restraint systems to the same physical appearance as the adjacent RRS, unless the adjacent systems are obsolete or not in accordance with the relevant and current standard.

Infrastructure - Road Restraint Systems

OVERALL REQUIREMENT Road Restraint systems function in accordance with their intended design and performance

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.7.1	RRS are free of all defects that would prevent them performing as they were intended.	In accordance with NMM 3.7 (AMM 68)	In accordance with NMM 3.7 (AMM 68)	6 months

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.7.2	Assess and record condition of Road Restraint Systems.	2 years

2.8 Technology Systems

The requirements for the technology systems cover, but are not limited to, safe access and general, non-specialised maintenance of technology systems and electrical installations and surroundings, which form part of the Network technology system. Where appropriate this includes emergency roadside telephones, matrix signals, loop detectors, meteorological and surveillance equipment, transmission stations, cabinets, power distribution equipment, generators, communication cables and ancillary equipment.

Maintenance of the specialised electrical/electronic plant is undertaken by a specialist technology contractor under separate contracts procured by the employer. These activities fall outside the scope of this section, but the duties of the Service Provider include undertaking civil engineering works (e.g. debris clearance cable laying, traffic management) to support the technology specialist contractor in any emergency works or operations. In particular failure of any part of the Motorway Incident Detection Automatic Signalling (MIDAS) system shall be regarded as a Category 1 defect and the Service Provider must respond accordingly to the specialist contractor. The responsibility of each organisation at each technology communications installation interface shall be clearly defined and agreed with the Service Manager.

Infrastructure - Technology Systems

OVERALL REQUIREMENT Provide assistance to the specialist contractor and ensure that technology systems equipment is readily accessible, adequately labelled and clean

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.8.1	Technology systems equipment has clear, safe, well drained and unobstructed access (including paths, steps and handrails) and operational areas	24 hours	7 days	6 months
2.8.2	Technology systems equipment is clean and identification markings are clearly visible	24 hours	7 days	6 months
2.8.3	Cabinets, buildings and sites are kept clean and clear of vegetation, well drained, structurally sound and functional	24 hours	7 days	6 months
2.8.4	Protect, or wherever possible make safe, hazardous electrical defects and report to specialist contractor	24 hours	N/A	N/A
2.8.5	Cable location drawings are readily available and up to date	24 hours	28 days	N/A
2.8.6	Provide assistance to the specialist contractor in response to the failure of any element of the technology system	24 hours	7 days	28 days
2.8.7	All installations and equipment are visible and missing cable markers are replaced.	7 days	28 days	6 months

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.8.8	Assess and record condition of technology systems	
	Emergency roadside telephones	
	Accessibility, housing alignment and identification numbers.	28 days
	Structural condition and surface protective finish.	2 years
	Matrix signals, signal lanterns and message signs	
	Visibility of signals and legibility of identification numbers.	3 months
	Mountings and posts - structural condition and surface protective finish.	2 years
	Technology systems cabinets	
	Drainage adequate, weatherproof, accesses (including paths, handrails and steps) are safe and unobstructed, and identification numbers present.	3 months
	Structural condition and surface protective finish.	2 years
	Transmission station buildings and sites.	
	Accessibility.	3 months
	Structural condition including leaking roofs, door fitting, gutters and downpipes, accessibility and security.	1 Year
	Cable joint markers and cable duct markers are visible.	1 year
	Other equipment (e.g. variable message signs, fog detection, ice detection, CCTV, other cameras, camera cabinets etc.)	
	Accessibility.	3 months
	Structural condition, including mountings and posts and surface protective finish.	2 years
	Electrical supplies	1 year

2.9 Road Markings and Road Studs

The requirements for road markings and road studs relate to road markings in paint or thermoplastic materials and reflective and non-reflective road studs of all types and colours.

Road markings and road studs contribute to the safety and convenience of road users by providing regulation, warning and direction. Worn markings are likely to be poorly visible and have inadequate skid resistance. Many markings are used to give effect to regulatory provisions of the Traffic Signs Regulations and General Directions (TSRGD) and the legal status of the markings may be affected by undue wear or damage. In some cases the use of retro-reflective road studs is to give effect to regulatory provisions of the TSRGD and their legal status may be affected by their inadequacy due to loose or missing studs or aspects such as degradation or damage. The condition of road markings and road studs is particularly important in wet conditions, when road markings are generally much less effective, but drivers rely on them for visual guidance.

It should be noted that road studs complying with the statutory requirements of TSRGD are listed in SA1 of MCHW, although this may not be completely up-to-date as it is not practicable to reissue it whenever new products are certified. In case of doubt, the Service Manager should be consulted.

Infrastructure - Road Markings and Road Studs

OVERALL REQUIREMENT
Road markings and road studs are safe, visible. tactile where applicable and clean.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.9.1	Road markings achieve the stated performance over each length of 100 metres of carriageway in terms of the requirements of the DMRB and British Standards	24 hours	28 days	6 months
2.9.2	Road studs achieve the stated performance in terms of the requirements of the DMRB and British Standards	24 hours	28 days	3 months

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.9.3	Assess and record condition of road markings: Thermoplastic Other	 2 years after laying and 1 year thereafter 1 year
2.9.4	Assess and record condition of road studs	6 months

2.10 Road Traffic Signs

The requirements for road traffic signs include traffic signs, bollards and mechanical variable message signs, together with associated electrical equipment where appropriate. They do not relate to structural aspects of road traffic signs classified as structures.

Road traffic signs contribute to the safety and convenience of the road user by providing regulation, warning, information and direction. Many signs must be illuminated and their legal status may be affected if the lighting is ineffective. Satisfactory electrical functioning is required to avoid hazards and obtain the economic life of components. Deterioration of the structure and components may result in a hazard or a reduction in the lives of the components.

To aid referencing during servicing activities and for recording performance, all signs should be clearly and uniquely identified.

Signs should be accessible and free from obstruction.

Temporary signs placed on the Network may create a hazard by their structural condition or position. Temporary signs may mislead users if they remain when no longer required.

Infrastructure- Road Traffic Signs

OVERALL REQUIREMENT Road traffic signs are safe, clearly visible, clean and accessible.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2	
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period	
				High and Medium Priority*	Low Priority*
2.10.1	Signs are clearly visible in terms of the requirements of the DMRB	24 hours	24 hours	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months
2.10.2	Signs and supports are free from structural and electrical defects in terms of the requirements of the DMRB	24 hours	24 hours	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months
2.10.3	All structures, equipment and elements of the signing system are kept clean and accessible and free from obstruction in terms of the requirements of the DMRB	24 hours	24 hours	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months

* The definition of high, medium and low priority is given in DMRB

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.10.4	Assess and record condition of road signs: All aspects, except those listed below	1 year
	Moving parts, electrical safety and operation (visual inspection including opening doors)	2 years
	Electrical testing in accordance with the relevant British Standard	6 years

2.11 Road Traffic Signals

The requirements for road traffic signals relate to permanent traffic signals sited at junctions, outside emergency vehicle stations or at controlled pedestrian crossings. They also relate to associated monitoring equipment installed at or remote from the site, and to regulatory signs associated with traffic signals.

Traffic signals are expected to operate correctly at all times because failure creates a significant hazard and can lead to major traffic congestion. To facilitate servicing access to signals should be clearly designated and free from debris. To aid referencing during servicing and for recording performance, all signals should be clearly identified. “Critical Locations” for response to incidents will be identified in the Service Provider’s contract or otherwise agreed with the Service Manager.

Infrastructure - Road Traffic Signals

OVERALL REQUIREMENT Road traffic signals are fully operational, safe, clean and efficient.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.11.1	Traffic signals and their associated equipment are free from damage, visible, clean, correctly aligned and operational.	**Critical Locations**: All times 45 minutes **All Other locations**: 0600-2000 hrs 2 hours 2000-0600 hrs 4 hours	4 hours 4 hours	14 days 14 days
2.11.2	A 24 hour/7 days per week fault reporting telephone number, appropriately manned, shall be provided.	N/A	28 days	6 months
2.11.3	Remote monitoring systems are fully operational where fitted.	N/A	24 hours	N/A
2.11.4	Traffic Signals and supports are free of structural and electrical defects	24 hours	28 days	6 months
2.11.5	Repeat faults are eliminated. Appropriate material and equipment are used to maximise the life of the traffic signals. Signal timings are optimised.	N/A N/A N/A	N/A N/A N/A	14 days 14 days 14 days
2.11.6	Signals have identification markers and the telephone number for reporting faults are correctly located, clearly visible, clean and legible	N/A	N/A	6 months

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.11.7	Traffic signal failure plans are in place for Category 1 defects.	N/A	N/A	14 days
2.11.8	Equipment cabinets contain up to date records, in good condition, of traffic signal components. Independent records shall be kept and maintained by the Service Provider.	N/A	N/A	6 months

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.11.9	Assess and record condition of traffic signals	1 year
	Electrical testing in accordance with the relevant British Standard	6 years
	Review control timings	3 years
	Review traffic signal failure plans for Category 1 defects	1 year
2.11.10	Records contained in feeder pillars, switchrooms and other electrical equipment (including corresponding centrally held records) are up to date and in good condition	1 year

2.12 Lighting

The requirements for lighting relate to luminaires, lighting columns, and other supports and associated electrical supply. High masts (20 metres or more in height) and catenary lighting systems are classified as structures.

Lighting is required to illuminate the surface of the paved area at night for the safety and comfort of road users. Lighting also 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. To facilitate servicing access to lighting should be clearly designated and free from debris. To aid referencing during servicing and for recording performance, lighting should be clearly identified. Defects that should be considered for lighting and their priority are given in the Routine Maintenance Management System Manual.

Infrastructure - Lighting

OVERALL REQUIREMENT Lighting is fully operational, safe, clean and efficient.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2	
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period	
				High and Medium Priority*	Low Priority*
2.12.1	The illumination is uniform, free from defects and to the appropriate levels as defined in the DMRB and other relevant standards.	24 hours	7 days	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months
2.12.2	Lighting equipment is structurally and electrically free from defects	24 hours	7 days	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months
2.12.3	All equipment, structures and elements of the lighting system are kept clean and free from debris (lanterns are clean, lighting units are free from accidental damage or vandalism)	24 hours	7 days	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months
2.12.4	Clear and safe access to all lighting equipment	24 hours	7 days	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months
2.12.5	All lighting equipment to have identification markers that are correctly located, kept visible, and legible.	N/A	N/A	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2	
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period	
				High and Medium Priority*	Low Priority*
2.12.6	Equipment cabinets contain up to date records, in good condition, of lighting components. Independent records to be kept and maintained by the Service Provider.	N/A	N/A	Urban Trunk Roads: 7 days Other road types: 14 days	6 Months

* The definition of high, medium and low priority is given in the DMRB

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.12.7	Assess and record structural condition of Lighting Electrical testing in accordance with the relevant British Standard	1 year 6 years
2.12.8	Records contained in feeder pillars, switchrooms and other electrical equipment (including corresponding centrally held records) are up to date and in good condition.	1 year

2.13 Fences, Walls, Screens and Environmental Barriers

The requirements for fences, netting, walls, screens and environmental barriers relate to all types of fences, walls, screens and environmental barriers that are not classed as structures. They do not relate to Road Restraint Systems.

Infrastructure - Fences, Walls, Screens and Environmental Barriers

OVERALL REQUIREMENT
Fences, walls, screens and environmental barriers serve the purpose for which they were intended.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.13.1	Fences, walls, netting, screens and environmental barriers, inclusive of stock proofing, are maintained and free of defects.	24 hours	28 days	6 months

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.13.2	Assess and record condition and purpose of fences, walls, screens and environmental barriers for: Integrity Structural condition and purpose	 6 months 2 years

2.14 Inventory Management

The maintenance of the Highways Agency's inventory records is vital to the effective management and maintenance of the Network. The Service Provider is therefore required to maintain and update the Highways Agency's inventory and asset condition databases. Information from records of repairs can help to indicate areas for more detailed consideration and demonstrate that the Service Provider has taken reasonable measures in maintaining the Network.

Records of assessments, planned actions and actions taken should be used for benchmarking, efficiency and evidence of compliance with requirements. In all cases, records of inspections, defects and intended repairs, including nil returns, are essential. They are necessary to demonstrate that reasonable measures in maintaining the highway have been taken.

Management procedures should ensure that records are retained in an appropriate archive for the necessary period, such that they remain secure, accessible and retrievable. The information management system forms part of the quality management system and should be used for analysis of the records collected and the production of summaries of the information at appropriate levels of detail. Statistical, logistical and financial analyses of the records enable the performance of engineering assets to be assessed

However, in order for such an inventory database to be effective, it requires regular and up to date input of repair and maintenance activities.

Reference shall be made to the NMM in respect to advice on the inventory database.

Infrastructure - Inventory Management

OVERALL REQUIREMENT The Highways Agency's inventory and asset condition databases are current, up to date and accurate.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.14.1	All asset repairs, upgrades, changes or removal are entered into the inventory database and records are maintained.	N/A	N/A	28 days

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.14.2	All Network records are reviewed and updated to reflect the annual changes to the assets and their condition.	1 year

INCIDENT MANAGEMENT

2.15 Incident Management

The requirements for Incident Management relate to the response to and management of incidents and are contained wholly within the NMM and the Service Provider shall refer to the relevant chapters of the NMM.

ENVIRONMENT

2.16 Soft Estate

The requirements for the soft estate relate to landscape and ecological elements within the Service Manager's responsibility and are defined in the DMRB.

The Service Provider shall develop and implement a landscape management plan in accordance with the requirements of the DMRB.

The soft estate is required to be managed so as to protect its flora and fauna and value as a linking feature for wildlife, biodiversity and aesthetic aspects whilst preventing hazards to road users and maintainers. The requirements for the road user are primarily concerned with preserving sight lines and the view of signs and signals. For the maintainer, vegetation must not obstruct access to equipment on the highway. In addition fire hazards must be controlled.

Environment - Soft Estate

OVERALL REQUIREMENT The soft estate is managed so as to promote nature conservation and biodiversity and to intergrate into the surrounding landscape.

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.16.1	Vegetation does not constitute a hazard (to the road user or the Service Provider) Visibility at junctions, access points and bends is not restricted. Sight lines and stopping distances are kept clear. Visibility of signs, lights, signals and marker posts is not obstructed. All camera visibility splays are not obstructed by vegetation. Verges and central reservations are maintained. Fire hazards are controlled. All trees within the area Network are safe. Any tree identified as having the potential to fall on the highway is made safe.	24 hours	28 days	6 months

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.16.2	The soft estate is managed in an environmentally sensitive manner and to achieve the objective/functions as set out in the appropriate landscape management plan for the route, in accordance with DMRB, including but not limited to: Woodlands, trees and hedgerows. Non visibility grasslands. Conservation water bodies Hardened landscaped areas Species and habitats as defined in the relevant Biodiversity Action Plan (e. g. Highways Agency/UK/local) "Protected species" are protected and, in particular, appropriate licences are sought from English Nature or the Department for Environment, Food and Rural Affairs for maintenance activities that are likely to affect those "Protected Species." Where statutory designated sites lie adjacent to the highway, the soft estate is managed in agreement with the appropriate statutory body. Injurious weeds are controlled.	24 hours	28 days*	6 months*
2.16.3	The soft estate is managed to help deliver any targets and environmental outputs as contained in the Highways Agency Biodiversity Action Plan (HABAP) Liaison takes place with the Service Manager concerning matters affecting the soft estate.	24 hours	28 days*	6 months*

***** Where carrying out a Permanent Repair is likely to have an adverse impact on the environment, specialist and expert advice must be sought to minimise such impact prior to carrying out any repairs

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.16.4	Assess and record condition of the soft estate.	At least 20% of Network each year, in accordance with DMRB
2.16.5	Assess and record condition of trees within the area Network and those within falling distance of the highway boundary.	3 years

2.17 Sweeping and Cleaning

The requirements for sweeping and cleaning relate to the Service Manager's responsibility under the Environmental Protection Act 1990 (EPA) where the levels of cleanliness after cleaning are specified.

The Service Manager has the duty for litter and refuse on motorways and those APTRs which have been transferred back to the Secretary of State under Section 86(11) of the Environmental Protection Act 1990 (EPA), whilst local district and borough councils are responsible for cleaning and removal of litter from all other APTRs.

It should be noted that there is nothing in the Environmental Protection Act that removes the responsibility of the Service Manager to keep trunk roads safe for the travelling public. There is, therefore, a need for cleaning to be carried out (e.g. dealing with shed loads, spillage and accident debris).

There are four grades of cleanliness given in the EPA: Code of Practice on Litter and Refuse:

Grade A No litter or refuse;
Grade B Predominantly free of litter and refuse apart from small items;
Grade C Widespread distribution of litter and refuse with minor accumulations; and
Grade D Heavily littered with significant accumulations

Environment - Sweeping and Cleaning

OVERALL REQUIREMENT A Network that is clean and free from litter, refuse and/or obstructions

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.17.1	Comply with the standards of cleanliness given in the EPA: Code of Practice on Litter and Refuse, for the sweeping and cleaning of all channels and hardshoulders, clearing and removal of debris from traffic lanes, hardshoulders, verges, central reservations, lay-bys, slopes, removal of litter, and sweeping of footways and cycle tracks.	24 hours	28 days	6 months
	Standards to be achieved after sweeping and cleaning			
	Motorways and strategic routes			
	Paved areas - Grade A			
	Verges - Grade B			
	Restore to clean standard from Grade C	N/A	28 days	N/A
	Restore to clean standard from Grade D	N/A	7 days	N/A
	Recreational land			
	Restore to clean standard from Grade B	N/A	14 days	N/A
	Restore to clean standard from Grade C	N/A	12 hours	N/A
	Restore to clean standard from Grade D	N/A	6 hours	N/A
	Emptying of litter bins	24 hours	28 days	28 days
2.17.1a	Additional “litter blitz” standards to be achieved when instructed by the Service Manager			
	Motorways and strategic routes			
	Paved areas - Grade A			
	Verges - Grade B			
	Restore to clean standard from Grade C	N/A	24 hours	N/A
	Restore to clean standard from Grade D	N/A	24 hours	N/A

Ref.	PERFORMANCE REQUIREMENT	Category 1		Category 2
		Hazard Mitigation Period	Permanent Repair Period	Permanent Repair Period
2.17.2	Amenity areas clear of litter and detritus, litter bins are emptied to prevent overspill and all litter is removed to a licensed tip.	24 hours	24 hours	28 days
	Toilet blocks are clean and hygienic with regular cleaning, emptying and disposal of waste matter, replenishment of consumables, repair and servicing of buildings, fixtures and fittings.	24 hours	24 hours	6 months

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.17.3	Assess and record condition of carriageways, verges, footways, slopes and amenity areas on all motorways and APTR's.	1 year
	Environmental amenity index report	1 month

2.17.1 Technical Guidance

Performance Requirement 2.17.3 above relates to the long stop condition requirement and recording of the condition of the Network. Whilst the Agency only has EPA responsibility on motorways and those APTRs for which the EPA duty has been transferred back to the Secretary of State under Section 86(11) of the EPA the assessments carried out should include **all** APTRs. Problems subsequently identified on those APTR's where the EPA responsibility rests with the local District or Borough Council should be reported immediately to the Service Manager' who would then inform that local authority.

2.18 Winter Service

The requirements for this section relate to the delivery of the winter service to keep Paved Areas free from snow and ice, leading to:

- Reduction in winter accidents
- Maintaining mobility in winter weather
- Fulfilment of the Secretary of State obligations as the Highway Authority

The Service Provider shall develop a Severe Weather Plan, using the Severe Weather Plan Template contained in the NMM, to identify the approach to be taken to deliver the Performance Requirements.

The route classification will be determined by the Service Manager.

Winter Service

OVERALL REQUIREMENT
Deliver an effective winter service by ensuring the paved area is free from ice and free from snow as far as is reasonably practicable.

Ref.	CONDITION CRITERIA	PERFORMANCE REQUIREMENT.						
		Route Classification						
		Red		Amber		Green		Slip Roads and Link Roads
		Number of Existing Lanes						
		1 or 2	3 or more	1 or 2	3 or more	1 or 2	3 or more	Not applicable
		Minimum number of lanes free from ice and free from snow as far as is reasonably practicable						
2.18.1	Ice (Note: During hail or freezing rain conditions treatment shall be undertaken in accordance with the advice in the NMM)	Clear at all times						
2.18.2	Snow between the hours of 06:00 – 20:00	1	2	1	2	1	1	1
2.18.3	Snow between the hours of 20:00 – 06:00	1	2	1	1	1	1	1
2.18.4	Following the cessation of snow fall all lanes are to be clear of snow	12 hours		18 hours		24 hours		In accordance with route classification

Ref.	LONG-STOP CONDITION REQUIREMENT	RECORD INTERVAL
2.18.5	A Winter Service Plan is in place for each winter season	1 year (in accordance with the NMM).

2.18.1 Technical Guidance

The Severe Weather Plan is the method by which the Service Provider describes the way in which the winter service requirements will be met. It therefore should be prepared, or updated annually, and made available for review by the Service Manager in accordance with the NMM (or at a date otherwise agreed with the Service Manager).

The winter service should comprise different activities that combine to achieve the Performance Requirement. The Severe Weather Plan should describe the different activities to be undertaken as part of the winter service. Advice on the treatment of carriageways, footways, cycle tracks and paved pedestrian areas is embodied within the NMM and the Severe Weather Plan should reflect this advice in its development.

PART 3 - REFERENCES

CONTENTS

3.1 Legislation

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Environmental Protection Act 1990
Highways Act 1980 (HMSO)
Management of Health and Safety at Work Regulations 1992
New Roads and Street Works Act 1991
Personal Protective Equipment at Work Regulations 1992
Traffic Management Act 2004
Traffic Signs Manual (HMSO)
Traffic Signs Regulations and General Directions 2002 (TSRGD, 2002)
Weeds Act 1959 (HMSO)
Wildlife and Countryside Act 1981(HMSO)

3.2 Trunk Road Maintenance Manual

DEPARTMENT OF TRANSPORT (1996). Trunk Road Maintenance Manual Volumes 1, 2 & 3: Routine and Winter Maintenance Code, Version No. 2. The Stationery Office, London.

3.3 Design Manual for Roads and Bridges (DMRB)

3.4 Manual of Contract Documents for Highway Works

3.5 British Standards Institution

BS EN 471: 1994 Specification for High Visibility Warning Clothes
BS EN 1317-1: 1998 Road Restraint Systems-Part 1: Terminology and general criteria for test methods.
BS EN 1317-2: 1998 Road Restraint Systems-Part 2: Performance classes, impact test acceptance criteria and test methods for safety barriers.
BS EN 1317-3: 2000 Road Restraint Systems-Part 3: Crash Cushions – Performance classes, impact test acceptance criteria and test methods.
BS EN 1436: 1998 Road Marking Materials : Road marking performance for road users
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BS 3247: 1991 Salt for spreading on highways for winter maintenance.
BS 5489: 2003 Road lighting.
BS 5837: 1991 Trees in relation to construction.
BS 5930: 1999 Code of Practice for Site Investigation
BS 6779: 1999 (Parts 1 to 4). Highway parapets for bridges and other structures
BS 7669-3: 1994 Vehicle Restraint Systems. Guide to the installation, inspection and repair of safety fences
BS 7671: 2001 Requirements for Electrical Installations (Wiring Regulations). Institution of Lighting Engineers (ILE).
BS 7818: 1995 Pedestrian Restraint Systems in Metal

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3.6 National Guidelines

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Pollution Prevention Guidelines PPG22 – Dealing with Spillages on Highways (Environment Agency, November 1999)
Road Death Investigations Manual (ACPO, 2001)
Road Users' Charter, Getting the Best Out of England's Main Roads (Highways Agency, 2002)
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TR2213A National Ice Prediction Network Outstation Protocol Issue A October 2000 (available by email from tss_plans_registry@highways.gsi.gov.uk)
Winter Maintenance Scheme 6157 (City & Guilds)

3.7 Research Papers

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Parmenter B S (1991). The use of pre-wetted salt for highway de-icing. Unpublished TRRL Working Paper WP/PE/81. *Transport and Road Research Laboratory.* Crowthorne.

Zohrabi M, Webster D, Burtwell M H, Bradbury T (2002). *Investigation of De-icing and Snow Clearance within Traffic Calming Areas in the UK and Other Countries*. Unpublished Report PR/IP/024/02, TRL Ltd., Crowthorne, Berkshire, August 2002.

PART 4 - DEFINITIONS

Definitions

Critical Locations	Those locations identified as critical in the Service Providers contract
Cyclic Maintenance	Maintenance undertaken on a regular, periodic basis.
Forward Programme	Has the meaning given in the Conditions of Contract.
Hazard Mitigation	The provision of a permanent or temporary repair to remove the hazard caused by a Category 1 defect.
Hazard Mitigation Period	The time permitted for the repair or removal of a hazard.
Highways Agency	The Highways Agency as the organisation responsible for the management of the trunk road network in England.
Identification	The process which shall be undertaken by the Service Provider to confirm that a defect does not exist
Identification Period	The maximum interval permitted for the Service Provider to identify that a defect does not exist
Integrated Information System	A system provided by the Service Provider that integrates and records all inspections, actions, complaints, audits and all other such information.
Long-Stop Condition Requirement	Regular assessment and recording of asset condition requirements or cyclical maintenance requirements.
Maintenance or Managing Agent	Consultant contracted to manage an Area of the Highways Agency road network
Network	That part of the trunk road and motorway network covered by the Service Provider's contract.
Overall Requirement	The outcome that the Service Provider must achieve for each particular Technical Area
Performance Requirement	Level of performance required to be achieved by the Service Provider on the network.
Permanent Repair	Action undertaken to provide a long-term repair to a Category 1 or Category 2 defect.
Permanent Repair Period	The maximum time allowed for a Permanent Repair or to provide evidence that a Permanent Repair may be delayed or is not necessary.
Preventative Maintenance	Planned maintenance undertaken to prevent an asset deteriorating to a point requiring Reactive Maintenance.
Quality Plan	The part of the Service Provider's Quality Management System including the approach to be adopted for the routine and winter service.
Quality Statement	The statement made by the Service Provider at the time of tender including an outline of the approach to be adopted for the routine and

	winter service.
Reactive Maintenance	Unplanned maintenance necessary due to an asset falling below the Performance Requirement.
Renewal Maintenance	Planned works to ensure that the road remains in a safe and serviceable (available for use) condition. Renewal Maintenance covers roads, structures and technology, including restraint systems, lighting, non-routine maintenance of compounds and amenity areas as well as the purchase of plant and other winter related goods.
Road Category	Parts of the network with the same Performance Requirements are in the same Road Category. The trunk road network is made up of Categories A, B and C.
Service Manager	The person with responsibility for the management of the network in a particular Area.
Service Provider	The organisation Contracted by the Service Manager to provide the services required to manage and maintain the trunk road network.
Supplier	An organisation or company contracted by the Service Provider to undertake work on the trunk road network.
Technical Area	Aspect of the routine and winter service for which the Performance Requirements are defined.
Verification	The confirmation by the Service Provider that a third party report of a potential hazard does not constitute a defect
Verification Period	The maximum interval permitted for the Service Provider to verify that a defect does not exist