

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES**

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SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

1. INTRODUCTION

1.1 General

- 1.1.1 Transport Scotland's management and maintenance of Structures requirements follow the asset management principles set out in *Management of Highway Structures: A Code of Practice* and Transport Scotland's *Asset Management Plan*.
- 1.1.2 Details of all Structures for which the Director is responsible are contained in the structures management function of the Integrated Roads Information System.
- 1.1.3 This Part details the inspection and maintenance requirements to be undertaken by the Operating Company to:
 - (i) maintain Structures in good and safe repair,
 - (ii) ensure Structures are safe for use, fit for purpose and can carry current traffic loads, and
 - (iii) facilitate the planning and prioritisation of maintenance Operations and Special Inspections.
- 1.1.4 The requirements of this Part apply to Structures for which the Director is responsible as detailed in paragraph 1.1.2 of this Part.
- 1.1.5 The Operating Company shall include documented procedures in the Management System to deliver the requirements of this Part.
- 1.1.6 This Part covers the requirements for the management and maintenance of all Structures on the Unit, however Structures with particular requirements are further covered in Schedule 7 Part 7, which identifies these Structures and describes requirements for more particular or enhanced levels of management and maintenance.

2. MAINTENANCE MANAGEMENT

2.1 Structures Management

- 2.1.1 The Operating Company shall in accordance with the requirements of Schedule 5 Part 4 appoint:
 - (i) a Bridges Manager who shall be a member of the Operating Company's Core Management Team,
 - (ii) a Gantry Manager who shall report directly to the Bridges Manager to deliver the requirements of paragraph 9. (*Access Systems*) of this Part, and
 - (iii) a Major Bridge Manager (Forth Road Bridge) and a Major Bridge Manager (Queensferry Crossing) who shall report to the Bridges Manager as part of delivering the requirements of Schedule 7 Part 7.

2.2 The Structures Management Function of the Integrated Roads Information System

- 2.2.1 The structures management function of the Integrated Roads Information System is used to record the information and programmes relating to the management, monitoring and maintenance of existing and proposed Structures. The Operating Company shall use and update the structures management function of the Integrated Roads Information System in accordance with the procedures specified in the *Structures Management System user manual* and the *Transport Scotland Inspection Manual – Principal Inspections of Trunk Road Structures and Location System* as issued by the Director and as amended and re-issued by the Director from time to time. The structures management function of the Integrated Roads Information System shall be kept up to date by the Operating Company until the Service End Date.
- 2.2.2 The Operating Company shall update all data held in the structures management function of the Integrated Roads Information System, as follows:
- (i) within three Working Days of becoming aware of any new data or changes to existing data, particularly after any inspections of Structures have been undertaken, and
 - (ii) within 28 days of existing Structures including sign gantries, having been:
 - (a) demolished or infilled,
 - (b) newly constructed,
 - (c) widened,
 - (d) maintained and subjected to remedial work, or
 - (e) strengthened and or improved.
- 2.2.3 The addition of Network 2 will require an expansion of the scope of updating activity for the structures management function of the Integrated Roads Information System. The Operating Company shall allow for this from Commencement of Service Date 2 onwards.
- 2.2.4 A separate and detailed location-based database or databases shall be produced and maintained by the Operating Company for the management and tracking of inspection Records, Defects and repairs on the Queensferry Crossing in accordance with the requirements of Schedule 7 Part 7.

2.3 Structures Maintenance Schedule

- 2.3.1 No later than 30 days prior to Commencement of Service Date 1, the Operating Company shall review the maintenance schedules of the previous operating company and the historical maintenance schedules of FETA to assist in the Operating Company's development of its own maintenance schedule for this Contract. Maintenance schedule duties shall be undertaken at least twice per year in each Annual Period as follows:
- (i) at the end of the autumnal leaf fall (and no later than November), and
 - (ii) the beginning of summer (May or June),
- and additionally when required.

2.3.2 No later than 30 days prior to Commencement of Service Date 1 and annually thereafter until 30 days prior to Commencement of Service Date 2, the Operating Company shall prepare a maintenance schedule and programme and submit them to the Director for written consent. The maintenance schedule shall itemise the maintenance requirements for each Structure and Access Systems associated with Network 1.

2.3.3 No later than 30 days prior to Commencement of Service Date 2 and annually thereafter until the Service End Date, the Operating Company shall prepare a maintenance schedule and programme and submit them to the Director for written consent. The maintenance schedule shall itemise the maintenance requirements for each Structure and Access Systems associated with Network 2.

2.3.4 The Operating Company shall ensure that it has sufficiently trained staff available to undertake the duties in the consented to maintenance schedule.

2.3.5 A summarised example of the maintenance schedule is provided in Annex 7.6/A of this Part and includes provisions for recording:

- (i) the results of Structures Safety Inspections and tests,
- (ii) the actions taken including the dates these were taken and completed,
- (iii) the dates when maintenance is due to be carried out, and
- (iv) the updates to the maintenance requirements until the Service End Date.

The maintenance schedule containing maintenance requirements for Structures, completion dates and changes to maintenance requirements throughout the Contract Period shall be held in the structures management function of the Integrated Roads Information System for monitoring and auditing purposes.

2.3.6 Until the Service End Date, the Operating Company shall update the maintenance schedule within five Working Days of undertaking any work with:

- (i) the dates and details of the Structures Safety Inspections undertaken,
- (ii) the dates and details of any tests carried out,
- (iii) any other actions taken, and
- (iv) the dates when further maintenance is required.

The Operating Company shall also update the maintenance schedule when changes to maintenance are required to comply with the requirements of this Part.

2.3.7 Before commencing maintenance activities identified in the maintenance schedule each year, the Operating Company shall submit a programme to the Director and the Performance Audit Group which identifies the number of maintenance activities which are programmed to be carried out each month.

2.4 Maintenance and Operations Manuals and Health and Safety Files

2.4.1 The Operating Company shall review and update annually all maintenance and operations manuals, maintenance procedures, inspection procedures and health and safety files for Structures. This review and update shall ensure all maintenance and operations manuals and health and safety files for Structures comply with current Legislation and safe working practices and contain any changes to the maintenance requirements of the Structures in respect of health and safety.

The Operating Company shall prepare a report detailing the findings and changes made as part of the annual review. This report shall be submitted to the Director within three Working Days of the completion of the review.

- 2.4.2 The Operating Company shall notify the Director of missing maintenance and operations manuals and missing health and safety files for Structures which should be available. Subject to an Order the Operating Company shall rectify such occurrences in accordance with the requirements of the Order.
- 2.4.3 No later than 15 Working Days after completion of any work to new or existing Structures by the Operating Company or by a Works Contractor, the Operating Company shall submit to the Director new and amended as-built Records, including as a minimum maintenance and operations manuals and health and safety files required by the *Design Manual for Roads and Bridges*.
- 2.4.4 The Operating Company shall develop maintenance, inspection and operation procedures for the Structures handed over as a part of Network 2 in accordance with the *Transport Scotland Interim Amendment No33 - General and Principal Inspections for Trunk Road Structures*. These shall be submitted to the Director for consent no later than 60 days before Commencement of Service Date 2.

3. INSPECTION REQUIREMENTS

3.1 General

- 3.1.1 The Operating Company shall undertake:

- (i) Structures Safety Inspections,
- (ii) General Inspections,
- (iii) Principal Inspections,
- (iv) Scour Inspections and Scour Assessments, and
- (v) Special Inspections.

All inspections shall be undertaken in accordance with the standards and advice notes contained in the *Design Manual for Roads and Bridges* and the following Transport Scotland documents:

- (i) *Transport Scotland Inspection Manual – Principal Inspections of Trunk Road Structures and Location System*,
- (ii) *Structures Management System user manual*, and
- (iii) *Inspections Further Data Collection Requirements*.

The inspection programme for a given Structure shall be determined by the timing of the previous inspections on the same Structure; new inspections shall be started in the sequence required and in time to provide inspection reports at the maximum interval specified in BD63, the *Transport Scotland Inspection Manual – Principal Inspection of Trunk Road Structures and Location System* and Schedule 7 Part 7.

Where the inspection of a Structure has to take place over more than one Annual Period, each annual programme shall be compiled in accordance with the timings of previous inspections while ensuring that the maximum interval for inspecting each structural element does not exceed the interval as determined in BD63 and Transport

Scotland Inspection Manual – Principal Inspection of Trunk Road Structures and Location System and Schedule 7 Part 7.

All Trunk Road Structures are subject to these inspection requirements, except where specifically excluded by the Director. All Principal Inspections of Structures with a span of greater than 10 metres shall be undertaken by a chartered civil or structural engineer.

Inspections for the Principal Crossings shall be carried out in accordance with the *Forth Road Bridge Engineering Manual* and the *Queensferry Crossing Inspection and Maintenance Manual* respectively, as described in Schedule 7 Part 7.

Inspections on Structures that are accommodation bridges for private users shall include the road surface on the Structure and for a further five metres beyond either end of the Structure, together with any provided surface water drainage. Vehicular restraint systems, where provided, shall be inspected for a minimum of 30 metres from each terminal or anchorage at the parapet interface.

3.1.2 No later than 30 days prior to Commencement of Service Date 1 and annually thereafter until 30 days prior to Commencement of Service Date 2, the Operating Company shall prepare an inspection schedule and programme and submit them to the Director for written consent. The maintenance schedule shall itemise the inspections for each Structure and Access Systems associated with Network 1.

3.1.3 No later than 30 days prior to Commencement of Service Date 2 and annually thereafter until the Service End Date, the Operating Company shall prepare an inspection schedule and programme and submit them to the Director for written consent. The inspection schedule shall itemise the maintenance requirements for each Structure and Access Systems associated with Network 2.

3.2 Structures Safety Inspections

3.2.1 Structures Safety Inspections shall be undertaken by the Operating Company at the same time as other inspection and maintenance duties.

Structures Safety Inspections shall be undertaken to identify any deficiencies which, if not rectified, represent or may result in:

- (i) a danger to the public and which therefore require immediate or urgent action,
- (ii) accidents,
- (iii) deterioration or behaviours indicating a reduction in load carrying capacity, and
- (iv) high repair costs.

3.2.2 The Operating Company shall undertake two types of Structures Safety Inspections:

- (i) random, and
- (ii) reactive.

The Operating Company shall undertake random Structures Safety Inspections during maintenance of Structures at intervals not exceeding 7 days. When undertaking the random Structures Safety Inspection the Operating Company shall:

- (i) observe the Structure,
- (ii) record any signs of problems or deficiencies, and

- (iii) report them to the Bridges Manager.

The Operating Company shall undertake reactive Structures Safety Inspections after a problem or deficiency has been observed or reported by:

- (i) any of the Operating Company's staff, or
- (ii) the police or the public,

and report them to the Bridges Manager.

The Operating Company shall submit a monthly report to the Director's bridges manager detailing the findings of all random and reactive Structures Safety Inspections.

- 3.2.3 The Operating Company shall identify, classify and record Defects observed as either Category 1 or Category 2 Defects in accordance with the requirements of Schedule 7 Part 1. The Operating Company shall take action appropriate to the category and severity of such Category 1 or Category 2 Defects. This rating system is separate and different from the defects rating system in *Transport Scotland Inspection Manual – Principal Inspections of Trunk Road Structures and Location System*.

3.3 General Inspections

- 3.3.1 For Structures other than the Principal Crossings, the Operating Company shall undertake General Inspections at intervals not exceeding two years. This shall exclude any Structures on which a Principal Inspection has been carried out during the same Annual Period in which the General Inspection is due to be conducted.

- 3.3.2 The programme of General Inspections for each Structure shall be coordinated with the programme of Principal Inspections for each Structure using the following continuous six year inspection cycle:

- (i) Principal Inspection,
- (ii) General Inspection two years later,
- (iii) General Inspection four years later, and
- (iv) Principal Inspection six years later.

The Operating Company shall use the existing cycle of inspections undertaken by the previous operating company or historically by FETA as the basis for developing and implementing an inspection programme that shall meet these inspection requirements.

Before commencing General Inspections each year the Operating Company shall submit a programme which identifies the number of inspections which are programmed to be carried out each month to the Director and the Performance Audit Group.

- 3.3.3 When undertaking General Inspections, the Operating Company shall record the condition of every part of a Structure visible from the ground and deck level and, where necessary, access confined spaces including box girders and culverts.

General Inspections shall be recorded on a pro forma provided within the structures management function of the Integrated Roads Information System. For any Defects found, the Defect description and priority ranking used shall be in accordance with the requirements in *The Inspection Manual for Highways Structures Volume 1* and the

Transport Scotland Inspection Manual – Principal Inspections of Trunk Road Structures and Location System.

3.4 Principal Inspections

- 3.4.1 Structures for which Principal Inspections are required are listed within the structures management function of the Integrated Roads Information System and in Annex 7.6/B of this Part. Details of the year in which the next Principal Inspection is due for each Structure are provided in Annex 7.6/B of this Part where this is known.

The Operating Company shall undertake Principal Inspections during the specified year for Structures listed in Annex 7.6/B of this Part at intervals not greater than six years after the preceding Principal Inspection. Principal Inspections shall include access to confined spaces within relevant Structures including box girders and culverts. Unless requested otherwise by the Director, the result of a Principal Inspection shall be recorded within the structures management function of the Integrated Roads Information System.

Before commencing Principal Inspections each year the Operating Company shall submit a programme which identifies the number of inspections which are programmed to be carried out each month to the Director and the Performance Audit Group.

3.5 Scour Inspections and Assessments

- 3.5.1 For Structures over or carrying watercourses, checks for scour shall be carried out as part of a General Inspection and Principal Inspection in accordance with BD63 of the *Design Manual for Roads and Bridges*.
- 3.5.2 The Operating Company shall, in accordance with BD63 of the *Design Manual for Roads and Bridges*, check for scour as part of General Inspections and Principal Inspections for structures over or carrying watercourses. Prior to carrying out a Principal Inspection or General Inspection, the Operating Company shall review any previous stage 1 and stage 2 Scour Assessments undertaken in accordance with BD97 and or BA74 of the *Design Manual for Roads and Bridges* so that any changes in conditions can be identified during the Principal Inspection or General Inspection. Subject to an Order, the Operating Company shall revise previous stage 1 and stage 2 Scour Assessments to quantify any changes in condition. The Operating Company shall assess the potential for scour and record any observations as part of General Inspections and Principal Inspections. Details of scour observed at General Inspection or Principal Inspection shall be included in the General Inspection or Principal Inspection report.
- 3.5.3 Inspections for Scour Assessments shall be undertaken in accordance with BD97 of the *Design Manual for Roads and Bridges* and require a two stage approach to identify those Structures where the potential risk of scour is considered high. All Structures over or carrying watercourses are listed in Annex 7.6/C of this Part and have been identified for stage 1 assessment in accordance with BD97 and or BA74 of the *Design Manual for Roads and Bridges*.

In accordance with *Design Manual for Roads and Bridges*, the Operating Company shall ensure that the individual undertaking the inspection shall have the required knowledge and experience.

- 3.5.4 For Structures where a stage 1 Scour Assessment is required, the Operating Company shall undertake a Scour Inspection and collect the data regarding the Structure, its foundations, the river and any information on the history of the Structure and any previous scour history. Where a risk of scour is identified, a stage 2 Scour Assessment shall be required.
- 3.5.5 A stage 2 Scour Assessment shall involve a calculation of the potential scour depths and an assessment of priority rating. Existing Structures that have had a stage 2 Scour Assessment are listed in Annex 7.6/D of this Part.
- 3.5.6 The need for additional Scour Inspections to Structures after periods of heavy rainfall shall be assessed by the Operating Company as a reactive Structures Safety Inspection and, where required, a Special Inspection shall be undertaken.
- 3.5.7 In addition to the requirements of paragraph 3.5.3 of this Part, when required by BD97 of the *Design Manual for Roads and Bridges*, the Director shall issue an Order for the Operating Company to undertake stage 1 and stage 2 Scour Assessments of a Structure.

3.6 Special Inspections

- 3.6.1 The Operating Company shall undertake Special Inspections to investigate particular concerns rather than at programmed intervals. With the exception of the Special Inspections set out in paragraph 2.2.8 of Schedule 7 Part 7 undertaking Special Inspections shall be subject to an Order.
- 3.6.2 Special Inspections shall generally be undertaken by the Operating Company to investigate a Defect identified during a General Inspection or Principal Inspection. Additionally underwater inspections may, subject to an Order, be required for bridge foundations.

3.7 Weather Resistant Steel Bridge Monitoring

- 3.7.1 The Operating Company shall undertake the management and monitoring of Structures incorporating weather resistant steel in accordance with:
- (i) the *Design Manual for Roads and Bridges*, and
 - (ii) the requirements for carrying out and reporting General and Principal Inspections referred to in paragraphs 3.3 and 3.4 of this Part.
- 3.7.2 Structures incorporating weather resistant steel which require monitoring are listed within the structures management function of the Integrated Roads Information System. The system contains data on the year in which the next Principal Inspection is due and the last year in which the steel thickness measurements were taken.
- 3.7.3 The Operating Company shall ensure that steel thickness measurement data is recorded, stored and presented in Principal Inspection reports in order that corrosion trends are apparent. Only certified calibrated gauges may be used. The structures management function of the Integrated Roads Information System contains data on the measurements, locations and previously measured steel thicknesses. The Operating Company shall use such data to monitor the corrosion trends and report on them in the relevant Principal Inspection reports.
- 3.7.4 The Operating Company shall measure, record, store and present the results of the actual steel thicknesses at the critical locations as in the Principal Inspection reports.

- 3.7.5 The Operating Company shall incorporate in its General Inspection procedures a visual inspection procedure of the critical areas where measurements are taken and areas prone to corrosion, particularly in the vicinity of all deck joints, at intervals not exceeding two years.

4. MONITORING REQUIREMENTS

4.1 General

- 4.1.1 The Operating Company shall on a 24 hour, 365 days per year basis undertake the monitoring of the following:
- (i) The Supervisory Control and Data Acquisition System on the Queensferry Crossing including the information and reports generated,
 - (ii) The Structural Health Monitoring System on the Queensferry Crossing including the information and reports generated,
 - (iii) Fire alarm, CCTV and detection systems,
 - (iv) Access Systems,
 - (v) Lighting systems including navigation and obstruction lighting,
 - (vi) Building systems,
 - (vii) Security systems,
 - (viii) The de-humidification system for the main cables and deck box of the Forth Road Bridge including the information and reports generated,
 - (ix) The acoustic monitoring system for the main cables of the Forth Road Bridge including all information and reports generated,
 - (x) Other Structures with specific monitoring requirements not specifically related to Defects including, but not limited to, periodically checking the BP pipeline protection structures for stray currents, and
 - (xi) The architectural lighting system and the updating of zone and scene settings.
- 4.1.2 All monitoring activities shall be undertaken in accordance with the requirements set out in Schedule 7 Part 7.

5. REQUIREMENTS FOR MAINTENANCE OF STRUCTURES

5.1 General

- 5.1.1 The maintenance of Structures and any associated Access Systems comprises activities relating to servicing of the Structure. Maintenance shall be undertaken regularly or at pre-determined intervals in accordance with the relevant operations manual, log book or maintenance schedule.

The maintenance of Structures does not cover the repair or renewal of structural elements or components that have become unserviceable due to general wear and tear or which have deteriorated with time and usage or which have been damaged. Any requirement for such repair or renewal work shall be identified by the Operating Company during inspections and assessments and included in the structural maintenance programme detailed in paragraph 6 of this Part.

5.1.2 The Operating Company shall carry out maintenance of Structures as required, and at least twice per year, to meet the requirements of this Part.

5.1.3 All graffiti shall be dealt with in accordance with the requirements of Schedule 7 Part 1.

5.2 Substructures and Superstructures

5.2.1 The Operating Company shall undertake maintenance of substructures and superstructures in accordance with the Specification and the relevant maintenance manuals.

5.3 Expansion Joints

5.3.1 The Operating Company shall undertake maintenance of expansion joints in accordance with the Specification and the relevant maintenance manuals and in addition shall report any Category 1 Defects immediately to the Director for further investigation and repair.

5.4 Drainage Systems

5.4.1 The Operating Company shall undertake maintenance of drainage systems including carriageway drainage on or adjacent to Structures in accordance with the Specification and the relevant maintenance manuals and shall include clearing drainage outlet manholes and other drainage systems and facilities within the Unit. The Operating Company shall report any Category 1 Defects immediately to the Director for further investigation and repair.

5.5 Parapets and Pedestrian Protection on Structures

5.5.1 The Operating Company shall undertake maintenance of parapets and pedestrian protection on Structures in accordance with the Specification and the relevant maintenance manuals and in addition shall report any Category 1 Defects immediately to the Director for further investigation and repair.

5.6 Bearings and Bearing Shelves

5.6.1 The Operating Company shall undertake maintenance of bearings and bearing shelves in accordance with the Specification and the relevant maintenance manuals and in addition shall report any Category 1 Defects immediately to the Director for further investigation and repair.

5.7 Structures Over or Conveying Watercourses

5.7.1 The Operating Company shall undertake maintenance of Structures over or conveying watercourses in accordance with the Specification and the relevant maintenance manuals. It shall include all the requirements detailed in paragraphs 5.1 to 5.6 and 5.9 of this Part.

5.8 Sign and or Signal Gantries, High Mast Lighting and other Masts

5.8.1 The Operating Company shall undertake maintenance of the non electrical components of sign gantries, signal gantries, high mast lighting and other masts where not already covered by Schedule 7 Part 1, in accordance with the Specification and the relevant maintenance manuals and in addition shall report any Defects immediately to the Director for further investigation and repair.

5.9 Non-structural Items

5.9.1 Non-structural items exclude Access Systems associated with Structures. Non-structural items include as a minimum:

- (i) access stairs,
- (ii) access walkways,
- (iii) access platforms,
- (iv) hinges,
- (v) doors,
- (vi) deck drainage components and steelwork,
- (vii) ladders,
- (viii) pumps,
- (ix) access chambers,
- (x) sumps,
- (xi) grills,
- (xii) trash screens,
- (xiii) access covers,
- (xiv) watergates,
- (xv) canopies,
- (xvi) wrapping to cables,
- (xvii) stay cable ducts,
- (xviii) stay cable dampers,
- (xix) CCTV camera systems,
- (xx) Security systems,
- (xxi) Aviation and aircraft warning lighting,
- (xxii) Architectural lighting,
- (xxiii) De-humidification equipment,
- (xxiv) Acoustic monitoring equipment,
- (xxv) Supervisory Control and Data Acquisition System,
- (xxvi) Structural Health Monitoring System,
- (xxvii) Other mechanical and electrical equipment,
- (xxviii) ventilation ducts and grills, and
- (xxix) ancillary lighting connected with the above.

5.9.2 The Operating Company shall undertake maintenance of non-structural items associated with Structures in accordance with Schedule 7 Part 7 and the Specification.

5.9.3 The Operating Company shall ensure that all non-structural items associated with Structures operate effectively.

5.10 Underpasses and Culverts also used by Pedestrians and Cyclists

5.10.1 The Operating Company shall undertake maintenance of underpasses and culverts used by pedestrians, cyclists and other road users in accordance with the Specification.

5.11 Retaining Walls

5.11.1 The Operating Company shall undertake maintenance of retaining walls in accordance with the Specification.

6. REQUIREMENTS FOR STRUCTURAL MAINTENANCE

6.1 General

6.1.1 Structural maintenance shall include the repair, renewal and replacement of structural elements or components that have become unserviceable through wear and tear or deteriorated with time and usage or which have been damaged.

6.1.2 Structural maintenance shall include the upgrading of Structures to bring specific elements and components of Structures up to current requirements, including safety and durability standards.

6.1.3 The Operating Company shall determine the structural maintenance requirements from the results of:

- (i) Structures Safety Inspections,
- (ii) General Inspections,
- (iii) Principal Inspections,
- (iv) Special Inspections,
- (v) Scour Inspections,
- (vi) Scour Assessments,
- (vii) Bridge Assessments,
- (viii) Reports and information relating to the Structural Health Monitoring System on the Queensferry Crossing,
- (ix) Reports and information relating to the de-humidification system for the main cables of the Forth Road Bridge,
- (x) Reports and information relating to the acoustic monitoring system of the Forth Road Bridge,
- (xi) Reports and information for Structures with particular monitoring requirements,
- (xii) Maintenance programmes historically undertaken by FETA and maintenance programmes undertaken by the previous Operating Company,
- (xiii) the Transport Scotland Structures Workbank, as advised by the Director, and

- (xiv) any other special programmes or assessments advised or subject to an Order including, but not limited, to, parapet and vehicle restraint system assessments and at-risk pier assessments.

6.1.4 Recommendations for structural maintenance Operations shall be submitted to the Director by the Operating Company as part of the annual Bids and programme process in accordance with the requirements of Schedule 4 Part 1.

6.2 Maintenance Files

6.2.1 The Bridges Manager shall keep structural maintenance files for each Structure at the Central Office. These shall be in paper and Electronic Copy and referenced by route name, the junctions between which they are located, and national Ordnance Survey grid coordinates.

Maintenance files for Structures shall contain:

- (i) copies of all inspections together with details of structural maintenance and repair, and
- (ii) Drawings and Records showing:
 - (a) location and extent of structural maintenance Operations and Works,
 - (b) materials employed,
 - (c) date of implementation,
 - (d) details of Works Contractors and subcontractors employed, and
 - (e) costs of Operations and Works.

6.3 Structural Maintenance Programme

6.3.1 The Bridges Manager shall review:

- (i) inspection, assessment, special investigation and feasibility reports for Structures and Access Systems,
- (ii) reports and information relating to the monitoring and management of sub-standard Structures,
- (iii) monitoring requirements for Structures with known Defects,
- (iv) test results and known strengthening and replacement requirements,
- (v) Reports and information relating to the Supervisory Control and Data Acquisition System and its subsystems on the Queensferry Crossing,
- (vi) Reports and information relating to the Structural Health Monitoring System on the Queensferry Crossing,
- (vii) Reports and information relating to the de-humidification system for the main cables of the Forth Road Bridge,
- (viii) Reports and information relating to the acoustic monitoring system of the Forth Road Bridge,
- (ix) Reports and information for Structures with particular monitoring requirements,
- (x) the Transport Scotland Structures Workbank,
- (xi) special programmes,

- (xii) previous maintenance programmes and procedures, and
- (xiii) any other special programmes or assessments advised or subject to an Order, and identify and prioritise:
 - (i) maintenance, strengthening and replacement Operations required for Structures, non structural items and any associated Access Systems,
 - (ii) Special Inspections, Scour Inspection and Scour Assessments,
 - (iii) at-risk pier assessments,
 - (iv) parapet and vehicle restraint system assessments,
 - (v) effectiveness of windshielding and noise barriers,
 - (vi) Structures assessments and interim and formal measures for sub-standard Structures,
 - (vii) additional monitoring over and above that identified in paragraph 4 of this Part and Schedule 7 Part 7,
 - (viii) Defect repair criteria and strategies,
 - (ix) monitoring requirements for Structures with known Defects, and
 - (x) any other special programmes or assessments advised or subject to an Order, for inclusion in the annual Bids and programmes process.

6.4 Value Management of Structural Maintenance Programme

- 6.4.1 In addition to preparing the structural maintenance programme set out in paragraphs 5.1 to 5.3 of this Part, the Operating Company shall prioritise and rank all the Schemes in such programmes as well as Schemes with priority three and four work as designated in the *Transport Scotland Inspection Manual – Principal Inspections of Trunk Road Structures & Locations System*, Part A - A13 arising from Principal and General Inspections undertaken in an inspection year. This shall be done using the techniques described in *Maintenance and Making Better Use – Value Management of the Structures Renewal Programme – Amended for Transport Scotland*.

The output from the value management prioritisation as set out above shall be submitted to the Director for his written consent and form the basis of the following year's programme. The Director shall consider the output of the prioritisation along with any other Schemes to be included in the programme, which shall be prioritised and ranked. All programmes shall be submitted in accordance with the dates set out in the annual process described in Schedule 4 Part 1 as a stage 1 submission.

For the Principal Crossings, Scheme and maintenance ranking shall be done using the techniques and ratings systems described in the *Forth Road Bridge Engineering Manual* and the *Queensferry Crossing Inspection and Maintenance Manual*.

- 6.4.2 The Director may, from time to time and at his own discretion, review, change and re-prioritise the Schemes to be included in the consented to programme.

6.5 Structures Scheme Cost Estimating

- 6.5.1 All Structures Scheme cost estimates, shall be reviewed by the Operating Company and if required, revised prior to undergoing value management as set out in paragraph 6.4 of this Part.
- 6.5.2 All Structures Scheme cost estimates shall be developed in line with the requirements of this Contract. Where the scope of work changes, Scheme cost estimates shall be revised to ensure they reflect the change in scope and are accurate. The Operating Company shall, when requested, provide the Director with the current scope of work and accurate cost estimate to be used for value management as set out in paragraph 6.4 of this Part.

7. STRUCTURAL ASSESSMENTS

7.1 General

- 7.1.1 Structural assessments and the resulting required actions are essential in ensuring that all Structures remain in a safe and serviceable state. The Operating Company shall inform the Director immediately of any issue or deterioration identified as a result of a structural assessment that has a detrimental effect on the load carrying capacity of a Structure.
- 7.1.2 Subject to an Order, the Operating Company shall undertake:
- (i) structural assessments required due to increases in vehicle loadings above those used in the design of a Structure,
 - (ii) assessment of a Structure or part of a Structure that is noted in an inspection to have deteriorated, and whose design or assessed load carrying capacity may have been reduced,
 - (iii) assessment of Structures without HB ratings,
 - (iv) assessment and upgrading of vehicle parapets in accordance with *Transport Scotland Interim Amendment No 25*,
 - (v) a two stage structural review and assessment of all Trunk Road Structures during this Contract for the purpose of establishing or confirming the validity of the latest assessment, or their original design if there has been no subsequent assessment,
 - (vi) identification and assessment of 'particularly at risk' supports in accordance with *Transport Scotland Interim Amendment No 29*, and
 - (vii) Assessment of the Queensferry Crossing or Forth Road Bridge as a result of an extreme loading event or as a result of an event identified by the Structural Health Monitoring System of the Queensferry Crossing.
- 7.1.3 The Operating Company shall assess a Structure or part of a Structure whenever it is damaged.
- 7.1.4 Structural reviews and assessments shall be undertaken on a six year cycle to coincide with a Principal Inspection, the requirements of Schedule 7 Part 7 or when subject to an Order.

- 7.1.5 Annexes 7.6/E and 7.6/F of this Part provide details on vehicle parapets and bridge supports with assessments in progress, or which require upgrading or which are under review and may require further detailed assessment.

7.2 Structural Assessment Process

- 7.2.1 The Operating Company shall follow the procedure referred to in Annex 7.6/G of this Part to obtain Technical Approval for structural assessments.
- 7.2.2 Subject to an Order, the Operating Company shall undertake structural assessments to level one to three as consented to by the Director in accordance with the assessment requirements in the *Design Manual for Roads and Bridges*.
- 7.2.3 The Director may, at his discretion and subject to an Order, require the Operating Company to undertake level four and five assessments that require specialist knowledge and expertise using appropriately experienced assessing engineers.

7.3 Structural Assessments in Progress

- 7.3.1 Subject to an Order, where a structural assessment is in progress at Commencement of Service Date 1, the Operating Company shall undertake the completion of the assessment to the level of assessment consented to by the Director.
- 7.3.2 The Operating Company shall inform the Director of any identified assessment that cannot be completed before the end of the final Annual Period prior to undertaking any work on the assessment. The Director shall decide:
- (i) if the Operating Company is required to undertake the identified assessment, or
 - (ii) if he wishes to make alternative arrangements outwith the Operating Company's arrangements for undertaking the identified assessment.
- 7.3.3 Subject to the requirements in paragraph 6.3.2, the Operating Company shall complete all structural assessments in progress no later than the end of the final Annual Period. The Operating Company shall not initiate any new assessments that may continue beyond the end of the final Annual Period.
- 7.3.4 Annex 7.6/H of this Part lists sub-standard Structures with assessments in progress at the start of the first Annual Period or which are under review and may require structural assessment.

8. MANAGEMENT OF SUB-STANDARD STRUCTURES AND STRUCTURES WITH KNOWN DEFECTS

8.1 General

- 8.1.1 The Operating Company shall undertake the management of sub-standard Structures and the management of Structures with known Defects in order to:
- (i) maintain public safety, and
 - (ii) enable sub-standard Structures to remain in service whilst further assessments are carried out and until any replacement or strengthening is completed or the Structure is no longer deemed sub-standard.

These obligations may change during the Contract Period and any additional obligations shall be subject to an Order.

The Operating Company shall manage sub-standard Structures in accordance with the requirements of the *Design Manual for Roads and Bridges*.

8.2 Interim Measures and Monitoring

- 8.2.1 All Structures that are sub-standard or require monitoring are listed within the structures management function of the Integrated Roads Information System. A summary of sub-standard Structures is also provided in Annex 7.6/I of this Part. Annex 7.6/J of this Part lists Structures with known Defects requiring monitoring which are sub-standard and Annex 7.6/K of this Part lists Structures with known Defects requiring monitoring that are not sub-standard.
- 8.2.2 The interim measures pro formas within BD79 of the *Design Manual for Roads and Bridges* shall be used by the Operating Company in relation to sub-standard Structures or Structures with known Defects. Details of the current assessments and monitoring, interim and permanent measures that have been or shall be applied to sub-standard Structures are recorded in the structures management function of the Integrated Roads Information System for each sub-standard Structure.
- 8.2.3 The Operating Company shall be responsible for ensuring that all sub-standard Structures and Structures with known Defects have appropriate assessment ratings, monitoring regimes and agreed interim and planned permanent measures in place.
- 8.2.4 The Operating Company shall review in each Annual Period each sub-standard Structure and its associated interim measures pro forma and each Structure with known Defects. The Operating Company shall undertake appropriate monitoring and maintain interim measures in place until appropriate work is implemented or the Structure is assessed as adequate or has been strengthened or replaced. The Operating Company shall submit proposals for monitoring and maintaining interim measures in accordance with paragraph 8.2.5 of this Part for the Director's consent. If, at any time, any Structure is categorised as an immediate risk Structure in accordance with the *Design Manual for Roads and Bridges*, the Operating Company shall inform the Director and shall implement the necessary safety and interim measures immediately.
- 8.2.5 The Operating Company shall submit all proposals and changes, including:
- (i) any new monitoring and interim measures,
 - (ii) amendments to the existing monitoring measures,
 - (iii) where the existing structural assessment rating may no longer be valid and the Structure requires re-assessment in accordance with paragraph 6 of this Part,
 - (iv) strengthening and replacement work, and
 - (v) the cessation of monitoring,
- for the written consent of the Director.

8.3 Strengthening and Replacement

- 8.3.1 The Director shall determine the programme and funding for strengthening and replacement of sub-standard Structures and Structures that are beyond their service life or Structures that require replacement for other reasons.

- 8.3.2 The proposed strengthening and replacement programme is provided in Annex 7.6/L of this Part. The programme is subject to the funding of competing priorities and is controlled by the Director.

Schemes arising from the strengthening and replacement programme are subject to the requirements of paragraphs 5.4 and 5.5 of this Part, which shall be undertaken by the Operating Company.

The Operating Company shall provide such advice as may be requested by the Director to enable him to prioritise this work.

9. ACCESS SYSTEMS

9.1 General

- 9.1.1 The Operating Company's Gantry Manager shall supervise the use of all Access Systems and carry out the duties referred to in this paragraph.
- 9.1.2 Structures listed in Table 7.6.M.1 of Annex 7.6/M of this Part have Access Systems which may be used by the Operating Company to gain access for inspection and maintenance Operations.
- 9.1.3 Structures listed in Table 7.6.M.2 of Annex 7.6/M of this Part have permanent bridge access gantries, runway beams and other Access Systems. The Operating Company shall ensure that they remain certified for use until the Service End Date unless that need is explicitly excluded in Schedule 7 Part 7, in which case certification shall be carried out according to need.
- 9.1.4 The Operating Company shall be responsible for the inspections, testing, maintenance and operation of any Access Systems, including those listed in Annex 7.6/M of this Part. The Operating Company shall ensure that prior to use, all Access Systems comply in all respects with manufacturer's recommendations and maintenance manuals for those systems and with Legislation and standards including as a minimum:
- (i) British Standard 6037: Code of practice for the planning, design, installation and use of permanently installed access equipment, or equivalent,
 - (ii) British Standard 5974: Temporary installed suspended scaffolds and access equipment or equivalent,
 - (iii) British Standard EN 1808: Safety requirements on suspended access equipment – design calculations, stability criteria, construction, or equivalent, and
 - (iv) All requirements and recommendations in *The Operation and Maintenance of Bridge Access Gantries and Runways. (Second Edition 2007)* published by the Institution of Structural Engineers.
- 9.1.5 The Operating Company shall be responsible for and provide:
- (i) method statements for inspections, maintenance and testing,
 - (ii) certification, and
 - (iii) operations, maintenance and inspection logs and health and safety files,
- in relation to all Access Systems.

9.1.6 Where available, the Director shall provide the Operating Company with operations and maintenance manuals and manufacturers' instructions in relation to Access Systems.

9.1.7 The Operating Company shall permit the use of Access Systems to allow Undertakers to inspect and maintain their plant and equipment where this is fixed to a Structure.

The Operating Company shall liaise with, supervise and accompany all:

- (i) Statutory Authorities,
- (ii) Undertakers,
- (iii) authorised contractors, and
- (iv) other interested third parties,

who are using the Access Systems.

9.1.8 The Operating Company shall ensure that routine inspection and testing and periodic electrical inspections and testing of the Access Systems including as a minimum testing of runway beams are carried out in accordance with the operations and maintenance manuals and manufacturer's recommendations. Certificates shall be held on the health and safety file for the work. The Operating Company shall also ensure that the gantry operations and maintenance manual is kept up to date with the following:

- (i) design and check Certificates for access gantries and runway beams, which shall be signed by a chartered engineer,
- (ii) an electrical installation completion Certificate in relation to any electrical work that is undertaken on the gantry in accordance with British Standard 7671: 1992,
- (iii) periodic electrical inspections and testing carried out on existing installations, and
- (iv) test Certificates for all lifting devices and the system as a whole.

9.1.9 The Operating Company shall undertake all inspection and testing as set out in paragraph 9.1.8 regardless of whether they intend to use the Access Systems or not unless a system is specifically exempted from permanent certification in Schedule 7 Part 7. Inspection and testing will still be necessary if exempted systems are to be used.

9.2 Construction Design and Management

9.2.1 In accordance with Schedule 6 Part 2 the CDM Co-ordinator appointed by the Operating Company shall ensure that a construction phase plan covering all Works or Operations relating to or requiring the use of any Access Systems is prepared.

The principal contractor appointed by the Operating Company for any Works or Operations utilising the Access System shall develop each construction phase plan and prepare a full and detailed method statements to cover the specific Operations involved on Site.

9.3 Temporary Access Systems

9.3.1 Where a temporary access platform is installed, or equipment supported or attached to the permanent Structure, the Operating Company shall satisfy itself regarding:

- (i) the competence of the Designer and contractor for the Design, installation and operation of the temporary Access System and equipment, and
- (ii) ensuring that the existing Structure has been assessed and certified as adequate to support all loading conditions resulting from the installation and operation of the temporary Access Systems.

9.3.2 Before any temporary Access System is used, the Operating Company shall ensure that the:

- (i) Design, installation and required certification for the temporary Access System, and
- (ii) the associated operations manual, incorporating all health and safety procedures,

is up to date and in accordance with current regulations and standards.

9.4 General and Principal Inspections of Access Systems

9.4.1 General and Principal Inspections shall be carried out on all Access Systems, whether they are gantries, cradles, shuttles or suspended scaffold installations. The inspections shall be reported separately but in the same format to those undertaken on the Structure at two year and six year intervals or as recommended in the appropriate document called up in 9.1.4 of this Part.

9.4.2 The Operating Company shall maintain an inspection regime and register for suspended scaffolding installations. This shall be placed on the health and safety file for the work and, where the scaffold is not temporary, added to the maintenance manual for the structure in question.

9.4.3 For new temporary or permanent access installations, or for existing systems that are brought back into use, the Operating Company shall provide the appropriate design and check Certificates which shall be placed on the relevant health and safety file. These shall be signed by a chartered civil or chartered structural engineer where they relate to any suspended Access System installation.

9.5 Access System Operations

9.5.1 The Operating Company shall ensure that its management procedures are in place at the commencement of service dates for each of Network 1 and Network 2 as appropriate and kept up to date for the operation and maintenance of all Access Systems. Such Access Systems are listed in Annex 7.6/M of this Part and shall be maintained in a certified and serviceable state whether mounted on the Structure or not. Details of operational, inspection and maintenance procedures and required staffing levels shall be included in each of the gantry operations and maintenance manuals and this information shall be updated regularly until the Service End Date. Procedures and the keeping of operating, inspection and maintenance Records shall be regularly reviewed in accordance with the requirements and recommendations of the document "*The Operation and Maintenance of Bridge Access Gantries and Runways. (Second Edition 2007)*" published by the Institution of Structural Engineers.

9.5.2 The Operating Company shall ensure that the Gantry Manager and gantry operators receive any training necessary for the management and operation of the existing Access Systems and for any new system that is commissioned. Other persons, including those not employed by the Operating Company, having a justifiable

requirement for access onto such systems shall also be trained and inducted by the Operating Company. Records of training together with the assessment of the suitability of the selected personnel shall be retained by the Operating Company. The Gantry Manager shall be responsible for the control of gantry operations and for ensuring that operations and maintenance manuals are reviewed at regular intervals and kept up to date.

9.5.3 The Operating Company shall ensure that in the event of emergencies or Access System breakdown, a safe means of exiting the Access System is available at all locations. Each operational Access System shall include the appropriate safety and first aid equipment as identified through risk assessment by the Gantry Manager.

9.5.4 Where required by the operation and maintenance manuals, Access Systems shall be removed from the Structure and placed in storage by the Operating Company.

10. THE TECHNICAL APPROVAL AND DEPARTURE FROM STANDARD PROCESS FOR STRUCTURES

10.1 General

10.1.1 The Operating Company shall submit approval in principle forms and applications for departures from standards forms for Structures to the Director for consent using the forms provided in Schedule 6 Part 4.

10.1.2 Applications for departures from standards shall allow adequate time for consideration by the Director. Such departures shall be requested prior to their inclusion in the approval in principle form or an addendum to the approval in principle form. Departures from standards which have been consented to by the Director shall be included within the approval in principle submission in accordance with the requirements of Schedule 6 Part 4.

10.1.3 No later than 25 Working Days after receipt of the Operating Company's approval in principle submission and departure from standards submission, the Director shall:

- (i) consent to the submission in writing, or
- (ii) reject the submission in writing with reasons, or
- (iii) request the Operating Company to supply further information within five Working Days.

If the Director requests the Operating Company to supply further information, the minimum period of approval will be extended by five Working Days commencing on receipt of the additional information.

If the Operating Company cannot provide the additional information within five Working Days, it shall contact the Director to agree an alternative timeframe.

If the approval in principle submission is rejected by the Director, the period of approval of 25 Working Days shall recommence on receipt of the redrafted submission.

Where the Director is unable for any reason to meet this timescale, he shall notify the Operating Company in writing. The Operating Company shall not be entitled to any additional payment if the Director is unable to meet the timescales referred to.

11. MANAGEMENT AND MAINTENANCE OF STRUCTURES WHERE AGREEMENTS EXIST WITH THIRD PARTIES

- 11.1.1 The Operating Company shall familiarise itself with any agreements the Scottish Minister has with third parties which may impact upon the management, maintenance and replacement of Structures. Any agreement between FETA and a third party will transfer to the Scottish Ministers at Commencement of Service Date 1. Annex 7.6/N of this Part lists agreements with third parties and provides a brief description.

12. BRIDGES WITH SIGNED LOW HEADROOM AND THOSE SUBJECT TO BRIDGE STRIKES BY OVERHEIGHT VEHICLES

- 12.1.1 Bridges with clearances below 5.03 metres have signs identifying the maximum safe vehicle height which may pass beneath.

High vehicles are classified as those which:

- (i) cannot pass safely under a bridge with the standard minimum headroom clearance of 5.03 metres, or
- (ii) have a vehicle and load combination greater than 4.95 metres in height, allowing for the minimum safety margin of 0.275 metres.

- 12.1.2 The Operating Company shall implement the requirements of the following documents, as part of its procedures and Incident Response Plans, to deal with bridges strike Incidents within the Unit:

- (i) *Response to a Bridge Strike over the Railway – A Protocol for Highway and Road Managers and Bridge Owners*, and
- (ii) *Prevention of Strikes on Bridges over Highways – A Protocol for Highway and Road Managers and Bridge Owners*.

- 12.1.3 Structures with signed low headroom are listed within the structures management function of the Integrated Roads Information System and in Annex 7.6/O of this Part.

- 12.1.4 Structures within the Unit which are subject to frequent bridge strikes, together with the dates of when previous strikes have occurred, are listed within the structures management function of the Integrated Roads Information System and in Annex 7.6/P of this Part.

This is Annex 7.6/A to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/A – Maintenance Schedule Pro forma

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/A – Maintenance Schedule Pro forma**

	Name	Organisation	Signature	Date
Prepared By				
Checked By				
Authorised By				

REVISION STATUS				
REV.	DATE	Revision Details	Checked	Authorised

CONTROLLED DOCUMENT HOLDER	
Ref	Name of Holder
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Maintenance Activity Code	Clause No.	Maintenance Activities
RCM 1	6110AR 6112AR 6117AR	Substructure and Superstructure - Vegetation/debris/bird dropping removal and disposal, checking/tightening/replacing of bolts to parapets (to include making good local damage to protective systems).
RCM 2	6110AR 6111AR	Expansion Joints - Cleaning out debris/vegetation/sediment from joints and drainage associated with joint, checking/tightening of bolts securing the joint, checking neoprene or elastomeric material for splitting or detachment, checking cover plates and nosing.
RCM 3	6110AR 6112AR	Drainage Systems - Removal of obstructions/vegetation which could reduce capacity of the system, cleaning drainage holes, channels, pipes, drainage outlet manholes, weep pipes. Checking operation of flap valves and greasing if required.
RCM 4	6110AR 6113AR	Parapets and Pedestrian Protection - Checking/tightening/replacing of bolts. Cleaning hollow section drain holes. Removal of debris/vegetation/bird droppings. Checking freedom of parapet expansion joint.
RCM 5	6110AR 6114AR	Bearings and Bearing Shelves - Removal of debris/vegetation/bird droppings. Checking freedom of movement of bearings. Cleaning where appropriate greasing of accessible mating surfaces.
RCM 6	6110AR 6111AR 6112AR 6113AR 6114AR 6115AR 6117AR	Structures Over or Conveying Watercourses - As above and including - Removal of debris encrustations/greasing/lubrication of all fittings (in accordance with maintenance manual). Removal and disposal of debris and silt to ensure free flow of water.
RCM 7	6110AR 6116AR 6117AR	Sign Gantries and High Mast Lighting - Holding down assemblies and fixings including cladding to be checked/ tightened/ cleaned/ greased (to include making good local damage to protective systems and replacement of bolts where required). Checking box type structures are water-tight and report leaks & bird entry issues.
RCM 8	6110AR 6117AR	Non-structural Items - Movable parts to be cleaned and greased. Holding down assemblies and fixings including cladding to be checked/tightened (to include making good local damage to protective systems).
RCM 9	6110AR 6112AR 6113AR 6114AR 6115AR 6117AR 6118AR	Underpasses and Culverts used by Pedestrians - Cleaning of ramps, light fittings, ceilings and soffits, mirrors and handrails. Removal of vegetation/sediment on or adjacent to structure which could have a detrimental effect on the function of the structure. Vegetation/debris/bird dropping removal and disposal. Drainage system/gulleys/grates/channels cleared to maintain efficient operation.
RCM 10	6110AR 6112AR 6113AR	Retaining Walls - Removal of vegetation on or adjacent to structure which could have a detrimental effect on the function of the structure.

[illegible]

[illegible]

This is Annex 7.6/B to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/B – List of Structures Requiring Principal Inspections

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/B – List of Structures Requiring Principal Inspections****Principal Inspections Due Between 2015 and 2020**

Next Principal Inspection Year : 2015		
Structure Reference No.	Structure Name	Next Principal Inspection Year
A90 3	Standingstones Underbridge	2015
A90 4	Dalmeny Railway Bridge	2015
A90 6	Echline North	2015
A90 7	Scotstoun Overbridge	2015
A90 0 H318V	318 Scotstoun Flyover	2015
A90 100 H319V	319 FRB at Ferrytoll	2015
A90 100 H321V	321 S J1 Admiralty	2015
A90 100 G2	VMS/A90/1976S GAN 3S	2015
A90 100 G4	VMS/A90/1000S GAN 4	2015
A90 100 G5	VMS/A90/2052N GAN 2N	2015
M90S 0-1 20	Gyratory Railway West (FT09)	2015
M90 1-1 W10	Admiralty (SE)	2015
M90 1-1 W20	Admiralty (NW)	2015
M90 1-1 G11	VMS/J5 A921W E of J1	2015
M90 1-1 G19	VMS/J1 A921W E of J1	2015
M90 2-3 C95	Halbeath Culvert	2015
M90 2-3 G13	VMS/I Masterton	2015
M90 2-3 H323	323 Middlebank	2015
M90 2-2 H322V	322 J2 Masterton	2015
M90 2-3 G42	VMS/H1 Halbeath	2015
M90 2-3 G43	VMS/H Halbeath South	2015
M90 2-3 H324V	324 B916 Overpass	2015
M90 2-3 H325V	325 S of J2A Duloch	2015
M90 2-3 H326V	326 Duloch on ramp	2015
M823S 0-0 10	M90 SB - A823 WB SR	2015
M823 0-0 50	Accommodation O/B	2015
M823 0-0 G10	VMS/J4 A823E	2015
A921 0 G20	VMS/J2 A921	2015
A985 95 G10	VMS/J3 N of M90 J11	2015

Next Principal Inspection Year : 2016		
Structure Reference No.	Structure Name	Next Principal Inspection Year
M90 1-2 G40	Admiralty S/Gantry	2016
M90 3-3 W10	Halbeath (SE)	2016
M90 3-3 W20	Halbeath (NW)	2016
M9S 1-1 40	Newmains East	2016
M9S 1-1 50	Humbie Rail	2016
A90 0 G11	VMS-Clermiston	2016
A92S 2	Halbeath North	2016
A92S 5	Halbeath South	2016
A904 0 H310V	310 S of FRB Echline	2016
M823S 0-0 W10	S/B slip road	2016

Next Principal Inspection Year : 2017		
Structure Reference No.	Structure Name	Next Principal Inspection Year
M90 0-0 G10		2017
M90 0-0 G20		2017
M90 0-1 G5		2017
M90 0-1 G30		2017
M90 0-1 G40		2017
M90 0-1 G50		2017
M90 0-1 G70	M90 0-1 G70	2017
M90 1-1 10	Admiralty South	2017
M90 1-1 G15	Fife ITS Gantry 05F 92990	2017
M90 1-1 20	Admiralty North	2017
M90 1-2 30	Brankholm Burn	2017
M90 1-2 G35	Fife ITS Gantry 01F 90200 90810	2017
M90 1-2 G45	Fife ITS Gantry 02F	2017
M90 2-2 G5	Fife ITS Gantry 04F 90800	2017
M90 2-2 G15	Fife ITS Gantry 08F	2017
M90 2-2 G20	Fife ITS Gantry 07 90790	2017
M90 2-2 G25	Fife ITS Gantry 08F	2017
M90 2-3 G10	Fife ITS Gantry 11F 90240 90760	2017
M90 2-3 G20	Fife ITS Gantry 14F 90250 90750	2017
M90 2-3 G50	Fife ITS Gantry 10F 90230 90770	2017
M90 2-3 G65	Fife ITS Gantry 15F	2017
M90 2-3 G75	Fife ITS Gantry 16F 90270 90730	2017
M90 2-3 G95	Fife ITS Gantry 17F 90280 90720	2017
M90S 1-1 C10	New Swine Burn Culvert	2017
M90S 3-3 G50	Fife ITS Gantry 18F 93990	2017
M9S 1-1 10	Kirkliston Spur	2017
M92S 9 G10	Fife ITS Gantry 20F 93980	2017
M823 1-1 G60	Fife ITS Gantry 03F 92980	2017

Next Principal Inspection Year : 2018		
Structure Reference No.	Structure Name	Next Principal Inspection Year
A90 0 G1	VMS/K2 A90 N Dalmeny	2018

Next Principal Inspection Year : 2019		
Structure Reference No.	Structure Name	Next Principal Inspection Year
M9S 1-1 41	Newmains Road O/Bridge West	2019
M90 2-2 G10	Fife ITS Gantry 06F (90220)	2019
A90 5	Echline South	2019
A92S 8	Crossgates West U/B	2019
A92S 9	Crossgates East U/B	2019
M90 2-2 20	C67 O/B	2019
M90S 3-3 30	A92 Link U/B	2019
M823S 0-0 40	A823M EB - M90 SB SR	2019

Next Principal Inspection Year : 2020		
Structure Reference No.	Structure Name	Next Principal Inspection Year
M90 2-2 10	M90 over A823M/Rail	2020
M90 2-3 40	Duloch O/B	2020
M90 2-3 60	Calais Muir O/B	2020
M90 3-3 F5	Halbeath Interchange F/B	2020
A90 10 W10	Ferrytoll (SE Slip Rd)	2020
A90 100 W5	Crib Wall beneath Dunfermline Wynd	2020
A90 20 W10	N of Ferrytoll Centre Reserve Retaining Wall	2020
A90 15	Ferrytoll Railway Tunnel	2020
A90 40	Dunfermline Wynd Bridge	2020
M9S 1-1 11	Kirkliston Spur N/B	2020
M9S 1-1 60	Humbie Underpass	2020
M9S 1-1 70	Milton Farm Road O/B	2020
M9S 1-1 80	Dolphington Burn	2020
M9S 1-1 85	BP Oil Pipeline Duct	2020
M9S 1-1 90	Scotstoun I/C	2020
M9S 1-1 H10V	CCTV Camera	2020
M823S 0-0 20	M90 NB - A823M WB SR	2020
M823S 0-0 30	M90 SB - A823M WB SR	2020

Structures Constructed under the FRC Principal Contract		
Structure Reference No.	Structure Name	Next Principal Inspection Year
M90 0-1 68	Queensferry Crossing	TBC
M90 0-1 80	Ferrytoll Viaduct (FT01)	TBC
M90 0-1 90	Ferrytoll Gyratory North (FT03)	TBC
M90 0-1 85	Ferrytoll Gyratory South (FT04)	TBC
M90 0-1 W84	A90 Southbound Merge Retaining Wall (FT11)	TBC
M90 0-1 W91	A90 Southbound Diverge Retaining Wall	TBC
M90 0-1 W92	A90 Central Reserve/Barrier (FT16)	TBC
M90S 0-1 W90	Castlandhill Road Retaining Wall (FT19)	TBC

Structures Constructed under the FRC Principal Contract		
Structure Reference No.	Structure Name	Next Principal Inspection Year
M90 0-1 55	South Queensferry Gyratory North (ESQ02)	TBC
M90 0-1 50	South Queensferry Gyratory South (ESQ03)	TBC
M90 0-1 35	New B800 Bridge (ESQ04)	TBC
M90 0-1 33	BP Oil Pipeline Protection (ESQ06)	TBC
M90 0-1 37	BP Oil Pipeline Protection (ESQ07)	TBC
M90 0-1 46	BP Oil Pipeline Protection (ESQ05)	TBC
A90 100 G32	G32	TBC
A90 3 G303	ITS Gantry 303N (G02)	TBC
A90 7 G330	ITS Gantry 330N (G03)	TBC
M90 0-1 G30	ITS and Sign Gantry 439S	2017
M90 0-1 G34	ITS and Sign Gantry 432S (G30)	TBC
M90 0-1 G38	ITS and Sign Gantry 431S (G29)	TBC
M90 0-1 G40	ITS and Sign Gantry 304N	2017
M90 0-1 G41	ITS and Sign Gantry 305N (G05)	TBC
M90 0-1 G44	ITS and Sign Gantry 430S (G28)	TBC
M90 0-1 G48	ITS and Sign Gantry 307N (G06)	TBC
M90 0-1 G50	ITS and Sign Gantry 429S	2017
M90 0-1 G52	ITS Gantry 309N (G07)	TBC
M90 0-1 G56	ITS Gantry 310N (G08)	TBC
M90 0-1 G57	ITS and Sign Gantry 426S (G26)	TBC
M90 0-1 G59	ITS and Sign Gantry 425S (G25)	TBC
M90 0-1 G62	ITS Gantry 302N (G01)	TBC
M90 0-1 G64	ITS and Sign Gantry 312N (G09)	TBC
M90 0-1 G66	ITS and Sign Gantry 423S (G24)	TBC
M90 0-1 G69	ITS and Sign Gantry 313N (G10)	TBC
M90 0-1 G71	ITS and Sign Gantry 422S (G23)	TBC
M90 0-1 G74	ITS and Sign Gantry 314N (G11)	TBC
M90 0-1 G76	ITS and Sign Gantry 421S (G22)	TBC
M90 0-1 G80	ITS and Sign Gantry 316N (G12)	TBC
M90 0-1 G81	ITS and Sign Gantry 420S (G21)	TBC
M90 0-1 G83	ITS and Sign Gantry 317N (G13)	TBC
M90 0-1 G84	ITS and Sign Gantry 501N (G20)	TBC
M90 0-1 G86	ITS and Sign Gantry 419S (G19)	TBC
M90 0-1 G87	ITS and Sign Gantry 318N (G14)	TBC
M90 0-1 G89	ITS and Sign Gantry 418S (G18)	TBC
M90 0-1 G90	ITS and Sign Gantry 319N (G15)	TBC
M90 0-1 G94	ITS and Sign Gantry 416S (G17)	TBC
M90 0-1 G95	ITS and Sign Gantry 321N (G16)	TBC

Structures to be Adopted by the Scottish Ministers at Commencement of Service Date 1		
Structure Reference No.	Structure Name	Next Principal Inspection Year
M90 0-1 G33	VMS1	TBC
M90 0-1 G36	VMS2	TBC
A90 6 G66	VMS3	TBC

Structures to be Adopted by the Scottish Ministers at Commencement of Service Date 1		
Structure Reference No.	Structure Name	Next Principal Inspection Year
A90 7 F	Plaza Footbridge	TBC
A90 8	Subway to Plaza	TBC
A90 9	Forth Road Bridge	TBC
A90 9 W5	North Sub-station Retaining Wall	TBC

Structure Type	Total No	PI 2015	PI 2016	PI 2017	PI 2018	PI 2019	PI 2020	FRC Structures	To be Adopted
Structures with particular Requirements	6	0	0	0	0	0	0	5	1
Bridges	41	6	4	4	0	6	13	7	1
Footbridges	2	0	0	0	0	0	1	0	1
Culverts	2	1	0	1	0	0	0	0	0
Retaining Walls	13	2	3	0	0	0	3	4	1
Gantries	72	10	2	23	1	1	0	32	3
High Mast Lights	10	8	1	0	0	0	1	0	0

1. For supplementary information on Structures with particular requirements, refer to Schedule 7 Part 7.
2. Further information on the Structures listed within this table is held within the structures management function of the Integrated Roads Information System.
3. The numbers of Structures may be altered during the course of this Contract at the Director's discretion.
4. All Structures with particular requirements lie within the Principal Inspection programme, except where specifically excluded by their own maintenance manual as noted in Schedule 7 Part 7.
5. Not all Structures with particular requirements have Principal Inspections in between 2015 and 2020.

This is Annex 7.6/C to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/C – List of Structures Over or Carrying Watercourses which have been subject to a Stage 1 Scour Assessment

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/C – List of Structures Over or Carrying Watercourses which have been subject to a Stage 1 Scour Assessment**

Structure Number	Reference	Structure Name	Scour Inspection/Monitoring
M90 1-2 30		Brankholm Burn	
M9S 1-1 C20		Kirkliston Spur Cvt	
M9S 1-1 80		Dolphington Burn	
M90S 1-1 C10		New Swine Burn Culvert	
M90 1-2 C90		Dunfermline Sewer	
M90 2-3 C38		North Duloch	
M90 2-3 C46		South Calais Muir	
M90 2-3 C65		North Calais Muir	

This is Annex 7.6/D to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/D – List of Structures Over or Carrying Watercourses which have been subject to a Stage 2 Scour Assessment

This is Annex 7.6/E to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/E – List of Structures subject to Assessment and Upgrading of Vehicle Parapets to Transport Scotland Interim Amendment No 25

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/E – List of Structures subject to Assessment and Upgrading of Vehicle Parapets to Transport Scotland Interim Amendment No 25**

Structure Reference Number	Structure Name	Comments
M823 0-0 50	Accommodation O/B	
M9S 1-1 10	Kirkliston Spur S/B	
M9S 1-1 40	Newmains East	
M9S 1-1 50	Humbie Rail	Parapet replaced 2008
A90 9	Forth Road Bridge	Edge parapets on the south abutment approach are considered to be insufficient for vehicle restraint.

This is Annex 7.6/F to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/F – List of Structures Subject to Identification of 'Particularly at Risk' Supports to Transport Scotland Interim Amendment No 29

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/F – List of Structures Subject to Identification of 'Particularly at Risk' Supports to Transport Scotland Interim Amendment No 29**

Structure Reference Number	Structure Name	Comments
M9S 1-1 10	Kirkliston Spur S/B	
A90 9	Forth Road Bridge (Towers)	A ranking assessment to BD 48 has indicated a vulnerability to the current traffic mix (inclusive of HGVs). Re-assessment may be required for operations after Commencement of Service Date 2 (public service vehicles and taxis).

This is Annex 7.6/G to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/G – Technical Approval Procedures for Assessment of Structures in Scotland

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/G – Technical Approval Procedures for Assessment of Structures in Scotland**

Assessor shall agree AIP with the TAA. This shall embrace all relevant documents from the TAS including the UK Design Manual for Roads and Bridges, and may include departures from standards or aspects not covered by standards.
↓ ↓
Assessment and check shall be carried out and the TAA shall be consulted on those aspects of the assessment which do not comply with the AIP. If further amendments to the AIP shall be required, either by the assessor or the Checker, these shall be approved by the TAA and an addendum to the AIP submitted.
↓ ↓
Assessor shall give recommendations on and agree with the TAA any substandard features identified by the assessment which are not to be upgraded. Any interim measures shall also be agreed at this stage.
↓ ↓
Assessment report submitted to the TAA with list of all substandard features identifying those which shall not be upgraded and giving recommendations for any Special Inspection or studies needed prior to the design of strengthening and or improvement Operations.
↓ ↓
Assessor shall submit assessment and check certificates on which shall be recorded all agreed and or approved departures from standards.
↓ ↓
TAA/OD accepts assessment and check certificates endorsing all departures from standards or aspects not covered by standards.
↓ ↓
END OF ASSESSMENT

DEFINITION

Assessment includes:

1. Load carrying capacity of deck and substructure
2. Parapets
3. Pier impact resistance
4. Safety fencing
5. Visibility
6. Vertical and Horizontal Clearances
7. Central reserve, carriageway, footway, and verge provision
8. Scour risk
9. All other aspects relative to the AIP

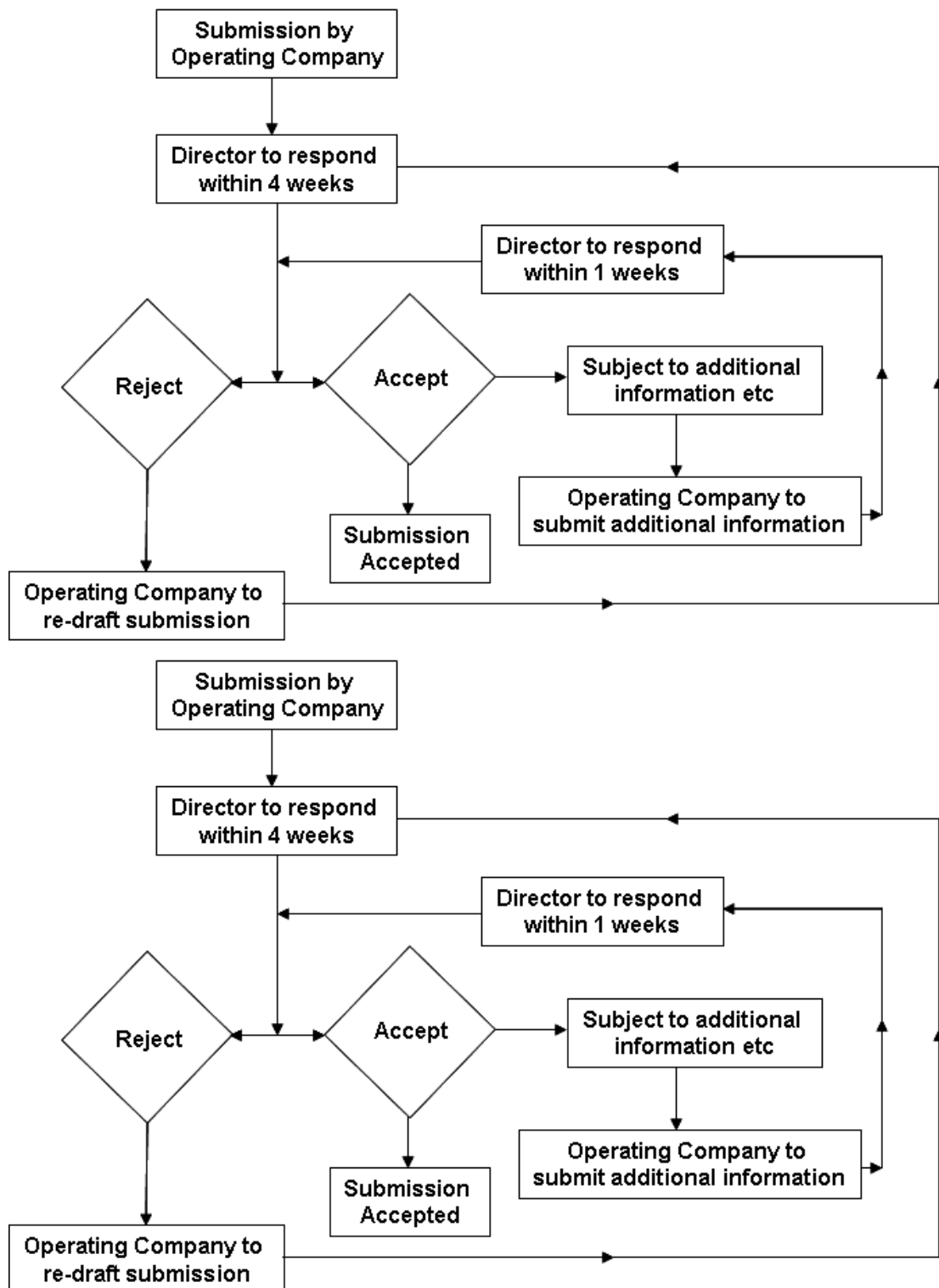
ABBREVIATIONS

TAA	= Technical Approval Authority
TAS	= Technical Approval Schedule
AIP	= Approval in Principle
OD	= Overseeing Department

NOTE:

1. For strengthening and or improvement works, Technical Approval procedures shall be the same as for new Structures.

Figure 1.1.1.A – Flow Chart for Departures from Standard or Aspects not Covered by Standards



This is Annex 7.6/H to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/H – List of Sub-Standard Structures with Structural Assessments in Progress

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/H – List of Sub-Standard Structures with Structural Assessments in Progress****Forth Bridges Unit**

Structure Reference Number	Structure Name	Comments
M90 1-1 10	Admiralty South	Safety Barrier present in front of the existing parapet / cope
M90 1-1 20	Admiralty North	Safety Barrier present in front of the existing parapet / cope
M823S 0-0 30	M90 SB - A823M WB SR	Safety Barrier present in front of the existing parapet / cope
A90 9	Forth Road Bridge	Main cable capacity
A90 9	Forth Road Bridge	Truss chords; (multiple) components
A90 9	Forth Road Bridge	Truss end Links
A90 9	Forth Road Bridge	Kingposts (in truss)
		Refer to Criticality and Vulnerability assessments referred to in Annex 7.7/B.

This is Annex 7.6/I to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/I – List of Sub-Standard Structures

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/I – List of Sub-Standard Structures**

Structure Reference Number	Structure Name	Comments
M90 1-1 10	Admiralty South	Weak verges which are delineated from the carriageway and subject to 2 yearly BD79 inspection.
M90 1-1 20	Admiralty North	Weak verges which are delineated from the carriageway and subject to 2 yearly BD79 inspection.
M823S 0-0 30	M90 SB - A823M WB SR	Weak verges which are delineated from the carriageway and subject to 2 yearly BD79 inspection.
M90 2-3 40	Duloch O/B	Duct slab covers and parapet require strengthening.
A90 9	Forth Road Bridge	Refer to <i>Forth Road Bridge Engineering Manual</i>

This is Annex 7.6/J to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/J – List of Structures with Known Defects Requiring Monitoring which are Sub-Standard

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/J – List of Structures with Known Defects Requiring Monitoring which are Sub-Standard****Forth Bridges Unit**

Structure Reference	Structure Name	Monitoring				Comment
		Interim Measures	Class	Interval	Details	
M90 1-1 10	Admiralty South	Barrier	None	None	Weak edge beam	Monitor at GI & PI
M90 1-1 20	Admiralty North	Barrier	None	None	Weak edge beam	Monitor at GI & PI
M823S 0-0 30	M90 SB – A823M WB SR	Barrier	None	None	Weak edge beam	Monitor at GI & PI
A90 9	Forth Road Bridge	Monitoring	Varies	Varies	Various elements – refer to Risk Priority Number (RPN) calculation and Inspection Frequencies in current Criticality and Vulnerability Ratings referred to in Annex 7.7/B.	Refer to Forth Road Bridge Engineering Manual
A90 9	Forth Road Bridge	Main Cable Internal Inspections	Non-standard	5 yearly	FRB Main Cable	Refer to Forth Road Bridge Engineering Manual

This is Annex 7.6/K to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/K – List of Structures with Known Defects Requiring Monitoring that are not Sub-Standard

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/K – List of Structures with Known Defects Requiring Monitoring that are not Sub-Standard

Forth Bridges Unit

Structure Reference	Structure Name	Monitoring				Comment
		Interim Measures	Class	Interval	Details	
None						

This is Annex 7.6/L to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/L – Strengthening and Replacement Programme for the Sub-Standard Structures

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/L – Strengthening and Replacement Programme for Sub-Standard Structures**

Structure Reference Number	Structure Name	Comments
		Planned Works:
A90 9	Forth Road Bridge	Viaduct outrigger (cantilever) beam strengthening
A90 9	Forth Road Bridge	Suspended span truss strengthening
A90 9	Forth Road Bridge	Main Expansion Joint Replacement
		Enabling Works Possibly Relevant to Above:
A90 9	Forth Road Bridge	Main Cable Acoustic Monitoring
A90 9	Forth Road Bridge	Suspended Spans inter-walkway underdeck access improvements
A90 9	Forth Road Bridge	Provision of third sidespan gantry
A90 9	Forth Road Bridge	Viaducts S3 Platform and access

This is Annex 7.6/M to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/M – Structures with Bridge Access Gantries and or Runway Beams

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/M – Structures with Bridge Access Gantries and or Runway Beams****Table 7.6.M.1 – Forth Bridges Unit**

Structure Reference Number	Structure Name	Access Gantry	Runway Beams	Comments
A90 9	Forth Road Bridge	Yes	Yes	Different systems use runway beams on the Approach Viaducts and Suspended Structure
M90 0-1 68	Queensferry Crossing	Yes	Yes	Underdeck gantries and deck shuttles both have runway beams

Table 7.6.M.2 – Structures in the Forth Bridges Unit Which Require Their Access Gantries and or Runway Beams to Remain Certified at All Times During the Contract

Structure Reference Number	Structure Name	Access Gantry	Runway Beams	Comments
A90 9	Forth Road Bridge	Yes	Yes	
M90 0-1 68	Queensferry Crossing	Yes	Yes	
				Note this certification requirement refers to all Access Systems on the Principal Crossings unless otherwise agreed in writing with the Director.

All gantries and or runway beams should be certified if they are to be used and have not previously been used for 12 months.

This is Annex 7.6/N to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/N – List of Agreements with Third Parties that Affect Existing and Future Management, Maintenance and Replacement of Structures

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/N – List of Agreements with Third Parties that Affect Existing and Future Management, Maintenance and Replacement of Structures**

Structure Reference Number	Structure Name	Structure Stakeholders		Comments
		Name	Contact	
A90 4	Dalmeny Railway Bridge	Network Rail		No formal agreement exists.
A90 9	Forth Road Bridge	British Telecom		No formal agreement exists.
A90 9	Forth Road Bridge	Mercury Communications aka Cable & Wireless		Services access agreement.
A90 9	Forth Road Bridge	Coastguard – radio equipment at South Tower		No formal agreement exists.
M9S 1-1 85	BP Oil Pipeline Duct	British Petroleum		No formal agreement exists.
M90 0-1 33	BP Oil Pipeline Protection (ESQ06)	British Petroleum		Annual checks on for stray currents. No formal agreement exists.
M90 0-1 37	BP Oil Pipeline Protection (ESQ07)	British Petroleum		Annual checks on for stray currents. No formal agreement exists.
M90 0-1 46	BP Oil Pipeline Protection (ESQ05)	British Petroleum		Annual checks on for stray currents. No formal agreement exists.

M90 0-1 35	New B800 Bridge	British Petroleum		Annual checks on for stray currents. No formal agreement exists.
M90 2-2	M90 over A823M/Rail	Network Rail		No formal agreement exists.

This is Annex 7.6/O to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/O – List of Bridges with Signed Low Headroom

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/O – List of Bridges with Signed Low Headroom

Structure Reference Number	Structure Name	Comments
None		

This is Annex 7.6/P to Schedule 7 Part 6 referred to in the foregoing Agreement between Scottish Ministers and Amey LG Limited.

SCOTTISH MINISTERS' REQUIREMENTS

SCHEDULE 7 PART 6

MANAGEMENT AND MAINTENANCE OF STRUCTURES

ANNEX 7.6/P – List of Structures subject to Frequent Bridges Strikes with dates of Incidents Since 2001

SCOTTISH MINISTERS' REQUIREMENTS**SCHEDULE 7 PART 6****MANAGEMENT AND MAINTENANCE OF STRUCTURES****ANNEX 7.6/P – List of Structures subject to Frequent Bridges Strikes with dates of Incidents Since 2001**

Structure Reference Number	Structure Name	Date of Strike Incident							Comments
		1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	
None									

