

SCHEDULE 4: O&M WORKS REQUIREMENTS

CONTENTS

- PART 1: OVERALL REQUIREMENTS
- PART 2: ROUTINE MAINTENANCE
- PART 3: HANDBACK
- PART 4: DESIGN AND CONSTRUCTION CRITERIA
- PART 5: SPECIFICATION
- PART 6: CERTIFICATION
- PART 7: REPORTS, INFORMATION AND RECORDS
- PART 8: THIRD PARTIES
- PART 9: LIAISON PROCEDURES
- PART 10: NOT USED
- PART 11: RESTRICTED SERVICES

SCHEDULE 4: O&M WORKS REQUIREMENTS

PART 3: HANDBACK

CONTENTS	Page Number
1. General.....	2
2. Requirements for Handback.....	2
Appendix A: Handback Details.....	6

1. General

- 1.1. On the date of the Handback Survey and thereafter until the Expiry Date the Handback Assets shall satisfy the requirements of this Part 3 of these O&M Works Requirements (the '**Handback Requirements**').
- 1.2. Not less than 57 months or more than 63 months before the Expiry Date the Company shall consult and comply with the reasonable requirements of the Scottish Ministers to agree a procedure for the return of the Handback Assets to the Scottish Ministers in a condition that meets the Handback Requirements and shall ensure that the transfer proceeds smoothly and with minimum disruption to the level of service provided to Users.
- 1.3. Surveys and inspections shall be conducted in accordance with the Handback Requirements. Where no manner of inspection is specified in respect of a particular element of the Handback Assets, such inspection as shall be appropriate to the element shall be made.
- 1.4. Where residual life of an element of the Handback Assets is specified, the residual life shall be measured from the Expiry Date.
- 1.5. The residual life of each element of the Handback Assets shall as a minimum be the greater of:
 - 1.5.1. either 5 years; or
 - 1.5.2. the value specified in Appendix A.
- 1.6. The Company shall take all reasonable steps to demonstrate that the residual life of each element of the Handback Assets has been achieved.

2. Requirements for Handback**2.1. Initial Survey**

- 2.1.1. Not less than 57 months nor more than 63 months prior to the Expiry Date the Company shall conduct at its own expense an inspection of the Handback Assets (the '**Initial Survey**'). The Company shall notify the Scottish Ministers in writing of its intention to carry out the Initial Survey a minimum of 7 days in advance of the survey date and shall afford the Scottish Ministers reasonable opportunity to attend.
- 2.1.2. The Company shall identify from the Initial Survey all the O&M Works required to ensure the Handback Assets shall comply with these Handback Requirements (the '**Renewal Works**') and incorporate these Renewal Works into a programme (the '**Renewal Programme**').
- 2.1.3. The Initial Survey shall gather sufficient information to demonstrate compliance with these Handback Requirements or to identify deficiencies and specify necessary remediation works for the Handback Assets, by carrying out such inspections as shall be necessary, and shall include but not be limited to the following:
 - (i) Structures
 - (a) A Principal Inspection shall be made of all Structures within the O&M Works Site. The inspections shall include, inter alia, all bridge deck expansion joints which shall have a detailed examination for leakage and deterioration, all bridge bearings which shall have a detailed examination for wear and deterioration, chloride profiles shall be measured and plotted from surface of concrete to rebar level at key areas of reinforced concrete and pre-stressed concrete and all lengths of weld which shall be tested for

cracking by non-destructive methods at key areas of structural steelwork.

- (ii) Road Pavements
 - (a) The Company shall carry out all the road condition surveys detailed in section 4 of Part 2 of these O&M Works Requirements relating to the structural performance and the surface characteristics of pavements during the period of the Initial Survey. The frequency of testing shall therefore be adjusted to ensure that all lanes and slip roads have been tested by the techniques detailed.
 - (b) In particular a survey complying with the procedure described in HD29 of the DMRB, as applicable to the type of pavements of the New Roads shall be carried out.
 - (c) The residual life of the road pavement of the New Roads shall be assessed using the procedures required by HD30 and HA72 of the DMRB. Where sections of road pavement more than 1 kilometre in length shall be shown to have a residual life of less than 10 years, a full structural examination shall be carried out of such sections of road pavement in accordance with the procedures required by HD30 of the DMRB.
- (iii) Mechanical and Electrical Elements
 - (a) Mechanical and electrical elements shall be examined and tested in a manner appropriate to the element.
 - (b) If the residual life of an element cannot be determined by such examination and testing, then other methods shall be agreed between the Scottish Ministers and the Company.
- (iv) Other Elements
 - (a) Where visual or hydraulic checks indicate that further surveys shall be required, all drainage shall be surveyed using closed circuit television.
 - (b) The inspection of mature trees, areas of tree and shrub planting, areas of grassland, areas of habitat creation and relocation and installed wildlife measures and woodland thinning shall take place between May and September, or, where the Initial Survey is carried out other than between May and September, such inspection shall take place during the period of May to September which is closest in time to the time of such inspection.
 - (c) The profile of all footways shall be measured using an industry standard footway profilometer.
- (v) General
 - (a) Account shall be taken of maintenance and purchasing records in determining the residual life of proprietary products.

2.2. Renewal Programme

2.2.1. Not later than 65 Business Days after the completion of the Initial Survey the Company shall provide the Scottish Ministers with a report on the condition of the Handback Assets that shall:

- (i) set out the basis of the derivation of the Company's proposals for the Renewal Works; and

- (ii) include the Company's proposed Renewal Programme.
- 2.2.2. The proposals referred to at paragraph 2.2.1 shall be made:
 - (i) on the basis of an assessment of the residual life of the relevant element of the Handback Assets in accordance with the provisions of the Handback Requirements; or
 - (ii) in accordance with a system of measurement and or assessment agreed between the Company and the Scottish Ministers in accordance with the requirements of paragraph 1.2; and
 - (iii) in either case on the assumption that the O&M Works Site shall be maintained in accordance with the O&M Works Requirements until the Expiry Date.
- 2.2.3. The Scottish Ministers shall within 20 Business Days of receipt of the notice from the Company in accordance with paragraph 2.2.1 notify the Company of either:
 - (i) their acceptance of the Renewal Works; or
 - (ii) their rejection of the Renewal Works giving details of the grounds for their objection along with the Scottish Ministers' alternative proposals for the Renewal Works.
- 2.2.4. If agreement in respect of the Renewal Works is not reached between the Company and the Scottish Ministers within 20 Business Days of receipt of a Scottish Ministers' notice referred to in paragraph 2.2.3 (ii) then the Company or the Scottish Ministers may refer the matter to the Dispute Resolution Procedure.
- 2.2.5. Upon agreement or determination in accordance with the Dispute Resolution Procedure of the Renewal Works, the Company shall at its own expense complete the Renewal Works in accordance with the Renewal Programme.
- 2.2.6. The agreement of the Scottish Ministers to the Renewal Works, or participation of the Scottish Ministers in any inspection shall not relieve or absolve the Company from:
 - (i) its obligation under paragraph 1.1; or
 - (ii) any obligation to conduct any other inspection or perform any other Operation in accordance with these O&M Works Requirements.
- 2.3. Final Survey
 - 2.3.1. 30 months prior to the Expiry Date the Scottish Ministers may carry out a final survey of the Handback Assets in accordance with Clause 48.1 of the Agreement in which event they shall give notice to the Company in accordance with Clause 48.2 of the Agreement.
- 2.4. Revised Renewal Programme
 - 2.4.1. The notice to be given by the Scottish Ministers pursuant to Clause 48.4.1 of this Agreement shall include:
 - (i) a statement of the Renewal Works which have yet to be completed and any revisions or additions to the Renewal Works required in order to procure that all elements of Handback Assets meet the Handback Requirements; and
 - (ii) an estimate of the cost to complete those Renewal Works that in accordance with the Renewal Programme should have been completed by the Final Survey but have not been completed such cost to be

deducted from the Unitary Charge and paid into the Retention Fund Account in accordance with Clause 48.5 of this Agreement.

- 2.4.2. Where the Scottish Ministers notify the Company pursuant to Clause 48.4.1 of this Agreement the Company shall produce a revised Renewal Programme that takes account of the requirements of the notice and shall submit said programme to the Scottish Ministers within 20 Business Days of receipt of the notice
- 2.4.3. To the extent that any inspection of mature trees, areas of tree and shrub planting, areas of grassland, areas of habitat creation and relocation and installed wildlife measures and woodland thinning shall be required, as part of the final survey pursuant to Clause 48.1 of the Agreement, it shall take place between May and September, or, where such final survey shall be carried out other than between May and September, such inspection shall take place during the period of May to September which shall be closest in time to the time of the final survey.
- 2.5. Handback Survey
- 2.5.1. Not later than 6 months nor earlier than 12 months prior to the Expiry Date, following receipt by the Scottish Ministers of the Handback Certificate, the Company and the Scottish Ministers shall conduct a joint survey of the O&M Works Site to assess whether the Renewal Works or all the additional Renewal Works identified by the Scottish Ministers pursuant to the final survey have been carried out to the Scottish Ministers' reasonable satisfaction (the '**Handback Survey**').
- 2.5.2. To the extent that any inspection of mature trees, areas of tree and shrub planting, areas of grassland, areas of habitat creation and relocation and installed wildlife measures and woodland thinning shall be required as part of the Handback Survey it shall take place between May and September, or, where the Handback Survey shall be carried out other than between May and September, such inspection shall take place during the period of May to September which shall be closest in time (having regard to the Expiry Date) to the time of the Handback Survey.
- 2.5.3. Within 20 Business Days of completion of the Handback Survey, the Scottish Ministers shall either:
- (i) notify the Company that it has carried out all of the Remedial Works to the Scottish Ministers' reasonable satisfaction; or
 - (ii) notify the Company in writing of its decision not to issue confirmation and set out each respect in which the Renewal Works have not been completed or in which the Handback Assets do not otherwise comply with the Handback Requirements.
- 2.5.4. Where the Scottish Ministers have issued a notice under paragraph 2.5.3 (ii) then they shall at their discretion either instruct the Company to complete the Renewal Works or carry out or procure the necessary rectification work and or maintenance work at the Company's expense in accordance with Clause 48.10 of this Agreement.
- 2.6. Records
- 2.6.1. The Company shall maintain records of all Renewal Works.

Appendix A ; Handback Details**1. Handback Details**

Each element of the Handback Assets shall be in a safe and serviceable condition and shall comply with the requirements set out below in respect of each such element.

1.1. Road Pavement

1.1.1. For each 100 metre length of each Lane of the New Roads, the residual life (85th percentile) to the onset of investigatory conditions shall be predicted in accordance with the DMRB:

- (i) at least 85% of each Lane of the New Roads shall have a residual life of 10 years or more; and
- (ii) for any one kilometre of a Lane:
 - (a) no more than one 100 metre length shall have a residual life of less than 10 years; and
 - (b) no 100 metre length shall have a residual life of less than 0 years.

1.1.2. All sections of each Lane of the New Roads shall have a Mean Summer SCRIM Coefficient at least 10% greater than the Investigatory Level specified in the DMRB.

1.1.3. All carriageways of the New Roads shall be free from defects of a nature that require rectifying within a period of one year.

1.2. Structures

1.2.1. The residual life of structural elements of Structures shall not be less than the values specified in Table 1 below. Where the Initial Survey or final survey of Structures identifies:

- (i) any maintenance works or replacement which should proceed as soon as possible;
- (ii) any special investigation required to determine the nature or scope of works required; and/or
- (iii) any maintenance work or replacement that would normally be carried out concurrently with other works to avoid traffic disruption.

and if these works and any works arising from any special investigations shall be carried out as part of the Renewal Works, then the residual life of each structural element required by Table 1 shall be deemed to be achieved provided also that the Company carries out all necessary and required inspections, testing, repairs and maintenance in accordance with this Agreement.

1.2.2. All Structures shall be free from any defects of a nature that require rectifying within a period of one year.

Appendix A : Handback Details**Table 1: Residual Life of Elements of Structures**

Structural Element	Residual Life (years)
Reinforced Concrete	30
Prestressed Concrete	30
Structural Steelwork	30
Weathering Steel	30
Corrugated steel buried Structures	30
Corrosion protection for structural steelwork	5
Deck waterproofing	5
Deck Joints:	
(a) Asphaltic Plug	5
(b) Elastomeric	5
(c) Elastomeric (in metal runners)	5
Vehicle/pedestrian parapets	15
Pedestrian parapets	15
Bearings:	
(a) Elastomeric	15
(b) Mechanical/Roller	15
(c) PTFE Coating	8
Sign/Signal Gantries	15
Reinforced Earth/Anchored Earth Structures	30
Crib walls	30
Soil nails	30
Ground Anchors	30
Catenary lighting systems	8
High mast lighting	8
CCTV poles	8
Traffic signal poles	8

1.3. Mechanical and Electrical Elements

- 1.3.1. All mechanical and electrical elements of the Handback Assets (with the exception of lamps) shall have a residual life of at least 5 years.
- 1.3.2. Each site of electrical installation shall comply with BS 7671: Regulations for Electrical Installations.

Appendix A ; Handback Details

1.4. Other Elements

- 1.4.1. The residual life of each element of the Handback Assets not covered by paragraphs 1.1 to 1.3 inclusive of this Appendix A shall be measured as the difference in years between the design/serviceable life of the element and the number of years that the element shall have been in situ taking due account of any renewals.
- 1.4.2. Each such element shall have a residual life that shall not less than the value specified for that element in Table 2 of this Appendix A or where a value and an element are not specified in Table 2, a value which shall be the greater of the value measured in accordance with paragraph 1.4.1 or 5 years.
- 1.4.3. If the element shall have a design life of less than 5 years it shall be deemed to have met these Handback Requirements provided that it shall have been renewed not more than 6 months before the Handback Survey.
- 1.4.4. Where the Initial Survey or final survey of an element identifies:
- (i) any maintenance works or replacements which should proceed as soon as possible;
 - (ii) any special investigation required to determine the nature of scope of works required; or
 - (iii) any maintenance work or replacement that would normally be carried out concurrently with other works to avoid traffic disruption;
- then these works and any works arising from any special investigation shall be carried out as part of the Renewal Programme and the residual life of such elements as required by Table 2 shall be deemed to be achieved by the satisfactory completion of these works.
- 1.4.5. All elements of the Handback Assets falling within the scope of this paragraph 1.4 shall be free from any defects of a nature that require rectifying within a period of one year.
- 1.4.6. All plant material on the O&M Works Site shall be in good health and substantially free from pests, diseases and physical damage.
- 1.4.7. Installed wildlife measures and landscape areas on the O&M Works Site shall have achieved their design function in accordance with the New works Requirements and these Handback Requirements.
- 1.4.8. All reflecting road studs on the New Roads shall be renewed, such work to be carried out not more than 6 months before the Handback Survey, provided that any metal housings of reflecting road studs that shall have a residual life of at least 5 years at the Expiry Date need not to be renewed.
- 1.4.9. All lamps on the O&M Works Site shall be renewed not more than 6 months before the Expiry Date.

Appendix A : Handback Details**Table 2: Residual Life of Other Elements**

Element	Residual Life (years)
Earthwork Slopes	15
Footways and Cycle Tracks	5
Covers, Gratings, Frames and Boxes	15
Kerbs, Edgings and Pre-formed Channels	15
Piped Drainage Systems	15
Culverts	15
Gullies, Catchpits and Interceptors	15
Filter Drains	5
Ducts	5
Headwalls, Aprons and Sluices	30
Tidal Flaps, Penstocks and Valves	10
Housings, Cabinets, Mountings and Posts for Communications Equipment	5
Boundary Fences	10
Walls	10
Environmental Barriers	10
Pedestrian Guard Rails	10
Noise Barriers	10
Vehicle Restraint Systems - Concrete	12
- Steel	5
Road Markings	5
Traffic Signs and Posts	5
Traffic Signals Housings, Mountings and Posts	8
Lighting Columns	8
Corrosion protection for non-structural steelwork	5
Availability Monitoring Equipment	5