

Asset Support Contract Schedule of Rates

Method of Measurement

ASSET SUPPORT CONTRACT – SCHEDULE OF RATES

METHOD OF MEASUREMENT

Contents	Page
Preamble to Schedule of Rates	3
Schedule of Pages and Relevant Publication Dates	9
Amendments to Chapter IV of the Method of Measurement	12

Preambles to Schedule of Rates

General Directions

- 1 The Schedule of Rates has been prepared in accordance with the Method of Measurement for Highway Works published by The Stationery Office as Section 1 of Volume 4 of the Manual of Contract Documents for Highway Works. The relevant publication date of each page of the Method of Measurement for Highway Works is given in the Schedule of Pages and Relevant Publication Dates.

- 2 (05/01) In the Schedule of Rates the sub-headings and item descriptions identify the work covered by the respective items, read in conjunction with the matters listed against the relevant marginal headings “Item coverage” in Chapter IV of the Method of Measurement for Highway Works, these Preambles and the amendments to the Method of Measurement immediately following these Preambles. The nature and extent of the work is to be ascertained by reference to the Drawings, Specification and Conditions of Contract. The rates and prices entered in the Schedule of Rates shall be deemed to be the full inclusive value of the work covered by the several items including the following, unless expressly stated otherwise:
 - (i) Labour and costs in connection therewith.
 - (ii) The supply of materials, goods, storage and costs in connection therewith including delivery to Site. Taking delivery of materials and goods supplied by others, unloading, storage, and costs in connection therewith.
 - (iii) Plant and costs in connection therewith.
 - (iv) Fixing, erecting and installing or placing of materials and goods in position.
 - (v) Temporary Works.
 - (vi) The effect on the phasing of the Works or any element of the Works to the extent set forth or reasonably implied in the documents on which the tender is based.
 - (vii) General obligations, liabilities and risks involved in the execution of the Works set forth or reasonably implied in the documents on which the tender is based.
 - (viii) Establishment charges, overheads and profit.
 - (ix) Waste.

	(x)	Testing carried out by the Contractor in accordance with the particular requirements of Appendix 1/5 including supplying results of tests, reports and certificates.
	(xi)	Supply and delivery of samples to the Overseeing Organisation in accordance with the particular requirements of Appendix 1/6.
	(xii)	Checking, inspecting, examining, measuring and verifying goods, materials and workmanship including supplying results, reports and certificates.
	(xiii)	Attendance and transport for sampling and testing carried out by the Overseeing Organisation.
	(xiv)	Complying with Quality Assurance requirements of the contract and providing certificates of conformity.
	(xv)	Preparation and supply of detailed working drawings.
	(xvi)	Awaiting approvals and consent.
	(xvii)	Where stipulated complying with the particular requirements of Appendix 1/24.
Measurement	3	(i) The measurement of work shall be computed net from the dimensions stated in the Contract unless otherwise stated in the Method of Measurement.
		(ii) (11/06) Where the tender documents specify the Type of Pavement to be constructed then the measurement of work shall be based upon the thinnest pavement construction and surfacing over structures permitted by the Contract for that Type of Pavement. Where the tender documents provide for the Contractor to select the type of safety barrier, pavement or buried structure (where the structure is not within Designated Outlines) to be constructed then the measurement of all work in each area so affected shall be based upon the thinnest pavement construction and surfacing over structures permitted by the Contract in that area for the particular type of safety barrier, pavement or buried structure the Contractor has elected to construct.
Pricing of Items	4	Each individual item shall have a rate or price entered against it. Rates and prices shall be expressed to two decimal places.
Alternative Specified Materials, Designs and Options Within Types of	5	Where in the Contract a choice of alternatives is permitted:
	(i)	the description billed and the rates and prices inserted shall be

Pavement	<p>deemed to cover any of the permitted alternative materials or designs the Contractor may elect to use;</p> <p>(ii) and where separate Schedule of Rates are provided within Series 600: Earthworks for each Type of Pavement permitted by the Contract the rates and prices inserted in respect of the earthworks for the particular Type of Pavement shall be deemed to cover the earthworks for any inherent permitted option within the Type of Pavement elected to be constructed by the Contractor;</p> <p>(iii) and where separate Schedule of Rates are provided within Series 700: Pavements for each Type of Pavement permitted by the Contract the rates and prices inserted in respect of the particular Type of Pavement shall also be deemed to cover any inherent permitted option within the Type of Pavement elected to be constructed by the Contractor.</p> <p>In all cases the rates and prices inserted in all Series of the Schedule of Rates shall be deemed to include for any adjustments of work content, rates, costs and the like occasioned by the choice of alternatives elected to be used or constructed by the Contractor.</p>
Privately and Publicly Owned Services or Supplies	<p>6 The information in the Contract as to the whereabouts of existing services and mains is believed to be correct but the Contractor shall not be relieved thereby of his obligations under the Contract. The Contractor shall include in his rates and prices for locating and taking measures for the support and full protection of pipes, cables and other apparatus during the progress of the Works, obtaining the written consent of the appropriate authority to interrupt the service or supply and for keeping the Overseeing Organisation informed of all arrangements he makes with the owners of privately owned services or supplies, Statutory Undertakers and Public Authorities as appropriate.</p>
Labours	<p>7 Labours in connection with Nominated Sub-contractors shall include:</p> <p>(i) in the case of work or services executed - for affording the use of existing working space, access, temporary roads, erected scaffolding, working shelters, staging, ladders, hoists, storage, latrines, messing, welfare and other facilities existing on Site and the provision of protection, water, electricity for lighting and clearing away rubbish and debris arising from the work;</p> <p>(ii) in the case of goods, materials or services supplied - for taking delivery, unloading, storing, protecting and returning crates, cartons and packing materials.</p>
Roadworks Overall Requirements	<p>8 The Contractor shall allow in his rates and prices for complying with requirements in respect of pavement construction, horizontal alignments,</p>

		surface levels and surface regularity of pavement courses, dealing with changes in weather conditions, use of surfaces by traffic and construction plant, and general requirements for sub-bases and road bases.
Work Within and Below Non-tidal Open Water or Tidal Water	9	The Contractor shall allow in his rates and prices for taking measures required to execute work within and below non-tidal open water or tidal water. The Contractor shall include in his rates and prices for any investigations to ascertain actual boundaries, surface levels and ranges affected by non-tidal open water or tidal water.
Dealing with Flow	10	The Contractor shall allow in his rates and prices for taking measures to deal with the existing flow of water, sewage and the like.
	11	Not Used
Site Limitations and Constraints	12	The Contractor shall allow in his rates and prices for complying with any limitations and constraints on the use of the Site.
Hard Material	13	For the purposes of the Contract the following are designated as Hard Material in accordance with Chapter 1 Definitions, paragraph 1 (h)(i): <ul style="list-style-type: none"> (a) * strata; (b) those deposits designated by limits shown on the Drawings; (c) existing pavements, footways, paved areas (but excluding unbound materials) and foundations in masses in excess of 0.20 cubic metres.
Equivalent Products and Materials	14	Where the Contractor offers an equivalent product or material in place of the one identified or specified, then the rates and prices in the Schedule of Rates shall be deemed to include for all the obligations and costs associated with the incorporation of the equivalent into the Works, including design, provision of data and drawings, certificates, awaiting acceptance, resubmissions and modifications and amendments to the Works. <p>Unless specifically stated to the contrary in the Contract the measurement of the Works affected by the incorporation of the equivalent products and materials shall be based on the Tender documents and not on the Works as amended and completed to incorporate the equivalent products and materials.</p>
Permanent Works Designed by the Contractor	15	(05/01) Where the Contract requires part(s) of the Permanent Works to be designed by the Contractor, the rates and prices in the Schedule of Rates shall include for all the obligations and costs associated with the incorporation of the Contractor's design into the Works, including design, provision of data and drawings, certificates, awaiting approvals, resubmissions and modifications and amendments to the Works.

Additionally the rates and prices in the Schedule of Rates shall include for the costs of all testing and sampling to be carried out by the Contractor in respect of workmanship, goods and materials incorporated into the Works or to prove the Contractor's design.

**Structures
Designed by the
Contractor**

- 16** In respect of each priced Schedule of Rates comprising a single item for a structure designed by the Contractor, the Contractor shall prepare a priced schedule of quantities. This priced schedule shall be prepared in accordance with the relevant Chapters and Series of the Method of Measurement and submitted to the Overseeing Organisation.

The quantities, rates and prices in the priced schedule of quantities shall in each case, when extended and totalled, give the amount entered in the priced Bill of Quantities against the item for the relevant structure designed by the Contractor.

The priced schedule of quantities shall only be used for Payment Applications and for the valuation of variations ordered under the Contract in connection with structures designed by the Contractor.

Unless specifically stated to the contrary in the Contract the measurement of the Works affected by the incorporation of the Contractor's design shall be based on the Tender documents and not on the Works as amended and completed to incorporate the Contractor's design.

The parts of the Works included by the Contractor in the priced schedule of quantities shall include all the parts of the Works within the Designated Outline except those designed and scheduled by the Overseeing Organisation as not to be included.

**National Alterations
for The
Overseeing
Organisations
of Scotland, Wales
and
Northern Ireland**

- 17** Where a paragraph in Chapter IV of the Method of Measurement for Highway Works (Units and Methods of Measurement) or in the Notes for Guidance on the Method of Measurement for Highway Works or in the Library of Standard Item Descriptions for Highway Works is prefixed by # this indicates that this particular paragraph has a National Alteration for one or more of the Overseeing Organisations of Scotland, Wales or Northern Ireland. The use of national paragraphs is permitted only within the countries to which they specifically apply and they are deemed to replace corresponding paragraphs in the main body of Chapter IV of the Method of Measurement for Highway Works (Units and Methods of Measurement) or in the Notes for Guidance on the Method of Measurement for Highway Works or in the Library of Standard Item Descriptions for Highway Works as appropriate. The National paragraphs correspond to the particular requirements of the National Alterations for the Overseeing Organisations of Scotland, Wales or Northern Ireland contained in Volume 1 of the Manual of Contract Documents for Highway Works. The substitute or additional paragraphs are located at the end of the relevant Series.

Testing	<p>18 (05/01) Testing as paragraph 2(x) above, is in respect of tests to be carried out by the Contractor to verify workmanship, goods and materials incorporated into the permanent works and testing of the permanent works in order to prove the Overseeing Organisation's design as set out in Appendix 1/5.</p>
	<p>Checking, inspecting, examining, measuring and verifying goods, materials and workmanship incorporated in the permanent works, as paragraph 2(xii) above, is in respect of other operations set forth or reasonably implied in the Contract to be carried out by the Contractor to demonstrate compliance with the particular requirements of the Contract, or to prove the Overseeing Organisation's design where not separately listed in Appendix 1/5, but excluding trial erection of structural steelwork which shall be measured separately in accordance with Series 1800.</p>
	<p>Procedural trials, trial panels and trial areas required to be carried out or constructed as separate operations in advance of the permanent works in order to verify goods, materials and workmanship shall not be measured separately but are included within the item coverage for the relevant Series.</p>
	<p>Testing of existing structures and other investigative works shall be individually measured within the relevant Series.</p>
	<p>19 Not Used</p>
Adjustment to Schedule of Rates	<p>20 The Schedule of Rates to be applied to a Scheme may be subject to adjustment in accordance with Appendix A where hours of working are restricted by the Task Order, with Appendix B which allows road standard variations, with Appendix C which allows seasonal variations and Appendix D which allows for the value of the Task Order. Where parts of the Works are required to be carried out at different times of the working week, or working day, then the Appropriate adjustment shall be applied to those parts of the Works accordingly</p> <p>Adjustments shall only be applied to the prices in the Schedule of Rates at the contract date.</p> <p>Adjustments shall not be applied to the following: Series 100 prices (Including Traffic Management)</p>
Amendments to the Method of Measurement	<p>21 (05/01) For the purposes of the Contract the Method of Measurement for Highway Works is amended by replacing the words "Bill of Quantities" with "Schedule of Rates" and in accordance with the pages immediately following.</p>

**Method of Measurement for Highway Works
Schedule of Pages and Relevant Publication Dates**

Chapter/Series	Page Number	Publication Date
Contents	1	Nov 2004
	2	May 2005
	3	Nov 2004
	4 to 7	May 2005
Chapter I	1 to 3 inclusive	March 1998
Chapter II	1	March 1998
	2	May 2001
Chapter III	1	March 1998
	2	May 2001
	3 to 12 inclusive	May 2004
	13	Nov 2006
	14 to 16 inclusive	May 2005
	15 to 19 inclusive	Nov 2006
Chapter IV	1	March 1998
100	1 to 2 inclusive	March 1998
	3 to 7 inclusive	May 2001
	8	Nov 2004
	9 to 11 inclusive	May 2001
	12	Nov 2004
	13 to 15 inclusive	May 2001
200	1	May 2001
	2 to 3 inclusive	May 2004
	4	May 2001
300	1 to 5 inclusive	May 2001
400	1 to 2 and 4 to 8 inclusive	Nov 2004
	3	Nov 2006
500	1 to 5 inclusive	May 2001
	6	Nov 2004
	7 to 13 inclusive	May 2001
	14	May 2005
	15	May 2001
	16 to 17 inclusive	May 2005
	18	May 2001
	19	Nov 2003
	600	1
2		May 2001
3		March 1998
4 to 11 inclusive		Nov 2004
12		May 2002
13 to 14 inclusive		Nov 2004
15 to 38 inclusive		May 2001
N1 to N3 inclusive		May 2002
700	1	May 2001

Area 9 ASC Contract

Asset Support Contract – Schedule of Rates
Method of Measurement

	2 3 4 to 5 inclusive 6 7 to 9 inclusive 10 11 12 to 13 inclusive 14 15 to 18 inclusive	May 2002 May 2001 May 2002 May 2001 May 2002 May 2001 May 2002 May 2001 May 2002 May 2001
800 900 1000)) Not taken up)	
1100	1 2 3 4 to 5 inclusive 6 7 to 8 inclusive	May 2001 Nov 2004 May 2001 May 2002 May 2001 May 2005
1200	1 to 2 inclusive 3 to 5 inclusive 6 to 11 inclusive	May 2001 March 1998 May 2001
1300	1 to 3 inclusive	Nov 2003
1400	1 to 2 inclusive 3 4 to 8 inclusive 9	May 2001 May 2005 May 2001 May 2005
1500	1 to 2 inclusive 3 4 to 7 inclusive 8 to 12 inclusive	May 2001 May 2005 Feb 2003 May 2001
1600	1 to 2 inclusive 3 to 6 inclusive 7 8 to 19 inclusive	March 1998 May 2001 March 1998 May 2001

Chapter/Series	Page Number	Publication Date
1700	1	May 2004
	2	May 2001
	3	May 2004
	4 to 11 inclusive	May 2001
1800	1	March 1998
	2 to 5 inclusive	May 2001
1900	1	May 2003
2000	1	May 2002
	2 to 3 inclusive	May 2001
2100	1	March 1998
2200	Not taken up	
2300	1 to 3 inclusive	March 1998
2400	1 to 3 inclusive	May 2001
	4	March 1998
2500	1 to 2 inclusive	May 2001
2600	Not taken up	
2700	1	May 2001
3000	1 to 15 inclusive	May 2001
5000	1 to 2 inclusive	May 2003

Amendments to Chapter IV of the Method of Measurement

Series 100 : Preliminaries

Delete paragraphs 1 to 6 inclusive and substitute the following paragraphs 1 to 6 inclusive:

Definitions

1

- (a) “temporary diversion of traffic” shall mean (1) a temporary carriageway onto which vehicular traffic is diverted from a highway or (2) a temporary footpath or bridleway onto which pedestrian or equestrian traffic is diverted from a highway or (3) a combination of (1) and (2) or a temporary carriageway as in (1) with an associated footway and/or way for the use of animals and equestrian traffic; or (4) a temporary private means of access onto which traffic is diverted from a private means of access but in all cases shall not include a central reserve crossover constructed to permit contra flow traffic on an existing carriageway.

Temporary Accommodation

Units

2

The unit of measurement shall be:

- (i) erection, dismantling of temporary accommodation item.
- (ii) servicing of temporary accommodation week.

Itemisation

3

Separate items shall be provided for accommodation in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Erection. 2 Servicing. 3 Dismantling.
II	1 Offices, messes, laboratories, stores and workshops for the Contractor.
III	1 Target Sum not exceeding £100,000 2 Target Sum exceeding £100,000 but not exceeding £1,000,000 3 Target Sum exceeding £1,000,000 but not exceeding £3,000,000 4 Target Sum exceeding £3,000,000
NOTE: Group I to III features only apply when Facilities to Meet Health and Safety Requirements paragraphs 7 to 11 are not used.	
Erection of Temporary Accommodation Item coverage	4 The items for erection of temporary accommodation shall in accordance with the Preambles to Schedule of Rates General Directions include for: (a) everything required by the Contractor.
Servicing Temporary Accommodation Item coverage	5 The items for servicing accommodation shall in accordance with the Preambles to Schedule of Rates General Directions include for: (a) everything required by the Contractor:
Dismantling Temporary Accommodation Item coverage	6 The items for dismantling accommodation shall in accordance with the Preambles to Schedule of Rates General Directions include for (a) everything required by the Contractor:
Delete paragraphs 7 and 17 inclusive and add the following paragraphs 7 to 11 inclusive:	

Facilities to Meet Health and Safety Requirements

- 7 The unit of measurement shall be:
- (i) provision, removal of facilities to meet health and safety requirements..... item.
 - (ii) maintenance of facilities to meet health and safety requirements..... week.

Itemisation

- 8 Separate items shall be provided for facilities to meet health and safety requirements in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	<ul style="list-style-type: none"> 1 Provision. 2 Maintenance. 3 Removal.
II	<ul style="list-style-type: none"> 1 Facilities to meet health and safety requirements.
III	<ul style="list-style-type: none"> 1 Target Sum not exceeding £10,000 2 Target Sum exceeding £10,000 but not exceeding £25,000 3 Target Sum exceeding £25,000 but not exceeding £100,000

NOTE: Group I to III features only apply when Temporary Accommodation paragraphs 2 to 6 are not used.

Provision of Facilities to Fulfill Health and Safety Requirements

- 9 The items for provision of facilities to meet health and safety requirements shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item coverage

- (a) everything required by the Contractor:

Maintaining Facilities to Fulfill Health and Safety Requirements

- 10 The items for maintaining facilities to meet health and safety requirements shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item coverage (a) everything required by the Contractor:

Removal of Facilities to Fulfill Health and Safety Requirements

11 The items for removal of facilities to meet health and safety requirements shall in accordance with the Preambles to Schedule of Rates General Directions include for

Item coverage

(a) everything required by the Contractor:

Delete paragraphs 21 to 33 inclusive & replace with the following paragraphs 21 to 31 inclusive;

Delete paragraphs 40 to 43 inclusive

Renumber paragraphs 34 to 39 paragraphs 32 to 37

Traffic Safety and Management

Units

21 The unit of measurement shall be:

- (i) establishment, maintenance and removal of traffic safety and management
..... day.

Itemisation

22 Separate items shall be provided for facilities to meet health and safety requirements in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Establishment, maintenance and removal.
II	1 Traffic safety and management.
III	1 Specific road layout / configuration

Establishment, maintenance and removal of Traffic

23 The items for the establishment, maintenance and removal of traffic safety and management shall in accordance with the Preambles to Schedule of Rates General Directions include for:

**Safety and
Management**

Item coverage

- (a) complying with the recommendations contained in Chapter 8 of the "Traffic Signs Manual" published by The Stationery Office and any amendment thereto or where the circumstances of any particular case are not covered submitting proposals for dealing with such situations to the Overseeing Organisation for its consent;
- (b) complying with particular requirements of the Contract;
- (c) initiating or continuing consultation with statutory, police or other authorities concerned, proposing or developing and submitting to the Overseeing Organisation, proposals based on such consultation showing a scheme of traffic safety and management measures including details of safety zones and emergency routes and furnishing such details as necessitated by the works or as the Overseeing Organisation may require;
- (d) design of traffic safety and management measures
- (e) traffic safety and control personnel;
- (f) modification and resubmission of proposals and designs;
- (g) provision and removal of temporary traffic signs, driver information signs, road markings, lamps, barriers, and traffic control signals;
- (h) complying with the requirements for labour and plant working on or adjacent to a highway and at entry and exit points to the Site including signing;
- (i) provision and removal of road lighting;
- (j) provision and removal of emergency telephones;
- (k) giving of notice to the Overseeing Organisation;
- (l) surveillance stocks;
- (m) immediate reinstatement and replacement of defective or damaged items;
- (n) maintenance of highways

Impact Protection Vehicle

Units

24 The unit of measurement shall be:

- (i) provision of impact protection vehicle vehicle day.

25. The measurement of provision of impact protection shall be each day or part thereof during which vehicle is provided.

Itemisation

26 Separate items shall be provided for impact protection vehicle in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Provision.

Provision of Impact Protection Vehicle

27 The items for provision of impact protection vehicle shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item coverage

- (a) vehicle inspections and submission of certificates;
- (b) bringing plant and equipment to site;
- (c) maintenance of equipment including communication equipment and identification sign;
- (d) taxing for use on public highways;
- (e) comprehensive insurance;
- (f) replacement vehicle including equipment;
- (g) depreciation;
- (h) maintenance;
- (i) fuel, oil and other consumables;
- (j) qualified operatives and safety officer and provision of documents;
- (k) completion and submission of information log sheets and record sheets;

- (l) liaising with police;
- (m) vehicle inspections and reports;
- (n) lighting board

Mobile Elevated Working Platforms

Units

28 The unit of measurement shall be:

- (i) provision of mobile elevated working platforms..... vehicle day.

29. The measurement of provision of mobile elevated working platforms shall be each day or part thereof during which it is provided.

Itemisation

30 Separate items shall be provided for mobile elevated working platforms in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Provision

Provision of Mobile Elevated Working Platforms

31 The items for provision of mobile elevated working platforms shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item coverage

- (a) inspections and submission of certificates;
- (b) bringing plant and equipment to site;
- (c) maintenance of equipment including communication equipment and identification sign;
- (d) taxing for use on public highways;
- (e) comprehensive insurance;
- (f) replacement equipment;
- (g) depreciation;

- (h) maintenance;
- (i) fuel, oil and other consumables;
- (j) qualified operatives and safety officer and provision of documents;
- (k) completion and submission of information log sheets and record sheets;
- (l) liaising with police;
- (m) vehicle inspections and reports;
- (n) lighting board

Series 200: Site Clearance

Amend paragraph 8 as follows:

Take Up or Down and Set Aside for Re-use or Remove to Store or Tip off Site

Units

8 The units of measurement shall be:

Take up or down and set aside for re-use or remove to store or tip off Site the following:

- (i) brickwork, blockwork and stonework..... cubic metre
- (ii) paved areas and the like.....square metre
- (iii) to (vii) not amended

Series 400 : Road Restraint Systems

Anti-glare Screens

Delete paragraph 29 and replace with:

Itemisation

29 Separate items shall be provided for anti-glare screens in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Anti-glare screen.
II	1 Each type of anti-glare screen.
III	1 Straight or curved at any radius

Insert paragraphs 48 to 62

Rigid Safety Barrier

Units

48 The unit of measurement shall be:

- (i) establishment of plant for rigid safety barrier..... item.
- (ii) concrete safety barrier (CSB) linear metre.
- (iii) bifurcation linear metre.
- (iv) connection to existing number.
- (v) CSB transition to bridge pier number.
- (vi) crossing point number.

Measurement

49 The measurement of establishment of plant for rigid safety barrier shall be measured only once to each location. Any additional establishment to suit the Contractor's method of working shall not be measured.

50 The measurement of CSB shall be the developed length along the centre line of the barrier between the interface with connections, transitions and bifurcations.

51 The measurement of bifurcation shall be the developed length of the bifurcation along the centre line of the barrier.

52 The measurement of connections to open box beam shall be the

	complete installation.																
	53 The measurement of CSB transition to bridge pier shall be the complete installation.																
	54 The measurement of crossing point shall be the complete installation.																
Itemisation	55 Separate items shall be provided for rigid safety barrier in accordance with Chapter II paragraphs 3 and 4 and the following:																
	<table border="1"> <thead> <tr> <th>Group</th> <th>Feature</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>1 Establishment of plant for rigid safety barrier. 2 Concrete safety barrier. 3 Bifurcation. 4 Connection to open box beam. 5 CSB transition to bridge pier. 6 Emergency crossing point. 7 Maintenance crossing point.</td> </tr> <tr> <td>II</td> <td>1 Each containment performance class.</td> </tr> <tr> <td>III</td> <td>1 Each working width class.</td> </tr> <tr> <td>IV</td> <td>1 Each type of bifurcation.</td> </tr> <tr> <td>V</td> <td>1 Each type of connection.</td> </tr> <tr> <td>VI</td> <td>1 Each type of transition.</td> </tr> <tr> <td>VII</td> <td>1 Each type of crossing.</td> </tr> </tbody> </table>	Group	Feature	I	1 Establishment of plant for rigid safety barrier. 2 Concrete safety barrier. 3 Bifurcation. 4 Connection to open box beam. 5 CSB transition to bridge pier. 6 Emergency crossing point. 7 Maintenance crossing point.	II	1 Each containment performance class.	III	1 Each working width class.	IV	1 Each type of bifurcation.	V	1 Each type of connection.	VI	1 Each type of transition.	VII	1 Each type of crossing.
Group	Feature																
I	1 Establishment of plant for rigid safety barrier. 2 Concrete safety barrier. 3 Bifurcation. 4 Connection to open box beam. 5 CSB transition to bridge pier. 6 Emergency crossing point. 7 Maintenance crossing point.																
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III	1 Each working width class.																
IV	1 Each type of bifurcation.																
V	1 Each type of connection.																
VI	1 Each type of transition.																
VII	1 Each type of crossing.																
Establishment of Plant for Rigid Safety Barrier	<p>56 The items for establishment of plant for rigid safety barrier shall in accordance with the Preambles to Bill of Quantities General Directions include for:</p> <p>(a) bringing plant and equipment to the site;</p> <p>(b) erecting and setting up plant and equipment including site preparation, levelling and access ramps;</p> <p>(c) dismantling and removing plant and equipment from Site on completion.</p> <p>(d) safety barriers and transitions (as this Series paragraph 5).</p>																

Concrete Safety Barrier	57	The items for concrete step barrier shall in accordance with the Preambles to Bill of Quantities General Directions include for: <ul style="list-style-type: none"> (a) in situ concrete (as Series 1700 paragraph 5); (b) formwork (as Series 1700 paragraph 15); (c) reinforcement (as Series 1700 paragraph 26); (d) sub-base (as Series 700 paragraph 5); (e) drainage and service ducts (as Series 500 paragraph 16); (f) safety barriers and transitions (as this Series paragraph 5);
Bifurcation	58	The items for bifurcation shall in accordance with the Preambles to Bill of Quantities General Directions include for: <ul style="list-style-type: none"> (a) concrete safety barrier (as this Series 400 paragraph 57).
Connection to open box beam	59	The items for connection to existing shall in accordance with the Preambles to Bill of Quantities General Directions include for: <ul style="list-style-type: none"> (a) concrete safety barrier (as this Series 400 paragraph 57).
CSB transition to bridge pier	60	The items for CSB transition to bridge pier shall in accordance with the Preambles to Bill of Quantities General Directions include for: <ul style="list-style-type: none"> (a) concrete safety barrier (as this Series 400 paragraph 57).
Emergency Point	Crossing	61 The items for emergency crossing point shall in accordance with the Preambles to Bill of Quantities General Directions include for: <ul style="list-style-type: none"> (a) concrete safety barrier (as this Series 400 paragraph 56);
Maintenance Point	Crossing	62 The items for emergency crossing point shall in accordance with the Preambles to Bill of Quantities General Directions include for: <ul style="list-style-type: none"> (a) concrete safety barrier (as this Series 400 paragraph 57);

Series 500 : Drainage and Service Ducts

Delete the Note at the end of paragraph 15.

Delete the Note at the end of paragraph 21 .

After paragraph 81 add the following paragraphs 82 to 88 inclusive:

Protection of Existing Drains, Sewers, Piped Culverts, Service Mains and Service Ducts

Units 82 The units of measurement of protection of existing drains, sewers, piped culverts, service mains and service ducts shall be:

- (i) protection of existing drains, sewers, piped culverts, service mains and service ductslinear metre.

Measurement 83 The measurement of protection of existing drains, sewers, piped culverts, service mains and service ducts shall be the summation of their individual lengths measured along the centre line between any of the following:

- (a) the external face of chambers;
- (b) the rear faces of headwalls and outfalls;
- (c) the intersections of the centre lines at pipe junctions;
- (d) the external faces at gullies;
- (e) the positions of terminations shown in the Contract;
- (f) the point of change of stage depth.

The protection of existing drains, sewers, piped culverts, service mains and service ducts shall only be measured where specifically stated in the Contract or ordered by the Engineer.

84 The depth of existing drains, sewers, piped culverts, service mains and service ducts to be protected shall be the vertical measurement between the invert and the existing ground level.

	85	The average depth to invert shall be the calculated arithmetical mean of the depths taken at intervals of 10 metres along the lengths measured. For lengths less than 10 metres the measurement of depths shall be taken at the ends.
	86	The measurement of protection of existing drains, sewers, piped culverts, service mains and service ducts shall be the complete protection irrespective of the number uncovered in any one trench. Where more than one drain, sewer, piped culvert, service main or service duct exists in any one trench then the number shall be that stated in the item description. The invert used to measure the depth of a configuration of ducts to be protected shall be the lowest duct invert in that configuration.
Itemisation	87	Separate items shall be provided for protection of existing drains, sewers, piped culverts, service mains and service ducts in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Existing drains or sewers.
	2 Existing piped culverts.
	3 Existing service mains.
	4 Existing service ducts.
II	1 Different internal diameters.
III	1 Depths to invert not exceeding 1 metre.
	2 Depths to invert exceeding 1 metre but not exceeding 2 metres and so on in steps of 1 metre.

Protection of Existing Drains, Sewers, Piped Culverts, Service Mains And Service Ducts

Item coverage	88	The items for protection of existing drains, sewers, piped culverts, service mains and service ducts shall in accordance with the Preambles to Schedule of Rates General Directions include for: (a) locating existing services, pipes and ducts (b) trial pits (as Series 600 paragraph 166); (c) excavation of acceptable material (as Series 600 paragraph 17 and 18); (d) excavation of unacceptable material (as Series 600 paragraph 19);
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- (e) hangers, stools and discrete supports;
- (f) formwork (as Series 1700 paragraph 14);
- (g) movement joints to beds, surrounds and the like;
- (h) bedding, haunching and surrounding;
- (i) replacement of identification tapes, tiles, etc.,
- (j) backfilling and compaction;
- (k) disposal of material (as Series 600 paragraph 39);
- (l) surveys and recordings.

CCTV Survey of Existing Drains, Sewers, Piped Culverts, Service Mains and Service Ducts

Units 89 The units of measurement of CCTV survey of existing drains, sewers, piped culverts, service mains and service ducts shall be:

- (i) CCTV surveys of existing drains, sewers, piped culverts, service mains and service ducts.....linear metre.

Measurement 90 The measurement of CCTV survey of existing drains, sewers, piped culverts, service mains and service ducts shall be the summation of their individual lengths measured along the centre line between any of the following:

Item coverage

- (a) the external face of chambers;
- (b) the rear faces of headwalls and outfalls;
- (c) the intersections of the centre lines at pipe junctions;
- (d) the external faces at gullies;
- (e) the positions of terminations shown in the Contract;

The CCTV survey of existing drains, sewers, piped culverts, service mains and service ducts shall only be measured where specifically stated in the Contract or ordered by the Engineer.

Itemisation 91 Separate items shall be provided for protection of existing drains, sewers, piped culverts, service mains and service ducts in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Existing drains or sewers.
	2 Existing piped culverts.
	3 Existing service mains.
	4 Existing service ducts.
II	1 Not exceeding 150mm diameter.
	2 Exceeding 150mm but not exceeding 300mm diameter.
	3 Exceeding 300mm but not exceeding 600mm diameter.

CCTV Survey of Existing Drains, Sewers, Piped Culverts, Service Mains And Service Ducts

Item coverage

- 92 The items for CCTV survey of existing drains, sewers, piped culverts, service mains and service ducts shall in accordance with the Preambles to Schedule of Rates General Directions include for:
- (a) marking;
 - (b) lifting chamber covers, replacement and bedding;
 - (c) rodding;
 - (d) mandrelling;
 - (e) disposal of material (as Series 600 paragraph 39);
 - (f) recording and reporting;
 - (g) locating obstructions and the like;
 - (h) contamination prevention measures;
 - (i) locating chambers and gullies;
 - (j) electrical equipment, wiring and connections;
 - (k) cameras and associated equipment;
 - (l) provision of electrical power feeds by mains connection or generators;
 - (m) electrical power,

Series 600 : Earthworks

Delete paragraphs 151 and 152 and replace with the following paragraphs 151 and 152

Units

151 The units of measurement shall be:

- (i) Erection, dismantling of instrument hut or cabinet item.
- (ii) servicing of instrument hut or cabinet..... week.

Itemisation

48 Separate items shall be provided for instrument hut or cabinet in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
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I	1 Erection.
	2 Servicing.
	3 Dismantling

II	1 Instrument hut for the Overseeing Organisation.
	2 Instrument cabinet for the Overseeing Organisation.

Series 1200 : Traffic Signs and Road Markings

After paragraph 45 add the following paragraphs 46-49 inclusive

Sign Faces

Units	46 The units of measurement shall be: <ul style="list-style-type: none"> (i) sign faces number. (ii) sign faces, cover plates, supplementary plates, and prescribed temporary traffic signs square metre.
Measurement	47 The measurement of circular and triangular sign faces shall be number. The measurement of rectangular sign faces, cover plates, supplementary plates, hinged flap signs and prescribed temporary traffic signs shall be square metres.
Itemisation	48 Separate items shall be provided for sign faces in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	<ul style="list-style-type: none"> 1 Sign faces. 2 Cover plates. 3 Supplementary plates. 4 Prescribed temporary sign faces.
II	<ul style="list-style-type: none"> 1 Retroreflective. 2 Non-retroreflective. 3 Enhanced retroreflective.
III	<ul style="list-style-type: none"> 1 Different types.
IV	<ul style="list-style-type: none"> 1 Different size bands. 2 Different sizes.
V	<ul style="list-style-type: none"> 1 Fixed to existing posts or lighting columns. 2 Fixed to existing signs. 3 Fixed to gantries.

**Warning, Regulatory
and Informatory Sign
Faces and Cover
Plates and
Supplementary
Plates,
and Prescribed
Temporary Traffic
Signs**

49 The items for warning, regulatory and informatory sign faces and cover plates, supplementary plates, and prescribed temporary traffic signs shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item coverage

- (i) temporary covering of signs;
- (ii) supply of drawings and details;
- (iii) location lettering and marking;
- (iv) protective system (as Series 1900 paragraph 4);
- (v) rivets, bolts, nuts and the like;
- (vi) purlins and fixings;
- (vii) additional materials for hinges.

Series 1500 : Motorway Communications

Any reference in paragraphs 5 to 15 inclusive to “duct” is to be deemed to include for concrete troughs.

After paragraph 46 add the following paragraphs 47-49 inclusive

Communications Duct Installed Using Trenchless Techniques

Units

47 The units of measurement shall be:

- (i) Communications ducts.....item.

Itemisation

48 Separate items shall be provided for communications duct installed using trenchless techniques in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 communication duct
II	1 nominal depth of duct not exceeding 2 metres 2 nominal depth of duct exceeding 2 metres but not exceeding 3 metres
III	1 Design stated in the Contract.
IV	1 Road configuration.
V	1 Construction by jacking or thrust boring

communications duct installed using trenchless techniques

49 The items for communications duct installed using trenchless techniques shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item coverage	<ul style="list-style-type: none">(a) excavation of acceptable material (as Series 600 paragraphs 17 and 18);(b) excavation of unacceptable material (as Series 600 paragraph 19);(c) access shafts to headings and their subsequent reinstatement;(d) thrust pits and thrust blocks for pipe jacking and their removal on completion;(e) articulated pipes and fittings;(f) cutting, laying, jointing and bedding;(g) building in duct to structures;(h) hangers, stools and discrete supports;(i) bedding, haunching and surrounding;(j) form work (as Series 1700 paragraph 15);(k) backfilling and compaction;(l) disposal of material (as Series 600 paragraph 39);(m) movement joints to beds, surrounds and the like;(n) reinstatement of unpaved areas;(o) checking and cleaning;(p) recording, staking and labelling;(q) in the case of ducts, fixing draw ropes, removable stoppers, marker blocks and posts;(r) pipe schedules;(s) lubricants, packing, grouting and caulking;(t) surveys and recordings;(u) protective system (as Series 1900 paragraph 4).
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Series 1700: Structural Concrete

Delete paragraph 4 and replace with new paragraph 4.

4 (05/04) Separate items shall be provided for in situ concrete in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 In situ concrete.
II	1 Different designs.
	2 Different classes
III	1 Blinding concrete 75mm or less in thickness
	2 Structural concrete in bases
	3 Structural concrete in walls
	4 Structural concrete in suspended slabs
	5 Structural concrete in columns, piers

Add new paragraphs 40 to 77 inclusive.

Establishment of Plant for Concrete Removal and Repairs

Units

40 The units of measurement shall be:

- (i) establishment of plant for concrete removal and repairs.....item

Measurement

41 The measurement of establishment of plant for concrete repairs shall be only once per structure.

Itemisation

42 Separate items shall be provided for establishment of plant for concrete repairs in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Establishment of plant
II	1 For removal of concrete by hand held mechanical tools
	2 For removal of concrete by water jetting
	3 For repairs using proprietary mortar
	4 For repairs using proprietary high flow concrete
	5 For repairs using proprietary sprayed concrete

6 For repairs using resin injection

Establishment of Plant for Concrete Repairs

43 The items for establishment of plant for concrete repairs shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item coverage

- (a) bringing plant and equipment to Site;
- (b) setting up all plant and equipment and moving to different locations on Site;
- (c) Dismantling and removing all plant and equipment from Site on completion

Removal of Concrete

Units

44 The units of measurement shall be:

- (i) removal of concretelitres
- (ii) removal of concrete.....cubic metres

Measurement

45 Measurement of the removal of concrete shall be the volume of the void obtained by the removal of concrete required by the Contract or ordered by the Overseeing Organisation to be removed. No deduction shall be made for:

- (a) reinforcement
- (b) individual chamfers, splays, rebates, recesses, drips, grooves and the like of 100mm total girth or less when measured overall the faces of the individual features formed in the concrete
- (c) in the case of concrete with a patterned face, any indentations of 100mm total girth or less when measured overall the faces of the indentations formed in the concrete.

The measurement of removal of concrete for repairs using proprietary mortar shall be litres. The measurement of the removal of concrete for repairs using proprietary high flow concrete or proprietary sprayed concrete shall be cubic metres.

Itemisation

46 Separate items shall be provided for removal of concrete in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
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I	1	Removal of concrete
II	1	Hand held mechanical tools
III	1	Decks and vertical surfaces to piers, columns and abutments
	2	Sides and soffits of beams and crossheads
IV	1	up to 1000 litres
	2	up to 1m ³
	3	over 1m ³ but not exceeding 3m ³
	4	over 3m ³

Removal of Concrete

47 The items for removal of concrete shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item Coverage

- (a) extending the area of concrete removed to expose a minimum of 100mm of uncorroded reinforcing bars;
- (b) ascertaining the depth and position of existing reinforcement by non destructive means.
- (c) marking out and saw cutting around the perimeter of the concrete to be removed
- (d) removal of concrete to thicknesses shown on the Drawings or detailed in the Works Order.
- (e) trimming of exposed faces to correct profile;
- (f) over break beyond the areas and thicknesses shown on the Drawings or detailed in the Works order except where directed by the Overseeing Organisation.
- (g) disposal of the defective concrete and reinforcement to licensed tips off the Network provided by the Contractor (as Series 600 paragraph 39);
- (h) cutting and removal of existing reinforcement where directed by the Overseeing Organisation;
- (i) protective screens;
- (j) allowing for periods during which the Overseeing Organisation may inspect the working area, take tests and issue instructions
- (k) allowing for further saw cutting and removal of concrete after the initial removal to the depths shown on the drawings or

detailed in the Works Order

(l) preparation of surfaces of exposed concrete and reinforcement.

(m) procedure trials of methods of concrete removal and surface preparation.

High Pressure Water Jetting

Units 48 The units of measurement shall be:

- (i) high pressure water jetting..... litres.
- (ii) high pressure water jetting.....cubic metre.

Measured extra over removal of concrete.

Measurement 49 The measurement shall be the volume of concrete removed, as this Series paragraph 44.

Itemisation 50 Separate items shall be provided for high pressure water jetting in accordance with Chapter II paragraphs 3 and 4 and the following::

Group	Feature
I	1 Extra over for high pressure water jetting
II	1 Decks and vertical surfaces to piers, columns and abutments 2 Sides and soffits of beams and crossheads
III	1 up to 1000 litres 2 up to 1m ³ 3 over 1m ³ but not exceeding 3m ³ 4 over 3m ³

High Pressure Water Jetting 51 The item for high pressure water jetting shall in accordance with the Preamble to Schedule of Rates General Directions include for:

- Item Coverage
- (a) complying with the Code of Practice for the use of High Pressure Water jetting Equipment
 - (b) enclosures for the protection of site personnel and the general public;
 - (c) facilities, access, illumination and assistance for inspection by the Overseeing Organisation;

- (d) provision of water;
- (e) collection and disposal of water;
- (f) procedure trials;
- (g) disposal of arisings

Reinstatement Works

- Units 52 The units of measurement shall be;
- (i) proprietary mortar.....litres
 - (ii) proprietary high flow concrete, proprietary sprayed concrete.....cubic metre.
- Measurement 53 The measurement of reinstatement works shall be the volume of concrete removed as this Series paragraph 44.
- Itemisation 54 Separate items shall be provided for reinstatement works in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Reinstatement works
II	1 Proprietary mortar 2 Proprietary high flow concrete 3 Proprietary sprayed concrete
III	1 Decks and vertical surfaces to piers, columns and abutments 2 Sides and soffits of beams and crossheads
IV	1 up to 1000 litres 2 up to 1m ³ 3 over 1m ³ but not exceeding 3m ³ 4 over 3m ³

- Proprietary Mortar** 55 The items for proprietary mortar shall in accordance with the Preambles to Schedule of Rates General Directions include for:

- Item coverage (a) priming and bonding coats

				<ul style="list-style-type: none"> (b) mixing, placing and finishing; (c) curing and protection (d) allowing for periods during which the Overseeing Organisation will inspect the repaired area, conduct tests and issue instruction (e) provide and maintain access for the Overseeing Organisation to inspect the completed concrete repairs
Proprietary Concrete	High	Flow	56	<p>The items for proprietary high flow concrete shall in accordance with the Preambles to Schedule of Rates General Directions include for:</p> <ul style="list-style-type: none"> (a) approval tests and awaiting approval, batch acceptance tests and works tests (b) providing the Overseeing Organisation with two copies of all test results. (c) cleaning existing exposed concrete of dust and grit by airline or other approved method; (d) removal of any loose concrete or aggregate (e) wetting of existing exposed concrete with clean water as specified and mopping up prior to concreting; (f) mixing, placing in or against any surface, layering, compaction and surface finishing; (g) curing and protection including providing all necessary artificial heating and cooling to comply with temperature requirements; (h) forming falls, cambers and shaped profiles; (i) construction joints (whether shown or not shown on the Drawings or detailed in the Task Order), skewbacks, stunt ends, steppings, bonding chases and the like, water bars and stops; (j) holes, ducts, pockets, sockets, mortices and the like not exceeding 0.15 cubic metres each in volume including formwork (as Series 1700 paragraph 14); (k) protective screens; (l) replacement concrete to fill over break; (m) compliance with the repair procedure shown in the Contract; (n) allowing for periods during which the Overseeing Organisation
Item coverage				

		will inspect the repaired area, conduct tests and issue instructions;
		(o) provide and maintain access for the Overseeing Organisation to inspect the completed concrete repairs.
Proprietary Sprayed Concrete/Mortar	57	The items for proprietary sprayed concrete shall in accordance with the Preambles to Schedule of Rates General Directions include for:
Item coverage		(a) Procedure
		(b) approval tests and awaiting approval, and in situ strength tests;
		(c) cores to determine quality of deposited concrete.
		(d) making good core holes;
		(e) cleaning existing exposed concrete of dust and grit by airline or other approved method;
		(f) removal of any loose concrete or aggregate;
		(g) wetting of existing exposed concrete with clean water as specified and mopping up prior to concreting;
		(h) mixing, placing in or against any surface, layering, compaction and surface finishing
		(i) curing and protection including providing all necessary artificial heating and cooling to comply with temperature requirements;
		(j) forming falls, cambers, and shaped profiles,
		(k) construction joints (whether shown or not on the Drawings or detailed in the Works Order), skewbacks, stunt ends, steppings, bonding chases and the like, water bars and stops;
		(l) profiles and guide wires;
		(m) holes, ducts, pockets, sockets, mortices and the like not exceeding 0.15 cubic metres each in volume including formwork (as Series 1700 paragraph 14);
		(n) protective screens;
		(o) replacement concrete to fill over break;
		(p) compliance with the repair procedure shown in the Contract;
		(q) allowing for periods during which the Overseeing Organisation will inspect the repaired area conduct tests and issue instructions;
		(r) provide and maintain access for the Overseeing Organisation

to inspect the completed concrete repairs.

Stainless Steel Fibres

- Units 58 The units of measurement shall be:
- (i) stainless steel fibres..... cubic metre measured extra over sprayed concrete.
- Measurement 59 The measurement shall be the volume of concrete as this Series paragraph 52.
- Itemisation 60 Separate items shall be provided for stainless steel fibres in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I 1	Extra over for stainless steel fibres.

Stainless Steel Fibres 61 The items for stainless steel fibres shall in accordance with the Preambles to Schedule of Rates General Directions include for:

- Item coverage
- (a) cutting and preparation;
 - (b) distribution within the sprayed concrete
 - (c) finishing coats.

Formwork for Concrete Repairs

Units 62 The units, measurement, itemisation and item coverage for formwork for concrete repairs shall be as Series 1700 paragraphs 10 to 20 inclusive amended as below:

Add the following Feature to paragraph 13;

Group	Feature
IV 1	Different locations

Add the following to paragraph 14, Item Coverage;

- (k) formwork required to shutter over break.

Steel Reinforcement for Concrete Repairs

Units 63 The units, measurement, itemisation and item coverage for steel reinforcement for concrete repairs shall be as Series 1700 paragraphs 21 to 26 inclusive, amended as below:

Delete existing paragraphs 25 to 26 and insert the following;

Reinforcement 64 The items for reinforcement shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item Coverage

- (a) cleaning, cutting, bending and preparation of ends for welding;
- (b) binding with wire or tack welds;
- (c) supports, cover blocks and spacers (except for steel bar supports to reinforcement where shown on the Drawings or detailed in the Works Order).
- (d) extra fabric reinforcement at laps;
- (e) welding;
- (f) mechanical connections;
- (g) cutting and removal of existing reinforcement as directed by the Overseeing Organisation.

Dowels 65 The items for dowels shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item Coverage

- (a) scabbling surface of concrete over area of plinth or replacement concrete;
- (b) drilling or forming holes and pockets;
- (c) disposal of debris arising;
- (d) cleaning, cutting and preparation of ends;
- (e) grout including mixing, placing and curing;
- (f) casting in;
- (g) protective caps, sleeves and wrappings.

Resin Injection

Units	66 The units of measurement shall be (i) resin injection.....metres
Measurement	67 Measurement of resin injection shall be the length of crack injected along the surface of the concrete.
Itemisation	68 Separate items shall be provided for resin injections in accordance with Chapter II paragraph 3 and 4 and the following:

Group	Feature
I	1 Resin Injection
II	1 Decks and vertical surfaces to piers, columns and abutments
	2 Sides and soffits of beams and crossheads

Resin Injection	69 The items for resin injections shall be in accordance with the Preambles to Schedule of Rates General Directions include for:
Item Coverage	<ul style="list-style-type: none"> (a) preparing the surfaces of concrete around the crack (b) removing moisture from the crack with dry hot air (c) temporary crack sealant and preformed dams (d) injection nozzles (e) injecting resin in the required sequence (f) removal of temporary crack sealant, injection nozzles, preformed dams, resin and resin spillage from the face of the concrete (g) taking proving cores and making good core holes (h) disposal of material to licensed tips off the Network provided by the Contractor (as Series 600 paragraph 39).

Establishment of Plant for Testing of Existing Structural Concrete

Units	70 The unit of measurement shall be: (i) Establishment of plant for testing of existing structural concrete.....number
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Measurement 71 The measurement of establishment of plant for testing of existing structural concrete shall be only once per Contract.

Itemisation 72 Separate items shall be provided for establishment of plant for testing of existing structural concrete in accordance with the following;

Group	Feature
I	1 Establishment of plant
II	1 For covermeter survey 2 For carbonation (phenolphthalein) testing 3 For rotary coning 4 For half-cell potential testing 5 For resistivity testing 6 For testing of chloride concentrations

Establishment Of Plant for Testing of Existing Structural Concrete 73 The items for establishment of plant for testing of existing structural concrete shall in accordance with the Preambles to Schedule of Rates General Directions include for:

- Item Coverage
- (a) bringing plant and equipment to Site;
 - (b) obtaining access to the concrete area to be tested;
 - (c) setting up all plant and equipment and moving to different locations on Site;
 - (d) dismantling and removing all plant and equipment from Site on completion.

Testing of Existing Structural Concrete

Units 74 The unit of measurement shall be:
(i) testing of concrete.....number

Measurement 75 The measurement for testing of existing structural concrete shall be the extent of testing required by the Contract

Itemisation 76 Separate items shall be provided for the testing of existing structural concrete in accordance with the following:

Group	Feature
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I	1	Testing of concrete
II	1	Covermeter survey
	2	Carbonation (phenolphthalein tests)
	3	Rotary coring, 100mm diameter
	4	Half-cell potentials
	5	Resistivity
	6	Chloride concentrations
III	1	Diameter of sample
	2	Depth of sample
IV	1	Grid spacing

Testing of Existing Structural Concrete

77 The items for testing of existing structural concrete shall in accordance with the Preambles to Schedule of Rates General Directions include for:

Item Coverage

- (a) marking out
- (b) preparation and cleaning
- (c) dimensional survey
- (d) photographs as specified
- (e) carrying out specified test
- (f) logging/recording of results
- (g) collection, marking and transportation of samples from site to the laboratory
- (h) laboratory testing as required
- (i) making good including material, handling, placing and curing specified cementitious mortar or similar

Series 1800: Steelwork for Structures

Delete paragraph 1 and replace with the following:

Fabrication and Permanent Erection of Steelwork

Units

- 1 The units of measurement shall be:
 - (i) fabrication, permanent erection.....tonne

Add to paragraph 9

Permanent Erection

- 9 The items for permanent erection shall in accordance with the Preambles to Schedule of Rates and the following:
 - (h) Trial erection at the place of fabrication in accordance with paragraph 8 of this Series.

Series 2300 : Bridge Expansion Joints and Sealing of Gaps

After paragraph 11 add the following paragraphs 12 to 16 inclusive.

Replacement and Refurbishment of Bridge Deck Expansion Joints

Definition	12	The term “bridge deck expansion joints” covers all types of permanent joint which allow expansion, contraction, shrinkage or angular rotation to take place in decks of structures.
Units	13	The unit of measurement shall be: <ul style="list-style-type: none"> (i) replacement of bridge deck expansion joints number. (ii) refurbishment of bridge deck expansion joints..... linear metre.
Measurement	14	The measurement of replacement of bridge deck expansion joints shall be the complete replacement. The stated length shall be measured along the centre line of the joint. The measurement of refurbishment of bridge deck expansion joints shall be replacing asphaltic material up to finished road level. The length shall be measured along the centre line of the joint.
Itemisation	15	Separate items shall be provided for replacement of bridge deck expansion joints in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature	Description
I	1	Replacement of bridge deck expansion joints.
	2	Refurbishment of bridge deck expansion joints.
II	1	Different types of materials.
III	1	Different lengths
IV	1	Different gap widths.

Replacement and Refurbishment of Bridge Deck Expansion Joints	and	16	The items for replacement and refurbishment of bridge deck expansion joints shall in accordance with the Preambles to Schedule of Rates General Directions include for:
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Item coverage	<ul style="list-style-type: none">(a) design;(b) certificates;(c) provision of data and drawings;(d) resubmissions and modifications;(e) amendments to the Works;(f) preparing and cleaning surfaces;(g) installing or constructing the joint, sub-surface drainage, below joint drainage, in situ nosings, and waterproofing complete with fittings at kerbs, footways, service ducts and the like including the use of templates, guides and the like to retain the joint system in position;(h) setting the joint having regard to temperatures and other constraints;(i) priming surfaces to be sealed, joint filler material, sealing strips, inserting, protecting and sealing;(j) adhesives and the like;(k) forming, cutting and sealing grooves and edges in surfacings and bridge deck waterproofing;(l) protective system (as Series 1900 paragraph 4);(m) greasing;(n) measures to protect the joint against damage or displacement;(o) drilling or forming holes and pockets and casting in bolts, sockets, base plates and anchorage assemblies;(p) preparation and supply of data sheets;(q) removal and disposal of existing joint arisings to tip off Site (as Series 200 paragraph 10);(r) provision, maintenance and removal of temporary bridging plates;(s) other works and provisions for the renewal of joints as the Specification.
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Series 2400 : Brickwork, Blockwork and Stonework

Add the following paragraphs 13 to 16 inclusive:

Repointing

- Units 13 The units of measurement shall be:
- (i) repointing.....square metre.
- Measurement 14 The measurement shall be the superficial area of brickwork or stonework required by the Contract.
- The measurement of arch soffits shall be the developed plan area
- Itemisation 15 Separate items shall be provided for repointing in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Repointing
II	1 Brickwork 2 Stonework
III	1 Mortar designation
IV	1 to vertical surfaces of walls 2 to arch soffits

- Repointing** 16 The items for repointing shall in accordance with the Preambles to Schedule of Rates General Directions include for:
- Item coverage
- (a) raking out existing unsound mortar
 - (b) grinding out joints
 - (c) saturation of open joints prior to repointing
 - (d) low pressure water jetting, including provision, collection and disposal of water
 - (e) cleaning faces of brickwork or stonework

-
- (f) taking up individual loose bricks or stones and rebedding.
 - (g) Mortar
 - (h) disposal of arisings to a licensed tip off the Network provided by the contractor (as Series 600 paragraph 39)