

**COMPETITION FOR THE CONSTRUCTION, COMPLETION
AND MAINTENANCE OF THE
A83 STRONE POINT IMPROVEMENT SCHEME**

**A83 STRONE POINT IMPROVEMENT SCHEME
INSTRUCTIONS TO TENDERERS
VOLUME 0**

	Name	Signature	Date
Prepared By	[REDACTED]	[REDACTED]	[REDACTED]
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Approved By	[REDACTED] [REDACTED]	[REDACTED]	[REDACTED]

DOCUMENT ISSUE RECORD

Amendment Number	Issue Date	Details of Document Issued

I hereby confirm that the above revision pages have been incorporated in the Form of Tender

Signed _____

Name _____

Date _____

Company _____

Note: This page to be signed and incorporated into the document.

**Copy of signed page to be sent to The Scottish Ministers, Transport Scotland, Trunk Roads:
Network Management, 8th Floor, Buchanan House, 58 Port Dundas Road, Glasgow, G4 0HF**



**COMPETITION FOR
THE CONSTRUCTION, COMPLETION AND MAINTENANCE OF THE
A83 STRONE POINT IMPROVEMENT SCHEME**

TS/TRBO/WKS/2015/04

INVITATION TO TENDER DOCUMENT

INSTRUCTIONS TO TENDERERS

DOCUMENT ISSUE RECORD

I hereby confirm that this is the current version of the Instructions to Tenderers and supersedes all previous issues of such document by the Employer.

Signed _____
Name (Block capitals) _____
Date _____
Tenderer _____

Copy of signed page shall be sent to, Transport Scotland, Trunk Roads and Bus Operations, 8th Floor, Buchanan House, 58 Port Dundas Road, Glasgow, G4 0HF, marked for the attention of Mr. Keith Murray



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A83 STRONE POINT IMPROVEMENT SCHEME INSTRUCTIONS TO TENDERERS

Important Notice

This Instructions to Tenderers Document (the **Instructions**) has been prepared by the Employer for the purpose of providing Available Information to Tenderers shortlisted to participate in the competition for the construction of the A83 Strone Point Improvement Scheme (the **Scheme**).

In no circumstances will the Employer or its advisers, consultants, contractors, servants or agents incur any liability or responsibility arising out of or in respect of the issue of these Instructions.

Nothing in these Instructions shall be construed as legal, financial or tax advice to Tenderers.

No person, other than the Employer's Contact Person, has been authorised by the Employer to give any information or to make any representation to any Tenderer and, if any such representation is given or made, this information or representation shall not be relied upon as having been so authorised.

Any summaries or descriptions of documents or contractual arrangements contained in any part of the Instructions cannot be and are not intended to be comprehensive, nor any substitute for the underlying documentation (whether existing or to be concluded in the future), and are in all respects qualified in their entirety by reference to them.

No legal relationship or other obligation shall arise between any Tenderer and the Employer unless and until the Letter of Acceptance has been issued by the Employer and the successful Tenderer and any conditions precedent to its effectiveness have been fulfilled.

In this Important Notice, references to the Instructions shall include all information contained herein and any other information (whether written, oral or in machine-readable form) or opinions made available by or on behalf of the Employer, its advisors, consultants, contractors, servants or agents in connection with the Instructions or the Scheme including, without limitation, any additional information made available by the Employer throughout this procurement competition process.

Scots law shall be applicable to the Instructions.

The Scottish courts shall have exclusive jurisdiction in relation to any disputes arising from the Instructions.

Each Tenderer's acceptance of delivery of the Instructions constitutes its agreement to, and acceptance of, the terms stated in this Important Notice.



Nothing in the Instructions is, nor shall be relied upon as, a promise or representation as to the Employer's ultimate decision in relation to the award of any Contract.

The Employer reserves the right:

- (i) not to proceed with the competition or any part of such and may terminate the process or any part of such at any time, with or without awarding any Contract. In this event, the Employer will not be liable to any Tenderer or other party;
- (ii) to change any part of these Instructions or any information provided therein, including the procurement process and indicative procurement timetable;
- (iii) to reject any, or all, of the Tenders; and
- (iv) not to provide any Tenderer with any additional information requested by the Tenderer;

The Employer does not bind itself to accept any outcome of the procurement process identified in the Invitation Documents and the Information Provided, and is not obliged to award any Contract to any Tenderer or any other party.

The Employer has no responsibility for any Tenderer's costs, expenses or losses howsoever incurred as a consequence of its participation in this procurement competition.



1 GENERAL

1.1 Purpose of these Instructions

- 1.1.1 These Instructions have been prepared pursuant to the notice in the Public Contracts Scotland portal www.publiccontractsscotland.gov.uk on 8th December 2015 (Reference Number 011215)
- 1.1.2 Information is given on the arrangements for the Tender submission, including details of how the Tender Period processes shall be conducted and how the Tender submission shall be evaluated.
- 1.1.3 The Indicative Process Timetable is identified in Annex A of Appendix A to Instructions to Tenderers.
- 1.1.4 Tenderers shall comply with the relevant key dates identified in the Indicative Process Timetable unless otherwise amended in writing by the Employer.
- 1.1.5 Following the submission of completed Economic Operator's PQQ's , the Employer has selected [REDACTED] to whom an Invitation has been issued, as follows;

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

1.2 Definitions

- 1.2.1 Defined terms used in this document shall where the same have been defined in the Contract bear the same meaning as in the Contract unless otherwise defined hereunder:

Available Information means the information and documents made available to Tenderers by the Employer during the Tender Period.

Aggregate Quality and Price Score means the score derived in accordance with paragraph 5.2.6.

Bill of Quantities means the bill of quantities issued by the Employer as part of the Invitation Documents. (For the avoidance of doubt, this definition shall only apply to this document).

Comparative Cost of Tender means the comparative cost stated within each Tenderer's Appendix C to Instructions to Tenderers, submitted as part of the Tenderer's Financial

Submission in accordance with Section 4.

Confidential Post-Tender Query means a commercially sensitive or confidential Post-Tender Query raised by the Employer after return of the Tender to provide clarification of any matter in relation to such Tender submissions.

Confidential Post-Tender Query Response means a commercially sensitive or confidential Post-Tender response to a Confidential Post-Tender Query.

Confidential Tender Period Bulletin means a Tender Period Bulletin issued by the Employer to one Tenderer only and believed to be of a commercially sensitive or confidential nature.

Confidential Tender Period Query means a Tender Period Query which a Tenderer believes to be of a commercially sensitive or confidential nature.

Construction means the design of the Contractor designed elements, the construction, completion and maintenance of the Works.

Economic Operator means the Tenderers status during the pre-tender phase.

Economic Operator's PQQ means the Pre-qualification Questionnaire already submitted by the Economic Operator which has been accepted by the Employer.

Employer means Scottish Ministers and for the purpose of this procurement competition and the Contract also means Transport Scotland acting on behalf of the Scottish Ministers.

Employer's Contact Person means the person as identified in Appendix A to Instructions to Tenderers or as otherwise notified in writing by the Employer to the Tenderers.

Financial Submission means those parts of the Tender submission included within Volume C of the Tender.

Indicative Process Timetable means the indicative process timetable identified in Appendix A to Instructions to Tenderers.

Information Provided means the current version of any Invitation Document issued by the Employer during the Tender Period

Instructions mean this Instructions to Tenderers document.

Invitation means the Invitation to Tender.

Invitation Document means any of the following documents which may be issued by the Employer to Tenderers inviting them to submit a Tender:



- (i) Invitation to Tender;
- (ii) Instructions to Tenderers;
- (iii) Form of Tender;
- (iv) Conditions of Contract;
- (v) Specification;
- (vi) Bill of Quantities; and,
- (vii) any other relevant document(s) including further information and bulletin(s) that may be issued from time to time during the Tender Period.

Native Format means the original format of electronic files: for example Microsoft Word (*.doc), Microsoft Excel (*.xls) and AutoCAD (*.dwg) files.

PQQ means the Pre-qualification Questionnaire

Price means the Comparative Cost of Tender.

Quality Submission means those parts of the Tender submission included within Volume B of the Tender.

Record Format means the electronic file format in Adobe Portable Document Format (*.pdf) protected from editing.

Regulations mean the Public Contracts (Scotland) Regulations 2015 (If the value of Works is above the OJEU threshold) or the Procurement (Scotland) Regulations 2016 (If the value of Works is above the OJEU threshold).

Tender means a tender offer for the Works submitted to the Employer by a Tenderer, and any other relevant documentation that the Tenderer may be required to provide, in response to the Invitation at the time and in the format identified in these Instructions.

Tender Evaluation Criteria means the criteria identified in Section 5 against which Tender submissions will be evaluated by the Employer in order to determine in descending order the most economically advantageous Tenders.

Tender Period means the period between and including the date of issue of the Invitation and the date of the Tender submission.

Tender Period Bulletin means a communication from the Employer to all Tenderers' Contact Persons.

Tender Period Query means a communication from a Tenderer's Contact Person to the Employer in accordance with Section 3.

Tender Process means the process identified in Section 3.

Tender Sum means the sum entered into Appendix F to Form of Tender (Bill of



Quantities Summary) and Appendix C to Instructions to Tenderers.

Tender Return Date means the date by which Tender submissions have to be submitted as identified in the Indicative Process Timetable.

Tenderer means the companies identified in section 1.1.5

Tenderer's Contact Person means the contact person within the Tenderer's organisation through whom all communications between the Tenderer and the Employer shall be directed.

Works means the Permanent Works together with the Temporary Works.

1.2.2 References in this Instructions to Tenderers document to **paragraph(s), Section(s), Item(s), Table(s)** and **Appendix/Appendices** shall refer to such **paragraph(s), Section(s), Item(s), Table(s)** and **Appendix/Appendices** of these Instructions.

1.2.3 Words importing the singular also include the plural and vice versa, where the context so requires.

1.3 Restricted Procedure

1.3.1 The Employer is proceeding with the procurement competition for the construction of the A83 Strone Point Improvement Scheme by way of the restricted procedure, a contract award procedure provided for in the Regulations.

1.4 Conditions of Participation in the Tender Process

1.4.1 It is the responsibility of each Tenderer to obtain for itself at its own expense all information necessary for the preparation of any submission required by the Employer during the Tender Period.

1.4.2 Each Tenderer shall be required to complete the Tender and provide any other information in accordance with the conditions and requirements identified in the Invitation and any related documentation provided subsequently by the Employer in relation to this competition.

1.5 Costs Relating to Tenders

1.5.1 All work undertaken and costs incurred by each Tenderer during the Tender Period shall be at each Tenderer's own risk and expense.

1.6 Restrictions on use of the Instructions

-
- 1.6.1 Each organisation to which the Instructions have been issued shall be required to make its own independent assessment of the Scheme after making such investigation and taking such professional advice as it deems necessary.
- 1.6.2 Nothing in these Instructions is, or should be, relied upon by any Tenderer as a promise or representation as to the Employer's ultimate decision in relation to the Scheme.
- 1.6.3 Neither the Employer nor any of its agents or advisors will accept any liability or responsibility for the accuracy, adequacy or completeness of any opinions contained in the Instructions or of any Information Provided.
- 1.6.4 No representation or warranty, expressed or implied, is or will be given by the Employer or any of its agents or advisors with respect to such opinion or information. Any liability in relation to Information Provided will hereby be expressly disclaimed by the Employer.
- 1.6.5 Tenderers' attention is drawn to the fact that, by issuing the Invitation, the Employer will in no way be committed to accepting any Tender submission nor to enter into any Contract.
- 1.6.6 The acceptance of the Invitation by a Tenderer shall imply acceptance of the foregoing provisions by the Tenderer without qualification.
- 1.6.7 Any attempt to qualify any of the foregoing provisions of this Section 1.6, either expressly or implied, may result in the Tenderer being disqualified from the competition.

1.7 Electronic Data

- 1.7.1 Electronic copies of the Information Provided will be included in the Invitation.
- 1.7.2 For the purposes of the competition the definitive version of each Invitation Document that forms part of the Information Provided will be the latest pdf format copy of each such document issued by the Employer to Tenderers during the Tender Period.
- Previous versions of any such documents shall be deemed to be superseded by such latest version.
- 1.7.3 Each Tender shall be submitted in accordance with the requirements of the Invitation and the Information Provided.

2 WORKS REQUIREMENTS

2.1 Introduction

2.1.1 Strone Point is located on the A83 approximately 4km to the north east of Inveraray, between Dunderave Castle and Shira Bridge within the Argyll and Bute local authority boundary.

Following the recommendations of the A83 Route Study published in December 2012, Transport Scotland produced a programme of improvement works, targeting a number of issues along the route.

The objectives of the A83 route study were as follows:

- To reduce accident rates and severity on the A83;
- Improve pedestrian and cycling amenities in the settlements along the A83;
- Improve journey time reliability by reducing the frequency and impact of road Closures and;
- Reduce the economic impact to the A83 Study area by reducing the frequency and duration of road closures caused by landslides and accidents.
- In the last five years there has been two fatal, three serious and one slight accident. These occurred in the vicinity of a bend in the road that has below minimum forward visibility in addition to sub-standard horizontal and vertical radii.

2.2 Description of Project

2.2.1 This project includes the improvement of 369 metres of the A83 single carriageway at Strone Point. This shall include improvements in carriageway cross-section, road geometry and visibility. In order to achieve the carriageway improvements a cutting shall be formed into the hillside on the eastbound side of the existing carriageway, comprising of both rock and soil.

2.2.3 The Works include but are not limited to the following:

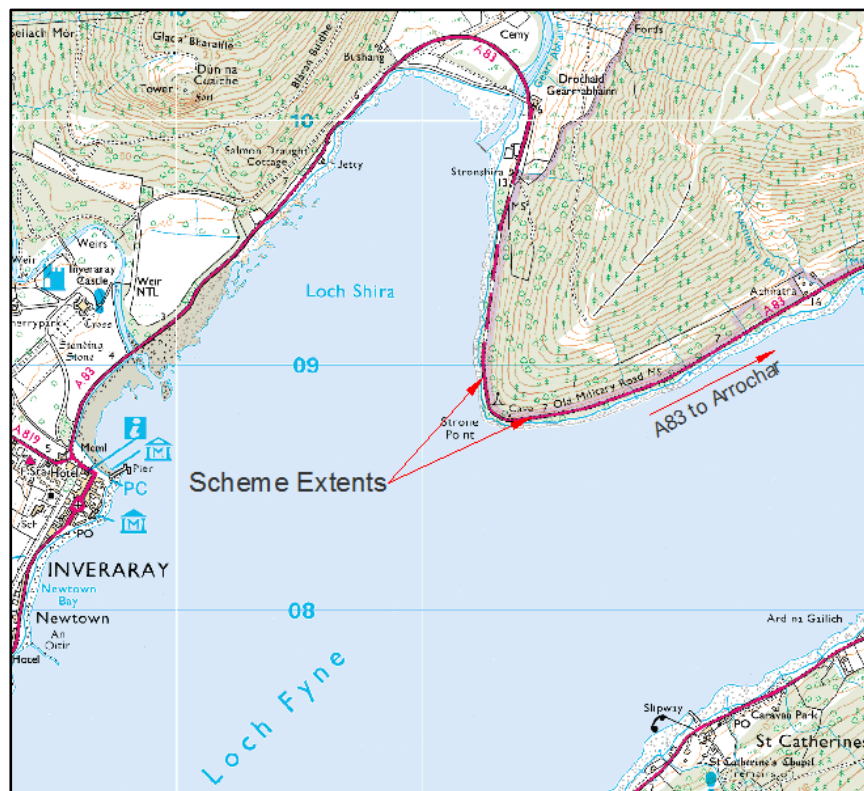
- a) Site establishment, and installation of an approved temporary traffic management system;
- b) Installation of environmental protection zones;
- c) Site clearance;
- d) Removal of existing road restraint system;
- e) Removal of MOD navigational aid;



- f) Removal of existing road furniture and delivery to the local BEAR depot;
- g) Cutting of superficial deposits, and strengthening by soil nailing;
- h) Formation of a rock cutting, using mechanical means only, and overlaying with rock mesh;
- i) Construction of new carriageway including carriageway drainage;
- j) Construction of new trench for existing Openreach apparatus;
- k) Construction of a new 30m retaining structure;
- l) Devegetation, repointing and installation of crack monitors on existing retaining wall 1;
- m) Installation of new road restraint system (including motorcycle protection barrier) and permanent fencing above crest of the cutting;
- n) Capping and grouting up of two existing cross-carriageway pipes; and
- o) Line marking, and road signage and road stud installation.

2.2.4 Construction is expected to commence in November 2016 with a maximum duration of 140 working days. The actual construction period shall be specified by the Contractor as part of the Tender.

2.2.4 OS map showing the location and extent of the Works.



2.3 Specific Project FeaturesEarly Bonus or Late Completion Charges

2.3.1A The scheme is subject to an Early Completion Bonus or Continued Site Occupation Charge as described in Clause 47 of the Conditions of Contract. Appendix A to the Form of Tender details the Bonus/Charge applicable to the scheme. The Tenderer is required to insert the number of days required to complete the whole Works; up to a maximum of 140 Working Days, within this Appendix. The number of days proposed for the scheme will be included in the assessment of the most economically advantageous Tender.

2.4 Special Requirements

2.4.1 Special Requirements applicable to this Contract are included in the Specification.

2.4.2 It will be necessary when effecting the insurance required by Clause 23 of the Conditions of Contract to advise insurers of these Special Requirements.

2.5 Contractor's Design

2.5.1 A performance for Road Restraint Systems is outlined in Appendices 4/1 and 4/2 and contractor is to design a complaint system.



3 TENDERING PROCEDURE

3.1 Introduction

- 3.1.1 Tenderers shall ensure that the Tender submission shall be submitted in accordance with Section 4.

The date and time for submission of the Tender shall be as identified in Annex A of Appendix A.

Tender submissions received by the Employer after this date and time will not be accepted for consideration and will be returned unopened to the sender.

- 3.1.2 The Tender and supporting documents shall be written in English and any subsequent contract, which may be concluded, its formation, interpretation and performance shall be subject to and in accordance with Scots Law.

- 3.1.3 A period of evaluation will follow the receipt of the Tender submissions during which the Employer will carry out the evaluation of such Tenders on the basis of the Tender Evaluation Criteria, during which the Employer may subject to the Regulations, request that particular aspects of any Tender be clarified or supplemented by any Tenderer.

Any such Tender shall then be subject to further review and evaluation in accordance with Section 5 hereof, at the end of which process the Tender submissions will be ranked to identify in descending order the most economically advantageous Tender.

3.2 Tender Acceptance

- 3.2.1 The Employer will not be bound to accept the most economically advantageous Tender, or any Tender.

The Employer expects to make a decision on the award of any Contract within **90** calendar days of the closing date and time for submission of Tenders.

If the **90** calendar day period appears likely to be exceeded, the Employer will initially seek to agree an extension to that period with each Tenderer.

However, if this is not possible or delay appears likely to be excessive, the Employer may re-tender the work.

Each Tender shall therefore remain open for acceptance for a minimum of **90** calendar days after the closing date and time for submission of each Tender.

The Employer will publish the amount of the successful Tender and the name of the successful Tenderer to whom the Contract has been awarded.

3.3 Structure of Tender Process

3.3.1 Tender submissions or parts of the Tender submissions will:

- (i) first, be checked by the Employer to ensure they are compliant and complete; then
- (ii) second, be reviewed and evaluated against the Tender Evaluation Criteria; and
- (iii) third, be scored and ranked to identify the most economically advantageous Tender. At any time after the Tenders have been received, as part of the checking, review and evaluation process the Employer will be entitled to seek from any Tenderer, clarification of any particular aspect of the Tender submission, including any omissions or ambiguities.

The Employer will be entitled to select the successful Tenderer to whom the Contract may be awarded on the basis of the most economically advantageous Tender.

3.4 Indicative Process Timetable

3.4.1 Each Tenderer shall note and comply as relevant with key dates in the process identified in the Indicative Process Timetable identified as Annex A to Appendix A.

3.4.2 Each Tenderer shall note that the dates and the procurement process identified in this timetable are indicative only and may be subject to change at the sole discretion of the Employer, such changes will be notified in writing to all Tenderers as soon as reasonably practicable.

3.4.3 Notwithstanding the earlier provisions of this Section 3, the Employer considers it is important to achieve this timetable.

3.5 Requests for Clarification

3.5.1 Requests for clarification or for further information on any matters covered by:

- (i) this Invitation; or
- (ii) Information Provided

which may or shall have a bearing on the Tender shall be raised with the Employer in accordance with this Section 3.5 as soon as possible and in any case not later than **14** days before the latest date and time for return of the Tender. The Employer will endeavour to respond to requests for clarification by no later than 7 days before the latest date and time for return of the Tender.

3.5.2 Tender Period Bulletins shall be issued in writing by email in response to Tender Period Queries.

Confidential Tender Period Bulletins shall be issued in writing by email in response to Confidential Tender Period Queries.

All queries must be received by the Employer before the latest date for submission of such queries, as identified in the Indicative Process Timetable, and subject to the provisions of Sections 3.5 and 3.6.

3.5.3 The Employer may, at its absolute discretion, but shall under no circumstance be obliged to, reply to any Tender Period Query or any Confidential Tender Period Query received after the latest date for submission of such identified in the Indicative Process Timetable.

3.5.4 If, as a result of but not limited to:

- (i) queries/requests or proposals;
- (ii) any communication between the Employer and a Tenderer;
- (iii) development in the Employer's procurement timetable, the market or legal requirements; or
- (iv) for any other reason,

the Employer will be of the opinion that a clarification of or amendment or revision to:

- (i) the Invitation; or
- (ii) any Information Provided

is necessary, then the Employer will be entitled to make any such clarification of or amendment or revision to the above at any time.

Any such further amendments or revisions issued by the Employer during the Tender Period are deemed to form part of the Invitation and will supersede the relevant part of the Invitation or any Information Provided to the extent indicated.

3.5.5 The Employer reserves the right to issue additional information at any time during the Tender Period.

The Employer may postpone the submission of the Tender if, in the opinion of the Employer, the issue of such additional information has a bearing on the Tender.

3.6 Communication Procedure

3.6.1 All communications by each Tenderer and by the Employer as relevant shall be carried out through:

- (i) Tender Period Queries;
- (ii) Tender Period Bulletins;

- (iii) Confidential Tender Period Queries;
- (iv) Confidential Tender Bulletins;
- (v) Confidential Post-Tender Queries; and
- (vi) Confidential Post-Tender Query Responses.

Such communications shall be issued in writing by email between the Tenderer's Contact Person and the Employer's Contact Person.

3.6.2 Receipt of any:

- (i) Tender Period Query;
- (ii) Tender Period Bulletin;
- (iii) Confidential Tender Period Query;
- (iv) Confidential Tender Period Bulletin;
- (v) Confidential Post-Tender Query; or
- (vi) Confidential Post-Tender Query Response

shall not be assumed until acknowledgement of receipt has been confirmed by the recipient in writing by email.

3.6.3 The Employer reserves the right to refuse to respond to queries raised by any Tenderer in any other form unless otherwise consented to in writing by the Employer.

3.6.4 On receipt of the Invitation, each Tenderer shall confirm to the Employer in writing the name, address and designation of the Tenderer's Contact Person within its own organisation through whom all communications with the Employer shall be directed during the Tender Period.

If at any time during the Tender Period there is a need to replace the Tenderer's Contact Person, either temporarily or for the remainder of the Tender Period, the Tenderer shall notify the Employer as soon as reasonably practicable of any replacement for the Tenderer's Contact Person.

3.6.5 Communications directed to or between any persons within the Employer's staff or Tenderer's organisation other than by the Employer's Contact Person or the Tenderer's Contact Person are deemed to be invalid and shall be not be considered to exist for the purposes of the Invitation except where such communications are permitted in accordance with the provisions of section 3.6.6.

3.6.6 Communications with members of the Employers' staff and officials other than the Employer's Contact Person on matters pertaining directly to the Tender Period, procedures

or Tender submissions shall only be permitted where such communication contacts have been agreed in writing by the Employer's Contact Person or are otherwise permitted or required by the Invitation.

3.6.7 Notwithstanding the other provisions of this Section 3.6, the Tender shall not be accepted by email or facsimile unless otherwise instructed in writing by the Employer's Contact Person.

3.6.8 The Tender shall be submitted in accordance with Section 4.2 for the attention of the Employer's Contact Person.

3.7 Commercially Sensitive/Confidential Communications

3.7.1 The nature of this competition is such that it may be necessary for some of the Tenderers' communications to be treated by the Employer as commercially sensitive/confidential.

When a Tenderer wishes the Employer to treat any communication as commercially sensitive/confidential the procedures identified in Section 3.6 shall be followed together with the following:

- (i) communications of a commercially sensitive/confidential nature shall be issued separately from all other communications;
- (ii) commercially sensitive/confidential communications shall be clearly marked **commercially sensitive/confidential**; and
- (iii) commercially sensitive/confidential communications shall be issued via Confidential Tender Period Queries, as appropriate.

Any communication received from a Tenderer not using the Confidential Tender Period Query process shall be treated by the Employer as a non-commercially sensitive/confidential communication and will be acted upon on that basis.

3.7.2 If, in the opinion of the Employer, a response to a Confidential Tender Period Query requires to be transmitted to each Tenderer then the Employer will:

- (i) advise the Tenderer who submitted the relevant query accordingly and seek to identify the Tenderer's reason for the need for confidentiality; or
- (ii) seek, if appropriate, written agreement from the Tenderer to remove the commercially sensitive/confidential label.

If the Employer and the Tenderer disagree on the need for confidentiality, the Tenderer will first be given the opportunity to withdraw the relevant query before the Employer decides whether its response to that query will be transmitted to each Tenderer.

The Employer's decision on any matters regarding this Section 3.7.2 will be final.

If the Tenderer does not agree to remove the commercially sensitive/confidential label or withdraw the relevant query, the Employer nonetheless shall be entitled to issue a response which shall be transmitted to each Tenderer.

- 3.7.3 Subject to any other provision of these Instructions, where information as identified in Section 3.7.1. shall have been received from a Tenderer, the Employer will keep such information confidential subject to the Employer's right to share such information with its advisors and with others involved in the checking and evaluation of the Tenders, who shall be notified of the confidentiality and sensitivity of the information in question.
- 3.7.4 Without prejudice to the Employer's commitment to treat communications from the Tenderers as commercially sensitive/confidential, if anything arising during the Tender Period, including a response to any particular request for clarification or other query, requires any change to the Tender submission requirements identified in this Invitation, the Employer reserves the right to communicate such response (edited, if necessary, to protect commercially sensitive/confidential information) to all Tenderers.
- 3.7.5 Subject to any other provisions of these Instructions, the Employer will treat all Tender submissions in the Strictest Commercial Confidence.

3.8 Conflict of Interest

- 3.8.1 Any conflict of interest of a Tenderer or potential conflict of interest of a Tenderer will be fully disclosed in writing to the Employer by any such Tenderer as soon as such conflict or potential conflict becomes apparent to any such Tenderer.
- 3.8.2 In the event of any conflict or potential conflict of interest, the Employer shall, at its absolute discretion, decide on the appropriate course of action and notify the Tenderer in writing accordingly.
- 3.8.3 Any conflict of interest between Tenderers may lead to the exclusion of one or all Tenderers involved at the discretion of the Employer.
- 3.8.4 Tenderers shall be required to sign the Non-conflict of Interest Certificate identified in the Appendix I to Form of Tender.

3.9 Confidentiality

- 3.9.1 The Invitation is intended exclusively for the purpose of assisting Tenderers in submitting a Tender.
- 3.9.2 By receiving this Invitation, each Tenderer hereby agrees to keep confidential this Invitation and all Information Provided.
- 3.9.3 The Information Provided may be made available to a Tenderer's members, employees and professional advisors directly involved in the appraisal of such Information Provided

(who shall be made aware of the obligation of confidentiality) but shall not, either in whole or in part, be copied, reproduced, distributed or otherwise made available to any other party in any circumstances without the prior written consent of the Employer, nor may it be used for any other purposes than that for which it is intended.

- 3.9.4 While the Information Provided has been prepared in good faith, it does not purport to be comprehensive or to have been verified by the Employer or its advisors. Neither the Employer nor its advisors shall be liable or responsible for negligence or failure to exercise any degree of skill or care in connection with the production of the Information Provided or for any action taken by any Tenderer as a result of the Information Provided.
- 3.9.5 All Information Provided, including all copies, remains the property of the Employer and shall be delivered to the Employer on demand.

3.10 Disclosure of Information

- 3.10.1 All information submitted to the Employer may need to be disclosed and/or published by the Employer.

Without prejudice to the foregoing generality, the Employer may disclose information in compliance with the Freedom of Information (Scotland) Act 2002, (the decisions of the Employer in the interpretation thereof shall be final and conclusive in any dispute, difference or question arising in respect of disclosure under its terms), any other law, or, as a consequence of judicial order, or order by any court or tribunal with the authority to order disclosure.

- 3.10.2 Further, the Employer may also disclose all information submitted to it to the Scottish or United Kingdom Parliament or any other department, office or agency of Her Majesty's Government in Scotland or the United Kingdom, and their servants or agents.

When disclosing such information to either the Scottish Parliament or the United Kingdom Parliament it is recognised and agreed by both parties that the Employer will if it sees fit disclose such information but is unable to impose any restriction upon the information that it provides to Members of the Scottish Parliament, or Members of the United Kingdom Parliament; such disclosure shall not be treated as a breach of the Contract.

- 3.10.3 Accordingly, if a Tenderer considers that any of the information included in the Tender submission is commercially sensitive/confidential, it shall identify such information and explain what harm might result from disclosure and/or publication of this information.

Where Tenderers have indicated that information is commercially sensitive/confidential, the Employer may still disclose this information where it sees fit.

3.10.4 The Employer may publish, on the Scottish Government and/or Transport Scotland websites, the names and contact details of companies who have been issued with an Invitation.

3.11 Changes to Tendering Procedure

3.11.1 The Employer reserves the right, at its discretion, to change the tendering procedures, including the timing, form and substance of such procedures, leading to the award of the Contract, or to reject any or all Tender submissions.

Under no circumstances shall the Employer incur any liability in respect thereof.

Any changes to the procedures shall be communicated to all Tenderers as soon as practicable.

3.12 The Employer's Right to Terminate

3.12.1 The Employer reserves the right at its absolute discretion to terminate the competition at any time before the award of any Contract, without giving prior notice to Tenderers.

3.12.2 Further, the Employer reserves the right to reject or exclude a Tenderer at any time during the Tender Period if there is any change to the Tenderer's circumstances such that it no longer satisfies the minimum requirements for participation in the competition as identified in the Economic Operator's ESPD .

3.13 Canvassing

3.13.1 Except as provided for in the Invitation, Tenderers shall not approach staff of the Employer or staff of the Employer's advisors with a view to providing information or clarification in respect of any part of their Tender submissions or attempting to support or enhance their prospect of being selected as one of the Tenderers with the most economically advantageous Tender.

Any such approach or attempted approach by a Tenderer may lead to the Tenderer's disqualification from the competition.

3.13.2 Tenderers shall be required to sign the Certificate of Non-Canvassing identified in Appendix J to Form of Tender.

3.14 Collusion

3.14.1 Any collusion between Tenderers may lead to the exclusion of one or all Tenderers involved at the discretion of the Employer.

3.14.2 Tenderers shall be required to sign the Anti-Collusion Certificate identified in the Appendix B to Form of Tender.

3.15 Re-Qualification

3.15.1 Each Tenderer, or successful Tenderer, shall be required immediately to bring to the Employer's notice any material change in the financial or other circumstances of the members of its organisation, including any change in the membership of a joint venture or consortium as relevant.

3.15.2 Each Tenderer, or successful Tenderer, shall be required to immediately bring to the Employer's notice any change to the organisation, or in the membership of the joint venture or consortium, or in the identity of any person or organisation to whom it is proposed (in the Tender Submission) to sub-contract the provision of any of the Works, where such change occurred after the submission of the Economic Operator's PQQ. Such change may only be made with the prior written agreement of the Employer.

The Employer will not withhold its agreement unreasonably, but such agreement will be subject to the Tenderer, or successful Tenderer, continuing to meet the evaluation criteria identified in the PQQ.

Any additional information provided by a Tenderer, or successful Tenderer in relation to this section 3.15.2 will be evaluated in accordance with the evaluation criteria identified in the PQQ.

3.15.3 Similarly, prior written agreement shall be required from the Employer for any changes by any Tenderer, or successful Tenderer, to advisors or specialists identified in either its submitted Economic Operator's PQQ or its Tender submission.

3.15.4 The Employer has qualified each Tenderer on the basis of information provided by it concerning its technical or professional ability or economic and financial standing.

The Employer reserves the right to withdraw the qualification of a Tenderer, or successful Tenderer at any time, if it appears to the Employer that a Tenderer, or successful Tenderer becomes ineligible or does not have the technical or professional ability or economic and financial standing to perform any of the obligations under the Contract.

4 TENDER SUBMISSION REQUIREMENTS

4.1 Introduction

4.1.1 Subject to the other provisions of these Instructions, this Section 4 identifies the minimum requirements for the Tender submission.

Each Tenderer is reminded of the requirement that its submissions shall be deemed to represent the views of the organisation or in the case of a consortium of joint venture all members of the Tenderer's consortium or joint venture.

A Tenderer shall not be permitted to amend material elements of its proposals subsequent to Tender submission.

Each Tenderer shall submit one Tender for consideration by the Employer.

4.2 Tender Submission Arrangements

4.2.1 Each Tenderer shall ensure that its Tender submission is sent by either:

- (i) recorded delivery post; or
- (ii) recorded delivery (including couriers); or
- (iii) delivered by hand

in plain sealed packages in accordance with Section 4.3 which identifies further details of the Tender submission requirements.

The packages shall be clearly marked in accordance with item 1 of Appendix A to Instructions to Tenderers.

4.2.2 No package shall bear any mark indicating the Tenderer's identity.

If more than one package is delivered, each such package shall carry some random unifying code number and an indication of the number of packages in total (i.e. 1 of 2, 2 of 2).

4.2.3 The latest date and time for receipt by the Employer of the Tender submission shall be as identified in Item 1 of Appendix A to Instructions to Tenderers.

4.2.4 Tender submissions or queries received after the latest date and time for such identified in the Indicative Process Timetable (Annex A to Appendix A to Instructions to Tenderers) shall not be accepted for consideration and as relevant either the Tender submission shall be returned unopened to the sender or the query received will not be answered.

If Tender submissions are received after the identified latest date and time, the plain, sealed outer package will be opened to ascertain the Tenderer's name. Volume A, B and C will be returned unopened to the Tenderer.

4.2.5 Tender submissions will not be accepted by email or facsimile unless otherwise instructed in writing by the Employer's Contact Person.

4.2.6 Each Tenderer shall ensure that it obtains a signed, dated and timed receipt acknowledging delivery of the Tender from the Employer.

4.3 Format of Tender Submissions

4.3.1 The Tender submitted by each Tenderer shall be in three volumes as follows and with the number and type of copies as identified in section 4.3.6.

Volume A, B and C of the Tender submission shall contain those items shown in the following table:



Table 4.3.1 – Contents of Tender Volumes

VOLUME A OF THE TENDER SUBMISSION	
Volume Contents	Item Contents
Folder A1 - Master	<p>Signed originals of the completed Form of Tender and the signed and completed Appendices to Form of Tender all as the following:</p> <ul style="list-style-type: none"> (i) Form of Tender; (ii) Appendix A to Form of Tender; (iii) Appendix B to Form of Tender: Anti-Collusion Certificate; (iv) Appendix C to Form of Tender: Prompt Payment Certificate; (v) Appendix D to Form of Tender: Goods Vehicle Operator Licensing Certificate; (vi) Appendix G to Form of Tender: Certificate of Undertaking for Insurances; (vii) Appendix H to Form of Tender: Certificate of Undertaking for Undertakers Works; (viii) Appendix I to Form of Tender: Non-Conflict of Interest Certificate; (iv) Appendix J to Form of Tender: Certificate of Non-Canvassing; (x) Appendix K to Form of Tender: Clause 11 of Conditions of Contract; (xi) Appendix L to Form of Tender: Form of Parent Company Guarantee(s).
Folder A2 – Copy One	One photocopy of each of the original signed and completed documents in Folder A1 - Master.
Folder A3 – Copy Two	One photocopy of each of the original signed and completed documents in Folder A1 - Master.
Folder A4 – Copy Three	One photocopy of each of the original signed and completed documents in Folder A1 - Master.
Folder A5 – Copies Four to Seven (4 copies of CD)	4 CDs containing one signed and completed Record Format version and one completed Native Format version of each of the documents in Folder A1 - Master.



Table 4.3.1 – Contents of Tender Volumes (continued)

VOLUME B OF THE TENDER SUBMISSION	
Volume Contents	Item Contents
Folder B1 – Master	<u>Signed originals of the following (paper) documents:</u> (i) Quality Proposals
Folder B2 – Copy One	One photocopy of each of the signed documents in Folder B1 – Master
Folder B3 – Copy Two	One photocopy of each of the signed documents in Folder B1 – Master
Folder B4 – Copy Three	One photocopy of each of the signed documents in Folder B1 – Master
Folder B5 – Copies Four to Seven (4 copies of CD)	4 CDs containing one signed and completed Record Format version and one completed Native Format version of the document in Folder B1 - Master.

Table 4.3.1 – Contents of Tender Volumes (continued)

VOLUME C OF THE TENDER SUBMISSION	
Volume Contents	Item Contents
Folder C1 – Master	Signed and completed documents all as the following: <ul style="list-style-type: none"> (i) Appendix C to Instructions to Tenderers: Comparative Cost Of Tender; (ii) Appendix A to Form of Tender; (iii) Appendix E to Form of Tender: Total of Lane Occupation Charges (if used); (iv) Appendix F to Form of Tender:/Bill of Quantities Summary; (v) Bill of Quantities.
Folder C2 – Copy One	One photocopy of each of the signed documents in Folder C1 – Master
Folder C3 – Copy Two	One photocopy of each of the signed documents in Folder C1 – Master
Folder C4 – Copy Three	One photocopy of each of the signed documents in Folder C1 – Master
Folder C5 – Copies Four to Seven (4 copies of CD)	4 CDs containing one signed and completed Record Format version and one completed Native Format version of the document in Folder B1 - Master.

4.3.2 Each of the three volumes of the Tender submission shall be filed in a separate sealed envelope or package, with its contents clearly marked on the outside with the Tenderer's name and volume number,

4.3.3 Each Folder shall contain an index list for that Folder which shall be bound immediately inside the cover, including the page numbers of each folder.

Each Folder shall be clearly titled with the Tenderer's name, volume number, folder number and copy number for example [Tenderer X], Volume B, Folder B2, copy 2 of 3.

Each page of each folio shall be numbered clearly and sequentially.

The Tender submission shall not include any loose pages.

4.3.4 Drawings and charts and other parts of the Tender submission shall be numbered and a drawing list shall be included as part of the contents list.

Drawings and charts and the like shall not be larger than A1 size and shall be folded and inserted into pockets within the appropriate volume.

4.3.5 Each Tenderer shall nominate one copy of the Tender submission as the master copy.

The master copy of the Tender submission shall be used as the primary source of reference by the Employer during the review or evaluation process.

4.3.6 The Tender submission shall include:

- (i) one master copy of the Tender submission, clearly marked; and
- (ii) three copies of the Tender submission.

4.4 Further Requirements

4.4.1 The Tender submission shall:

- (i) contain all the documents identified in Table 4.3.1, and all such documents shall require to be completed and signed as relevant;
- (ii) be submitted in accordance with the Invitation and not be qualified in any way; and
- (iii) not include any covering letter or any statement(s) that could be construed as rendering the Tender submission equivocal or placing it on a different footing from any other Tender submission.

4.4.2 No unauthorised alteration or addition shall be made to the Invitation Documents as part of the Tender submission.

4.4.3 If the Tenderer is not the ultimate holding company in its corporate structure, the Tender submission shall also include a signed Parent Company Guarantee in respect of the Tenderer's performance of the Works in the form contained in Appendix L to Form of Tender – Form of Parent Company Guarantee. If the Tenderer is the ultimate holding company and not a subsidiary, then a Performance Bond will need to be provided.

4.4.4 If the Tenderer is a joint venture or a consortium then the Tender submission shall include a signed Parent Company Guarantee from each member of the joint venture or the consortium in respect of the Tenderer's performance of the Works in the form contained in Appendix L to Form of Tender – Form of Parent Company Guarantee.

4.4.5 The Employer's decision on the acceptability or otherwise of a Tender shall be final.

In respect of reaching any such decision the Employer is entitled but not required to consult with the Tenderer.

Any Tender which, in the opinion of the Employer, has been qualified may be excluded from any further consideration and the Tenderer notified in due course.

4.5 Pricing

4.5.1 Each Tenderer shall complete the Bill of Quantities and the Bill of Quantities Summary in Appendix F to Form of Tender.

4.5.2 Prices in the Tender shall be quoted in Pounds Sterling to two decimal places.

The terms 'nil' and 'included' shall not be used, but shall be indicated as '0.00'.

Prices shall be inserted against each element in the Bill of Quantities and Bill of Quantities Summary.

4.5.3 Should any question arise as to whether any price in the completed Bill of Quantities forming part of the Tender:

- (i) is abnormally low; or
- (ii) properly covers the full inclusive cost of the work;

then the Tenderer shall (if required by the Employer) provide breakdown of such price to the Employer and show that the Tenderer has properly included for the cost of each of the following:

- (i) Required materials;
- (ii) Labour;
- (iii) Contractor's Plant;
- (iv) Site overheads and staff both on and off Site; and
- (v) Any other properly incurred Cost

4.5.4 The Employer's decision, on whether any price in the completed Bill of Quantities or that the Price is abnormally low, the Tenderer having been given the opportunity to show otherwise, shall be at the absolute discretion of the Employer.

5. TENDER EVALUATION PROCESS

5.1 Introduction

- 5.1.1 This Section 5 explains for the guidance of each Tenderer the basis on which the Employer intends to evaluate Tender submissions.
- 5.1.2 In accordance with the Contract Notice published in the Public Contracts Scotland portal (www.publiccontractsscotland.gov.uk), Economic Operators, as listed in 1.1.5, have been invited to submit a Tender for the construction of the A83 Strone Point Improvement.
- 5.1.3 Subject to any other provisions of the Instructions, the Employer will evaluate the Tender submissions received on the basis of the Tender Evaluation Criteria identified in Section 5.2.
- 5.1.4 The Employer will not be bound to enter into any Contract with any Tenderer in connection with any Tender submission received.
- 5.1.5 The Employer is entitled but not obliged to require that particular aspects of a Tender submission be clarified or supplemented by any Tenderer, provided that this does not involve any changes to the basic features of the Tender submission.
- 5.1.6 Failure by any Tenderer to provide information to the level of detail required for the Employer to make a comparative evaluation of the Tender submissions may lead to the Employer rejecting a Tender submission.
- 5.1.7 The Employer will be entitled to treat any incomplete or ambiguous Tender submission (or errors in any such Tender submission) in such manner as the Employer shall determine at the absolute discretion of the Employer.
- 5.1.8 The submission of an incomplete or non-compliant Tender may result in the rejection by the Employer of any such submission at the absolute discretion of the Employer.
- 5.1.9 The Employer's decision on whether a Tender submission is compliant correctly completed and acceptable shall be at the sole discretion of the Employer.
- 5.1.10 The Employer will carry out due diligence and other checks on the Tender submission and subject to the other provisions of the Instructions will clarify any discrepancies and ambiguities in the Tender submissions as the Employer considers necessary.
- 5.1.11 Any decision of the Employer concerning the evaluation of the Tender submissions will be at the sole discretion of the Employer.
- 5.1.12 Subject to the other provisions of the Instructions, the most economically advantageous Tender shall mean the compliant Tender which, in the opinion of the Employer, offers the

best combination of identified quality aspects and price and which achieves the highest weighted aggregated Quality and Price score in the evaluation of Tender submissions.

- 5.1.13 In the event that following the completion of the Aggregated Quality and Price Score evaluation there are more than one compliant Tender submissions with the same Aggregated Quality and Price Score (measured to two decimal places) the successful Tenderer will be identified as the one with the lowest Price.
- 5.1.14 The four stages forming the evaluation of the Tender submissions shall be as follows:
- (i) Stage 1 – Compliance and Completeness Review and Check
 - (ii) Stage 2 – Quality Submission evaluation
 - (iii) Stage 3 – Financial Submission evaluation
 - (iv) Stage 4 – The Aggregate Quality and Price Score evaluation
- 5.1.15 Each Tender submission will be evaluated by the Employer using personnel who will make up the four separate panels as follows:
- (i) The compliance and completeness review and check panel – that will check that the submitted Tender documents correctly reflect the requirements as detailed in Table 4.3.1.
 - (ii) The quality panel – that will carry out the Quality Submission evaluation.
 - (iii) The financial panel – that will carry out the Financial Submission evaluation.
 - (iv) The aggregated quality and price score panel – that will carry out the Aggregated Quality and Price Score evaluation.

5.2 Tender Evaluation Criteria

- 5.2.1 This Section 5.2 contains the Tender submission evaluation criteria and the procedures for the evaluation of Tender submissions. Details of the packages of the Tender submission, the sections therein and the assessment methodology are shown in Table 5.1 below.

Table 5.1 – Overview of Assessment of Final Tender Submission

Tender Submission	Content of Package	Assessed By	Assessment Methodology
Volume A	(i) Form of Tender.	Compliance and Completeness Review and Check Panel	Pass/Fail
	(ii) Appendix A to Form of Tender.	Compliance and Completeness Review and Check Panel	Pass/Fail
	(ii) Appendix B to Form of Tender - Anti-Collusion Certificate.	Compliance and Completeness Review and Check Panel	Pass/Fail
	(iii) Appendix C to Form of Tender - Prompt Payment Certificate.	Compliance and Completeness Review and Check Panel	Pass/Fail
	(iv) Appendix D to Form of Tender – Goods Vehicle Operator Licensing Certificate	Compliance and Completeness Review and Check Panel	Pass/Fail
	(v) Appendix G to Form of Tender – Certificate of Undertaking for Insurance	Compliance and Completeness Review and Check Panel	Pass/Fail
	(vi) Appendix H to Form of Tender - Certificate of Undertaking for Undertakers Works	Compliance and Completeness Review and Check Panel	Pass/Fail

Table 5.1 – Overview of Assessment of Final Tender Submission			
Tender Submission	Content of Package	Assessed By	Assessment Methodology
	(vi) Appendix I to Form of Tender - Non-conflict of Interest Certificate	Compliance and Completeness Review and Check Panel	Pass/Fail
	(vii) Appendix J to Form of Tender – Certificate of Non-Canvassing	Compliance and Completeness Review and Check Panel	Pass/Fail
	(viii) Appendix K to Form of Tender - Clause 11 of Conditions of Contract	Compliance and Completeness Review and Check Panel	Pass/Fail
	(ix) Appendix L to Form of Tender - Parent Company Guarantee	Compliance and Completeness Review and Check Panel	Pass/Fail
Volume B	Quality Submission	Quality Panel	Scored
Volume C	(i) Appendix A to Form of Tender	Financial Panel	Pass/Fail
	(ii) Appendix E to Form of Tender - Lane Occupation Charges as Clause 75 of the Conditions of Contract (if required)	Financial Panel	Pass/Fail
	(iii) Appendix F to Form of Tender – Bill of Quantities Summary	Financial Panel	Pass/Fail
	(iv) Appendix C to Instructions to Tenderers - Comparative Cost of Tender	Financial Panel	Scored

Table 5.1 – Overview of Assessment of Final Tender Submission			
Tender Submission	Content of Package	Assessed By	Assessment Methodology
	(v) completed Bill of Quantities	Financial Panel	Pass/Fail

The four stages forming the evaluation of the Tender submission shall be as identified in section 5.1.14.

5.2.2 **Stage 1 – Compliance and Completeness Review and Check**

The Employer will carry out a review and check of those parts of the Tender submission included within Volume A. The Employer will satisfy itself that documents contained in these parts are complete, compliant and acceptable. The Tender submission evaluation criterion for such compliance, completeness and acceptability will be a **pass** or a **fail**. If, after having sought clarifications on any issues arising during the review and check, the Employer considers that the documents forming Volume A are not acceptable, the Tender submission shall be determined as a **fail**. In the event of a **fail** being determined, the Tender submission will be given no further consideration by the Employer. In such circumstances, the Tenderer shall be notified accordingly by the Employer, and the remaining parts of its Tender submission shall be retained by the Employer until the completion of all stages of the tender evaluation process, but will not be opened. On completion of this Stage 1 of the Tender submission evaluation procedure, the Employer will progress to Stage 2 as identified in section 5.2.3.

5.2.3 **Stage 2 – The Quality Submission Evaluation**

- (i) The **Quality Submission** means the completed documents that shall require to be submitted as part of each Tender.
- (ii) The Quality Submission evaluation questions that will be used by the Employer to determine the quality score awarded by the quality panel are detailed in the following Quality Submission Evaluation Criteria in Table 5.2 below.

Table 5.2 – Quality Submission: Evaluation Criteria

	Evaluation Criteria
(a)	<p>Management and Supervision</p> <p>Please give details of how you ensure your management and supervision staff have the experience and competencies to deliver this improvement scheme with particular reference to excavation in rock faces</p>
(b)	<p>Traffic Management Systems</p> <p>Please describe how the needs of all road users will be accommodated through the Traffic Management at this constrained site.</p>
(c)	<p>Consultation/ Community Engagement</p> <p>Please describe how you will ensure ongoing effective communication of the works to the community and all road users.</p>
(d)	<p>Health and Safety</p> <p>Please describe your organisation's arrangements for carrying out risk assessments capable of supporting safe methods of work and reliable contract delivery where necessary.</p>
(e)	<p>Sustainability/ Carbon Management</p> <p>Please give details of your approach to reducing carbon production throughout the construction phase of the works.</p>
(f)	<p>Environment and Ecology</p> <p>Please describe how you will comply with the requirements of working in close proximity to protected species and tidal waters.</p>
(g)	<p>Workforce Matters</p> <p>The Scottish Government (SG) believes that the delivery of a high quality public service is dependent on a workforce that is well-motivated, well rewarded and well led. SG itself has adopted workforce policies to meet these requirements. These policies include:</p> <ul style="list-style-type: none"> • a pay policy that includes a commitment to supporting the living wage for the duration of this parliament; • fair employment practices;

	<ul style="list-style-type: none"> • no inappropriate use of zero hours contracts; • no inappropriate use of “umbrella” companies; • support for learning and development; • a strong commitment to Modern Apprenticeships and to the development of Scotland’s young workforce. <p>In order to ensure the highest standards of service quality in this contract we expect contractors to take a similarly positive approach to workforce related matters as part of a fair and equitable employment and reward package.</p> <p>Question: Please describe how your organisation proposes to commit to being a best practice employer in this respect in the delivery of this contract.</p> <p>Your response should assure evaluators that your organisation values your workforce. It should demonstrate that you provide employees with sufficient opportunities to maintain motivation and provide appropriate financial reward. It should also demonstrate use of fair employment practices, all of which should be supported by measurable examples.</p>
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- (iii) Each of the questions shall be answered by the Tenderer.
- (iv) The Employer will review and evaluate that there is sufficient and satisfactory demonstration within each of the questions identified in section 5.2.3 (ii), that the Tenderer shall have understood the scope of the Works and has submitted sufficient information to demonstrate that the Tenderer has a strategy, and the approach, resources and commitment to permit the provision and performance of the Contract.
- (v) The Quality Submission evaluation criteria that will be used by the Employer to determine the quality score for each question are detailed in Table 5.3 below.
- (vi) Each quality panel member will award each completed and compliant question a whole number score out of 10 using the scoring system identified in Table 5.3.
- (vii) Following completion of the quality assessment of each Quality Submission the individual quality scores awarded by each quality panel member for each question will be averaged by the quality panel to determine the averaged score for each individual question. The average scores will be determined to two decimal places.

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- (viii) The Employer has set a minimum quality threshold for each question. The minimum quality threshold is set to 50% for each question as listed in Table 5.2. Any Quality Submission that fails to achieve these minimum quality threshold for any question or question category will be rejected.
- (ix) For Quality Submissions that are not rejected at this stage, pre-determined weightings, in accordance with Table 5.4 below shall then be applied to the scores awarded under each of the Tender Evaluation Criteria in order to provide an overall weighted average quality score.
- (x) The total quality score for each Quality Submission will be determined by totalling each of the weighted average question scores for each question.
- (xi) Following the scoring in accordance with section 5.2.3(ix) and 5.2.3(x), the quality panel will rank the Quality Submissions as follows:
- (a) the Quality Submission awarded the highest total quality score by the quality panel will be allocated 100.00 marks; and
 - (b) the other Quality Submissions will be allocated 100.00 marks, reduced by one mark (or part thereof to two decimal places) for each one percentage point (or part thereof to two decimal places) by which their total quality score awarded by the quality panel is lower than the highest total scored Quality Submission. Ranking marks will be determined to two decimal places.
- (xii) The marks awarded in section 5.2.3(x) will be the quality score element of the Aggregated Quality and Price Score.
- (xiii) The Employer reserves the right to require further clarification from the Tenderers during the period that the Quality Submission evaluation is taking place. The scored evaluation will take account of the responses received to any clarifications sought. All clarifications shall be provided in writing and will form part of the Quality Submission in the event that the Contract is awarded.
- (xiv) Should the Tenderer have failed to meet the threshold identified in section 5.2.3(viii), the Tender submission shall be given no further consideration. In such circumstance, the Tenderer shall be notified accordingly by the Employer and the remaining parts of its Tender submission shall be retained by the Employer until the end of the Tender Period, but will not be opened.
- (xv) On completion of this stage of the Tender submission evaluation procedure, the Employer will progress to Stage 3 as identified in section 5.2.4.

Table 5.3: Scoring of Each Part of the Quality Submission Listed in Table 5.2

Strength of Response	Description	Score
Poor	The Quality Submission fails to meet most or all of the requirements of the Invitation.	0
Weak	The Quality Submission fails to meet some of the requirements of the Invitation.	1-4
Acceptable	The Quality Submission meets most of the requirements of the Invitation.	5-6
Good	The Quality Submission meets, and exceeds, in some parts, the requirements of the Invitation.	7-8
Excellent	The Quality Submission meets, and exceeds in all or most parts, the requirements of the Invitation.	9-10

Table 5.4 Predetermined Weightings for the Quality Submission

Tender Quality Evaluation Criteria Categories		Weighting percent
(a)	Management and supervision	25%
(b)	Traffic Management Systems	10%
(c)	Consultation / Community Engagement	10%
(d)	Health and Safety	15%
(e)	Sustainability / Carbon Management	10%
(f)	Environment and Ecology	20%
(g)	Workforce Matters	10%
	Total	100%



5.2.5 Stage 3 - The Financial Submission Evaluation

- (i) For the purpose of the Financial Submission, the Financial Submission evaluation shall mean the evaluation of Volume C.

The Price means, for each Tender submission, the Comparative Cost of Tender entered in Appendix C to Instructions to Tenderers.

In respect of the Financial Submission evaluation the Employer shall review the consistency of the parts of the Tender submission identified in Table 4.3.1 with the requirements of the Instructions and the other Invitation Documents, together with determination of the parts of the Tender submission identified in Table 4.3.1 in order to identify to the Employer the ranking and scoring of the Price forming part of the Tender submission.

- (ii) The Employer will as part of the Financial Submission evaluation satisfy itself by carrying out supplementary checks on the correctness and completeness of the Price submission together with the submitted Annexes.

- (iii) Scoring of the Prices shall be applied as follows:

Following these checks for correctness and acceptability of the Financial Submission, Prices will be ranked as follows:

- (a) The lowest Price submitted will be allocated 100.00 marks by the financial panel; and
- (b) The remaining Prices submitted will each be allocated 100.00 marks by the financial panel, reduced by one mark (or part thereof to two decimal places) for each one percentage point (or part thereof to two decimal places) by which the Price exceeds the lowest Price. Ranking marks will be to two decimal places.
- (c) The marks awarded in section 5.2.5(iii) will be the Price score element of the Aggregated Quality and Price Score.
- (iv) The Employer will as part of the Tender Evaluation satisfy itself by carrying out supplementary checks on the correctness and completeness of the Price Submission Totals and associated documents including:
- (a) Appendix C to Instructions to Tenderers;
- (b) the relevant Appendices to Form of Tender; and
- (c) completed Bill of Quantities.
- (v) Any indication of a pricing strategy within a Tender which provides for substantial

payments at the outset of the Contract shall be examined carefully to decide whether or not a Tender in such form can be accepted by the Employer.

- (vi) If in the opinion of the Employer such substantial early payments appear excessive in relation to the requirements of the Contract the Employer will have the right to spread such proportion of the costs as are considered excessive over the duration of the construction completion and maintenance of the Works.
- (vii) In the case of discrepancies between or within the various appendices to the Form of Tender, the Employer will clarify the correct amounts prior to inserting such corrected amounts in the relevant Appendices to the Form of Tender.
- (viii) The Tender Sum, as inserted in the signed Appendix C to Instructions to Tenderers shall be equal to the Tender Sum inserted in the signed Appendix F to Form of Tender. Where the Measure and Value option is used, the Tender Sum as inserted in the signed Appendix C shall equal the total sum from the completed Bill of Quantities.

Where the two amounts shall not be equal, the Employer will clarify the correct amount to be inserted in the signed Appendix C to Instructions to Tenderers which shall be equal to the Tender Sum inserted in the signed Appendix F to Form of Tender.

- (ix) The Lane Occupation Charges entered in the signed Appendix C to Instructions to Tenderers shall equal the Lane Occupation Charges inserted in the signed Appendix E to Form of Tender.

Where the Lane Occupation Charges shall not be equal, the Employer will clarify the correct Lane Occupation Charges to be inserted in the signed Appendix C to Instructions to Tenderers which shall reflect the Lane Occupation Charges entered in the signed Appendix E to Form of Tender.

- (x) The number of days for Time for Completion for the Whole of the Works entered in the signed Appendix C to Instructions to Tenderers shall equal the number of days inserted in the signed Appendix A to Form of Tender for Time for Completion for the Whole of the Works.

Where the number of days for Time for Completion for the Whole of the Works shall not be equal, the Employer will clarify the correct number of days and the amount inserted in the signed Appendix C to Instructions to Tenderers for Time for Completion for the Whole of the Works which shall reflect the number of days entered in the signed Appendix A to Form of Tender for Time for Completion for the Whole of the Works.

-
- (xi) On completion of this Stage 3 procedure, the Employer will progress to Stage 4 as identified in section 5.2.6.

5.2.6 **Stage 4 - The Aggregated Quality and Price Score Evaluation**

- (i) Each Tender submission shall be evaluated on the basis of an **Aggregated Quality and Price Score** determined by the Employer.
- (ii) The Aggregated Quality and Price Score will be the sum of the weighted quality score (to two decimal places) and the weighted Price score (to two decimal places). The Aggregated Quality and Price Score will also be determined to two decimal places.
- (iii) The weighting applied to **Quality Score** will be **10** percent.
- (iv) The weighting applied to **Price Score** will be **90** percent.
- (v) The aggregated Quality Scores and Price Scores of each Tenderer shall then be ranked to identify the highest ranked and therefore to identify the most economically advantageous Tender to the Employer.
- (vi) The Employer will determine the final ranking of Tenderers and the most economically advantageous Tender to the Employer using the Aggregated Quality and Price Score.

In the determination by the Employer of the most economically advantageous Tender, account will be taken of the provisions of section 5.1.13.



6. CHANGE IN CONTROL**6.1 Change in Control**

6.1.1 Notwithstanding any other provisions of these Instructions, the Employer may, at any time, by notice in writing prior to awarding the Contract, disqualify any Tenderer or reject any Tender and give it no further consideration if there shall have been a Change in Control of that Tenderer.

For the purposes of this Invitation to Tender, "**Change in Control**" means in relation to a Tenderer, either:

- (i) 30 percent or more of the total votes attaching to the share capital as issued at that time by the Tenderer or its holding company shall have been acquired by or transferred, whether directly or indirectly, to a person, company or group; or
- (ii) where that Tenderer has become a subsidiary of another corporate body (which shall not be a subsidiary of the current holding company of that party).



APPENDIX A TO INSTRUCTIONS TO TENDERERS

PARTICULAR INSTRUCTIONS TO TENDERERS INFORMATION



**APPENDIX A TO INSTRUCTIONS TO TENDERERS
PARTICULAR INSTRUCTIONS TO TENDERERS INFORMATION**

Item Number	Description of Item	Information
1	Tender Submissions	<p>TENDER FOR:</p> <p style="text-align: center;">A83 Strone Point Improvement Scheme</p> <p>Addressed to:</p> <p style="text-align: center;">The Scottish Ministers : Transport Scotland, Reception (9th Floor), Buchanan House, 58 Port Dundas Road, Glasgow. G4 0HF.</p> <p>For the attention of: Procurement Support Manager so as to arrive not later than [REDACTED]</p>
2	Indicative Process Timetable	Refer to Appendix A - Annex A (timetable generally indicative and may be subject to change)
3	Communications	<p>The Employer's Contact Person shall be:</p> <p style="text-align: center;">[REDACTED] Transport Scotland, Trunk Roads & Bus Operations, Buchanan House, 58 Port Dundas Road, Glasgow. G4 0HF.</p> <p>Telephone Number: [REDACTED] e-mail address: [REDACTED] transport.gov.scot</p> <p>All communications shall be addressed to the Employer's Contact Person.</p>
4	Background and other Information	Refer to Appendix B to Instructions to Tenderers

APPENDIX A TO INSTRUCTIONS TO TENDERERS
ANNEX A
INDICATIVE PROCESS TIMETABLE

Activity	Date
INVITATION TO TENDER (Commencement of Tender Period)	
Invitation to Tender	██████████
Latest date for submission of Tender Period Queries and Confidential Tender Period Queries	██████████████████
Latest date and time for submission of Tenders	██████████████████
Anticipated Date of Award of Contract	██████████████



APPENDIX B TO INSTRUCTIONS TO TENDERERS
BACKGROUND INFORMATION

Each Tenderer shall be provided with relevant background information which shall include but not be limited to the information listed in section (b) of this Appendix. All information supplied to each Tenderer prior to and during the tender preparation period, and post Tender submission, is supplied without warranty and does not form part of the Tender documents and shall not be deemed to form part of any contract subsequently awarded by the Employer.

The Employer shall be under no liability for any error, misstatement or omission, and none of such information shall constitute a Contract or part of a Contract.

Background Information Supplied to Tenderers – all contained within the Information Pack and provided in electronic format on discs

- i) Design and Survey GENIO Data
- ii) Design and Survey Data in .xml Format
- iii) Geotechnical Factual Report
- iv) Statutory Authority C4 Information
- v) Topographical Survey GENIO Data
- vi) Topographical Survey DWG
- vii) Schedule of Principal Quantities (Excel and .pdf version)
- viii) E P S Licence and Supporting Information (UNSIGNED)
- ix) Appendix C to Vol4 Record of Determination
- x) Site Waste management Proforma

**APPENDIX C TO INSTRUCTIONS TO TENDERERS
COMPARATIVE COST OF TENDER**

(This Appendix C shall be completed by the Tenderer and returned as part of the Tender submission).

THIS APPENDIX SHALL BE TAKEN INTO ACCOUNT BY THE EMPLOYER FOR THE SOLE PURPOSE OF COMPARING AND ASSESSING THE OFFERS MADE BY EACH TENDERER.

	Tender Sum (as entered by Tenderer in Appendix F to Form of Tender)		£.....**
A	Total of Lane Occupation Charges	Not Applicable	£.....**
B	Engineer's Work (Time for Completion for The Whole of the Works) 140 Days	**..... no of days at £ [redacted] per day. From Appendix A of Form of Tender	£.....**
	COMPARATIVE COST OF TENDER (excluding VAT)		£.....**

** Tenderer shall insert required figure

*** Enter name of Tenderer

Dated this..... day of
 Signature in the capacity of
 Name(print in BLOCK CAPITALS)

Duly authorised to sign the Tender and give information for Comparative Costs of Tender for and on behalf of:

***

Postal Address:

Telephone Number: Facsimile Number:

Company Registered No:



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APPENDIX D TO INSTRUCTIONS TO TENDERERS
OUTLINE HEALTH & SAFETY PLAN



APPENDIX D TO INSTRUCTIONS TO TENDERERS (continued)
OUTLINE HEALTH & SAFETY PLAN

(REFER TO INFORMATION PACK)





WORKS CONTRACT

**Measure and Value Model Document - Employer's Design -
Bonus for Early Completion or Charge for Continued Site
Occupation**

Conditions of Contract

A83 Strone Point Improvement Scheme

Volume 1a Conditions of Contract

	Name	Signature	Date
Prepared By	██████████ ██████████)	██████████████████	██████████
Checked By	██████████ ██████████████████	██████████	██████████
Approved By	██████████ ██████████)	██████████	██████████

DOCUMENT ISSUE RECORD

Amendment Number	Issue Date	Details of Document Issued

I hereby confirm that the above revision pages have been incorporated in the Form of Tender

Signed _____

Name _____

Date _____

Company _____

Note: This page to be signed and incorporated into the document.

Copy of signed page to be sent to The Scottish Ministers, Transport Scotland, Trunk Roads: Network Management, 8th Floor, Buchanan House, 58 Port Dundas Road, Glasgow, G4 0HF



CONTRACT NUMBER [REDACTED]

A83 STRONE POINT IMPROVEMENT SCHEME

INVITATION TO TENDER DOCUMENT

VOLUME 1(a)

CONDITIONS OF CONTRACT

**Measure and Value Model Works Contract Document
Employer's Design - Bonus for Early Completion or Charge
for Continued Site Occupancy**



2.1 CONDITIONS OF CONTRACT

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1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

1.1.1 In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires:

Adjudicator has the meaning given to it in Clause 66;

Apparatus shall mean all services, supplies, equipment and plant insofar as controlled, managed, operated or owned by an Undertaker;

As Constructed Requirements means the information, data and records to be provided by the Contractor as set out in the Specification to enable the Engineer to compile the As Built Records for the project, such information may take the form of sketches, plans and drawings and any other such information such that the Engineer may reasonably request to record all amendments made to the Construction Issue drawings identified in Appendix 0/4 of the Specification along with any other additional details supplied by the Contractor to construct the Works and any certificates required to be provided;

Bill of Quantities means the priced and completed Bill of Quantities;

Bond and Undertaking means the bond and undertaking in the form set out in Annex 1A to these Conditions of Contract to be provided in respect of the Contractor to the Employer pursuant to Clause 10;

Certificate of Completion has the meaning given to it in Clause 48;

Carbon Management System means the process to enable the recording and assessment of the carbon impact of materials, energy, waste and transport consumption data for the Contract;

CIS means the HMRC Construction Industry Scheme as set out in Finance Act 2004 and the Income Tax (Construction Industry Scheme) Regulations 2005;

Contract means these Conditions of Contract, the Drawings, the Specification, the Contractor's Submission, Bill of Quantities and the Letter of Acceptance;

Contract Date means the date of issue of the Letter of Acceptance;

Contract Price means the sum to be ascertained and paid in accordance with the provisions hereinafter contained for the Works in accordance with the Contract;

Contractor means the person or persons, firm or company whose Tender has been accepted by the Employer and includes the Contractor's personal representatives successors and permitted assignees;

Contractor Party means:

- (i) any officer, servant, employee or agent of the Contractor;
- (ii) any contractor or sub-contractor of the Contractor of any tier and any of their officers, servants, employees or agents; and/or
- (iii) any person on the Site in connection with the Works at the express or implied invitation of the Contractor or any other Contractor Party other than the Employer;

Contractor's Programme has the meaning given to it in Clause 14;

Contractor's Submission means the Tender and all documents forming part of the Contractor's offer including the Bill of Quantities together with such modifications and additions thereto as may be agreed between the parties prior to the Contract Date;

Constructional Plant means all appliances or things of whatsoever nature required in or about the construction of the Works but does not include materials or other things intended to form or forming part of the Permanent Works;

Date of Commencement of the Works means the date specified in Appendix A to the Form of Tender or if no date is specified, a date not later than 14 days after the Contract Date, to be notified to the Contractor by the Engineer in writing. The Date of Commencement of the Works is the date on which the Time for Completion from Appendix A to the Form of Tender commences;

Date of Completion of the Works means the date of issue of the Certificate of Completion of the Works in accordance with Clause 48.1;

Disputes Resolution Procedure means the procedure identified in Clause 66 and in Annex 2 to these Conditions of Contract;

Drawings mean:

- (i) the drawings identified in the Specification; and
- (ii) the drawings prepared in the Temporary Works Design by or on behalf of the Contractor; and
- (iii) any modification of such drawings approved in writing by the Engineer; and
- (iv) such other drawings as may from time to time be furnished by the Engineer or the Contractor;

Employer means The Scottish Ministers, Transport Scotland, Buchanan House, 58 Port Dundas Road, Glasgow, G4 0HF and includes the Employer's personal representatives or successors;

Employer's Authorised Representative means the Contractor, who shall act on behalf of the Employer in respect of the Employer's obligations under the Special Requirements in Relation to Undertakers' Works;

Engineer means BEAR Scotland Ltd. or such other engineer appointed from time to time by the Employer and notified in writing to the Contractor to act as Engineer for the purposes of the Contract in place of the said Engineer;

Engineer's Representative means a person being the resident engineer or assistant of the Engineer appointed from time to time by the Employer or the Engineer and notified in writing to the Contractor by the Engineer to perform the functions set forth in Clause 2.1;

Exceptions has the meaning given to them in in Clause 21.2.1;

Excepted Risks means those excepted risks identified in Clause 20.2.1;

Form of Tender means the form of final tender issued by the Employer to the Contractor prior to the Contract Date;

Good Industry Practice means using standards, practices, methods and procedures conforming to law;

Health and Safety File Requirements means the information, data, records and certificates to be provided by the Contractor to the principal designer (as defined in Clause 76) as set out in the Specification and as may be requested by the principal

designer to enable the principal designer to compile the Health and Safety File (as referred to in Clause 76) for the Works.

Indicative Schedule of Undertakers' Works means the indicative schedule of undertakers' works identified in Appendix 1/16 of the Specification;

Land Made Available by the Employer for the Works means the land made available by the Employer for the Works identified on the drawings listed in Appendix 0/4 of the Specification under the title "Land Made Available by the Employer for the Works" as adjusted from time to time;

Legislation means:

- (i) any Act of Parliament, including any local, personal or private Act of Parliament, any subordinate legislation (as that expression is defined in section 21(1) of the Interpretation Act 1978), any exercise of the Royal Prerogative and any enforceable community right (as that expression is defined in section 2 of the European Communities Act 1972) and any bylaws, statutory instruments, orders, notices, directions, codes of practice or Permissions properly and lawfully made or given under any of the foregoing (including any legislation enacted by any Scottish Parliament or assembly or similar body and any subordinate or delegated legislation made by the Scottish Ministers or other person deriving authority from such legislation); and
- (ii) any regulation, practice or concession or official directive, ruling, request, notice, guideline, statement of policy or practice by any relevant legislative authority, the European Union, governmental, local, international, national or other competent authority or agency (whether or not having the force of law in respect of which compliance by contractors is generally customary);

Letter of Acceptance means the Employer's letter to the Contractor accepting the Tender;

Maintenance Certificate means the certificate to be issued by the Engineer in accordance with Clause 61;

Network Rail means Network Rail Infrastructure Limited registered in England and Wales under company number 2904587 and having its registered office at Kings Place, 90 York Way, London N1 9AG or any company which is a member of Network Rail Group and holds properties for railway purposes;

New Roads and Street Works Act means the New Roads and Street Works Act 1991;

Parent Company Guarantee means the guarantee of the obligations and liabilities of the Contractor under this Contract by the Contractor's ultimate holding company in the form set out in Appendix L to the Form of Tender;

Party means either the Contractor or the Employer as the case may be and Parties shall be construed accordingly;

Period of Maintenance has the meaning given to it in Clause 49.1;

Permanent Works means the permanent works to be constructed completed and maintained in accordance with the Contract;

Permissions means all:

- (i) permits, licences, registrations, consents, approvals, permissions, warrants and relaxations which are required by Legislation; and
-

(ii) third party consents which require to be obtained;

in respect of the Works and all other obligations under the Contract;

Pollution means all pollution or contamination arising as a consequence of the Works of water or land or the atmosphere resulting from the discharge, dispersal, release or escape of smoke, vapours, fumes, acids or gases, waste material or other irritants, contaminants or pollutants which results in nuisance, losses, damage or bodily injury however caused as a consequence of such pollution or contamination;

Private Apparatus means all apparatus that would otherwise fall within the meaning of Apparatus including services, supplies, equipment plant or the like but which is not controlled, managed, operated or owned by an Undertaker;

Private Apparatus Works means any Works in relation to any Private Apparatus that are required for the purpose of the Works but does not include any Undertakers Works;

Quality Management System means a quality management system which meets the requirements of BS EN ISO 9001, BS EN ISO 14001 and OHSAS 18001 and the other provisions of the Contract;

Reinforced Soil means any part of the Works comprising a mass of bulky material of fragmented form (including frictional, cohesive frictional and cohesive material) having tensile reinforcing elements embedded in the mass so that the elements interact with the material to stabilise it, and includes any facing which may be provided for such part of the Permanent Works;

Relevant Organisation means an organisation as referred to in Clause 77 of these Conditions of Contract;

Required Insurance means any or all (as the case may be) of the policies of insurance which the Contractor is from time to time contractually obliged to the Employer to put in place and maintain in accordance with any other provision of the Contract such including, but not being limited to, those set out in Annex 3 to these Conditions of Contract;

Section means a part of the Works separately identified in Appendix A to the Form of Tender;

Site means the lands and other places on under in or through which the Works including the Undertakers' Works are to be executed and includes:

- (i) the Land Made Available by the Employer for the Works;
- (ii) the land provided by the Contractor for the Permanent Works and the Temporary Works including the land required by the Contractor for all site offices (including offices provided for the Engineer) storage areas, construction compounds, car parking areas; and
- (iii) land provided by the Employer or any roads authority to the Contractor at the Contractor's written request for the purposes of the Contractor carrying out temporary traffic management schemes for the execution of the Works [such land restricted to land contained within the trunk road boundary and], which is additional to the Land Made Available by the Employer for the Works;

Site Waste Management Plan means procedures and objectives for reducing, reusing and recovering waste materials resulting from the Works;

Special Requirements means the published requirements of the Relevant Organisations as detailed in the Specification;

Specification means the Specification identified in the Contract and any modification thereof or addition thereto as may from time to time be furnished or approved in writing by the Engineer, and which includes, but is not limited to, the drawings identified in Appendix 0/4 to the Specification;

Temporary Works means all temporary works of every kind (and shall include, as a minimum, the Temporary Works Design) required in order to facilitate the Permanent Works;

Temporary Works Design means the design of the Temporary Works to be procured by the Contractor;

Tender means all documentation provided by the Contractor as part of its Tender submission including the completed Form of Tender and Bill of Quantities together with such modifications and additions thereto as may be agreed between the parties prior to the Contract Date;

Tender Total means the amount inserted by the Contractor or deemed to be inserted by the Contractor in the Form of Tender at the date of the Letter of Acceptance;

Town and Country Planning (Scotland) Act means the Town and Country Planning (Scotland) Act 1997;

Traffic Signs Manual means the Traffic Signs Manual published by the Stationery Office Limited as amended and updated from time to time;

Training and Employment Opportunities Plan means the procedures and objectives for training and employment of staff;

Undertaker means those persons, statutory bodies, undertakers and other companies falling within the definitions identified in section 107(4) in the New Roads and Street Works Act and/or sections 214, 224 and 225 of the Town and Country Planning (Scotland) Act 1997;

Undertakers' Works means the works of any Undertaker required for the purpose of the Works but does not include any Private Apparatus Works;

Uninsurable means, in relation to a risk, that insurance is not available in respect of the Works in the worldwide insurance market with reputable insurers of good standing in respect of that risk;

Working Day means a day (other than a Saturday and Sunday or bank holiday or public holiday, except where otherwise stated in the Specification) when banks are open for business in Scotland or would be open other than for occurrence of an industrial dispute or force majeure;

Works means the Permanent Works together with the Temporary Works.

1.2 Singular and Plural and Gender

1.2.1 Words importing the singular also include the plural and vice-versa where the context requires.

1.2.2 Words in any gender include all genders.

1.3 Headings and Marginal Notes

The headings and marginal notes in these Conditions of Contract shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

1.4 Clause References

All references herein to Clauses, sub clauses, annexes or paragraphs are references to Clauses, sub clauses, annexes or paragraphs in these Conditions of Contract except where it is expressly stated to the contrary.

1.5 Interpretation

1.5.1 The word **cost** when used in these Conditions of Contract shall be deemed to include overhead costs whether on or off the Site except where the contrary is expressly stated.

1.5.2 Terms such as **including, including in particular, including but not limited to, including without limitation, such as** and **for example** are not to be read as exhaustive, or to limit, but may extend, the generality of the provisions to which they relate.

1.5.3 References to a **day** shall mean a calendar day.

1.5.4 References to a **week** shall mean a calendar week.

1.5.5 References to a **month** shall mean a calendar month.

1.5.6 Any reference to any Legislation shall be construed as a reference to the relevant piece of Legislation as from time to time amended, extended or re-enacted and to include any bylaws, statutory instruments, rules, regulations, orders, notices, directions, directives or Permissions made or given thereunder.

1.5.7 References to **approval** or **consent** or cognate expressions shall mean confirmation for the purposes of the Contract. None of (i) the giving of any such confirmation (ii) the withdrawal of any such confirmation or (iii) the failure to withdraw any such confirmation shall (a) relieve the Contractor of any of his duties or responsibilities under the Contract (b) put any obligation on the Employer in respect of the Contract or (c) be deemed to constitute acceptance by the Employer except where expressly provided for in the Contract or notified by the Employer to the Contractor.

1.5.8 Communications which under the Contract are required to be in writing, may be hand written, typewritten or printed and sent by hand, post, email, facsimile or other means resulting in a permanent record.

2. ENGINEER'S REPRESENTATIVE

2.1 Functions and Powers of Engineer's Representative

The functions of the Engineer's Representative are to watch and supervise the construction completion and maintenance of the Works. He shall have no authority to relieve the Contractor of any of his duties or obligations under the Contract nor except as expressly provided hereunder to order any work involving delay or any extra payment by the Employer nor to make any variation of or in the construction, completion and maintenance of the Works.

2.2 Appointment of Assistants

The Engineer or the Engineer's Representative may appoint any number of persons to assist the Engineer's Representative in the exercise of his functions under sub clause 2.1. He shall notify to the Contractor the names and functions of such persons. The said assistants shall have no power to issue any instructions to the Contractor save in so far as such instructions may be necessary to enable them to discharge their functions and to secure their acceptance of materials or workmanship as being in accordance with the Specification and Drawings and any instructions given by any of them for those purposes shall be deemed to have been given by the Engineer's Representative.

2.3 Delegation by Engineer

The Engineer may from time to time in writing authorise the Engineer's Representative or any other person responsible to the Engineer to act on behalf of the Engineer either generally in respect of the Contract or specifically in respect of particular Clauses of these Conditions of Contract and any act of any such person within the scope of his authority shall for the purposes of the Contract constitute an act of the Engineer. Prior notice in writing of any such authorisation shall be given by the Engineer to the Contractor. Such authorisation shall continue in force until such time as the Engineer shall notify the Contractor in writing that the same is determined. Provided that such authorisation shall not be given in respect of any decision to be taken or certificate to be issued under Clauses 12 44, 48, 60.3, 61, 63 and 66.

2.4 Reference to Engineer or Engineer's Representative

If the Contractor shall be dissatisfied by reason of any instruction of any assistant of the Engineer's Representative duly appointed under sub clause 2.2 he shall be entitled to refer the matter to the Engineer's Representative who shall thereupon confirm reverse or vary such instruction. Similarly if the Contractor shall be dissatisfied by reason of any act of the Engineer's Representative or other person duly authorised by the Engineer under sub clause 2.3 he shall be entitled to refer the matter to the Engineer for his decision.

3. ASSIGNATION

The Contractor shall not assign the Contract or any part thereof or any benefit or interest therein or thereunder without the written consent of the Employer.

4. SUB-LETTING

The Contractor shall not sub-let the whole of the Works. Except where otherwise provided by the Contract the Contractor shall not sub-let any part of the Works without the written consent of the Engineer and such consent if given shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts defaults and neglects of any sub-contractor his agents servants or workmen as fully as if they were the acts defaults or neglects of the Contractor his agents servants or workmen. Provided always that the provision of labour on a piece-work basis shall not be deemed to be a sub-letting under this Clause

5. CONTRACT DOCUMENTS

5.1 Conflicts in Documents Supplied by Employer

5.1.1 In the event of any conflict between these Conditions of Contract and any other of the documents contained in the Contract these Conditions of Contract shall prevail.

5.1.2 In the event of any conflict within or between any of the documents comprising the Contract the interpretation which shall give the safest and most conservative result as determined by the Employer shall prevail and the Contractor shall be required to adhere to this requirement. The Contractor shall be obliged to implement the Employer's decision pursuant to this Clause 5.1.2 at the Contractor's cost.

5.2 Conflicts in Documents Supplied by Contractor

5.2.1 In the event of any conflict within or between any documents supplied by the Contractor for the purposes of the Contract the same shall be resolved by the Engineer in consultation with the Contractor and the Employer and the resolution of the same shall be confirmed in writing by the Engineer to both the Employer and the Contractor and any consequential alteration of the Permanent Works shall be subject to the approval of the Engineer, and shall be at the Contractor's cost.

6. DOCUMENTS AND INFORMATION

6.1 Supply of Documents

Upon issue of the Letter of Acceptance two copies of the drawings identified in the Specification, these Conditions of Contract, and the Specification shall be furnished to the Contractor free of charge. Copyright of these documents and the Bill of Quantities (but not the pricing thereof) shall remain in the Employer but the Contractor may obtain or make at his own expense any further copies required by him for the purposes of the Contract. At the completion of the Contract the Contractor shall return to the Engineer all copies of these documents whether provided by the Engineer or obtained or made by the Contractor. Similarly copyright in any documents and drawings supplied by the Contractor shall remain with the Contractor but the Employer and the Engineer shall have full power to reproduce and use the same for the purposes of completing, operating, maintaining, dismantling, reassembly repair alteration and adjustment of the Works and the completed Works.

6.2 Information Supplied by Contractor

Prior to the date of issue of each Certificate of Completion pursuant to Clause 48 the Contractor shall supply to the (i) Engineer all of the information required to comply with the As Constructed Requirements and (ii) principal designer all of the Health and Safety File Requirements relevant to each such Certificate of Completion. The Engineer shall be the sole judge of the adequacy of the aforesaid information and Health and Safety File Requirements for the purposes concerned and the supply of the information shall not be held to be complete until the Engineer has so confirmed in writing. Within 7 days from the end of the Period of Maintenance the Contractor shall supply to the Engineer all the information required to comply with the As Constructed Requirements relevant at such Period of Maintenance. The Engineer shall be the sole judge of the adequacy of the aforesaid information for the purposes concerned and the supply of the information shall not be held to be complete until the Engineer has so confirmed in writing.

6.3 Disputes not applicable

Clause 66 shall not apply to any dispute difference or question arising under sub clause 6.2.

6.4 Contractor's Responsibilities

The Contractor shall be deemed to have made due allowance in his Tender for complying with the requirements of Clauses 5, 6 and 7 and no financial adjustment in favour of the Contractor shall be made in respect of application of these requirements.

7. FURTHER INFORMATION

7.1 Further Drawings and Information

The Engineer shall have full power and authority to supply and shall supply to the Contractor from time to time during the progress of the Works such modified or further drawings, specifications and instructions as shall in the Engineer's opinion be necessary for the purpose of the proper and adequate construction, completion and maintenance of the Works and the Contractor shall carry out and be bound by the same.

7.2 Further Particulars required by Contractor

7.2.1 The Contractor shall upon receipt from the Engineer of any drawing or specification or instruction examine the same and determine with due diligence any further particulars he requires from the Engineer concerning the same or relating thereto.

7.2.2 The Contractor shall give sufficient notice in writing to the Engineer of any further particulars or of any further drawing or specification that the Contractor may require for the construction completion and maintenance of the Works or otherwise under the Contract and thereupon he shall notify the Engineer of other further requirements.

7.3 Delays and Costs caused by failure of Engineer

If by reason of any failure or inability of the Engineer (other than consequent upon failure of the Contractor to comply with sub clause 7.2) to issue at a time reasonable in all the circumstances drawings, specifications or instructions requested by the Contractor and considered necessary by the Engineer in accordance with sub clause 7.1 the Contractor suffers delay or incurs cost then the Engineer shall take such delay into account in determining any extension of time to which the Contractor is entitled under Clause 44 and the Contractor shall subject to Clause 52.1.1 be paid in accordance with Clause 60 the amount of such cost as may be reasonable. If such drawings specifications or instructions require any variation to any part of the Works the same shall be deemed to have been issued pursuant to Clause 51.

7.4 One copy of Documents to be kept on Site

One copy of the Drawings and Specification furnished to the Contractor as aforesaid shall be kept by the Contractor on the Site and the same shall at all reasonable times be available for inspection and use by the Engineer and the Engineer's Representative and by any other person authorised by the Engineer in writing.

8. GENERAL OBLIGATIONS

8.1 Contractor's General Responsibilities

8.1.1 The Contractor shall, subject to the other provisions of the Contract:

-
- (i) carry out and be responsible for the Temporary Works Design;
 - (ii) construct, complete and maintain the Works; and
 - (iii) provide all labour materials Constructional Plant, Temporary Works, transport to and from and in or about the Site and everything whether of a temporary or permanent nature required in and for such construction completion and maintenance so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.

8.2 Design Responsibility

The Contractor shall not be responsible for the design or specification of the Permanent Works or any part thereof. The Contractor shall be responsible for the Temporary Works Design and shall carry out the same in accordance with the requirements of the Contract. The Contractor shall exercise all reasonable skill care and diligence in designing any part of the Temporary Works.

8.3 Contractor Responsible for Safety of Site Operations

8.3.1 The Contractor shall take full responsibility for the adequacy stability and safety of all Site operations.

8.3.2 The Contractor shall construct, complete and maintain the Works (including the selection of materials and plant for incorporation in the Works to the extent that these are not specified in the Specification) in accordance with the requirements and standards identified in this Contract and further shall ensure that the Works are developed and implemented:

- (i) in accordance with Good Industry Practice; and
- (ii) so as to ensure that all agreed specifications and methodologies are met and that the Works meet the requirements of the Contract.

8.4 Procedure for Temporary Works Certificates

Without prejudice to the other provisions of the Contract, the Contractor shall in connection with all Temporary Works submit to the Engineer prior to the commencement of the relevant parts of the Works a certificate or certificates in the form prescribed in sub clause 8.5. Each certificate shall be signed by an engineer with appropriate qualifications and experience who has not been concerned with the original design of the element of the Contractor's erection proposals and details of Temporary Works to which the certificate relates.

8.5 Form of Temporary Works Certificates

The certificate required under sub clause 8.4 shall be in the following form:

"I certify, but without undertaking any responsibility other than towards *[insert name of Contractor]*, that in my opinion the Contractor's erection proposals and proposed Temporary Works details specified in the schedule attached hereto relating to the part of the Works listed therein for the Construction of *[insert title of Contract]* are satisfactory for the proper discharge of his responsibilities under the Contract for the safety of the said part of the Works and for their safe execution in accordance with the Drawings and Specification and without detriment to the related Permanent Works".

8.6 Engineer Provides Design Criteria

The Engineer shall provide to the Contractor such design criteria relevant to the Permanent Works having been designed by the Engineer or supplied by the

Employer as may be necessary to enable the Contractor to comply with sub clause 8.4.

9. NOT USED

10. BOND AND UNDERTAKING AND PARENT COMPANY GUARANTEE

The Contractor shall not later than the Date of Commencement of the Works procure and deliver to the Employer the Bond and Undertaking and the Parent Company Guarantee both validly executed in a self-proving manner by (i) in relation to the Bond and Undertaking, an insurance company or bank (such insurance company or bank being acceptable to the Employer and (ii) in relation to the Parent Company Guarantee by the Contractor's ultimate holding company. Prior to preparing the execution of the Bond and Undertaking the Contractor shall submit the proposed Bond and Undertaking, including the name of the granter thereof for the prior acceptance of the Employer. The obtaining of the Bond and Undertaking and the Parent Company Guarantee and all costs incurred thereby are the responsibility of the Contractor.

If the Contractor is in breach of his obligations under the Clause to deliver the Bond and Undertaking and or the Parent Company Guarantee by the Date of Commencement of the Works and, notwithstanding any other provision in this Contract, the Employer shall not be liable to make any payment under this Contract until such time as such breach has been remedied by the provision of such Bond and Undertaking and or Parent Company Guarantee. The final date of any payment to the Contractor under this Contract shall be postponed to the date which is 14 days after the date on which the breach has been remedied.

11. CONTRACTOR'S SATISFACTION

11.1 Inspection of Site

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and to have satisfied himself before submitting his Tender as to the nature of the ground and sub-soil (so far as is practicable having taken into account any information in connection therewith which may have been provided by or on behalf of the Employer) the form and nature of the Site the extent and nature of the work and materials necessary for the construction completion and maintenance of the Works, the means of communication with and access to the Site, the accommodation he may require and in general to have obtained for himself all necessary information as to risks contingencies and all other circumstances influencing or affecting his Tender.

11.2 Verification of Undertaker's Works and Private Apparatus Works

The Contractor shall be deemed to have verified the adequacy of the information relating to the Undertakers' Works and Private Apparatus Works for the purpose of the obligations under the Contract, including those obligations in respect of the Special Requirements in relation to Undertakers' Works.

11.3 Sufficiency of Tender

The Contractor shall be deemed to have satisfied himself before submitting his Tender as to the correctness and sufficiency of its rates and prices in the Tender

which shall (except so far as it is otherwise provided in the Contract) cover all his obligations under the Contract.

12. PHYSICAL CONDITIONS AND ARTIFICIAL OBSTRUCTIONS

12.1.1 If during the construction completion and maintenance of the Works the Contractor shall encounter physical conditions (other than weather conditions or conditions due to weather conditions) or artificial obstructions which conditions or obstructions he considers could not have been foreseen by an experienced contractor and the Contractor is of the opinion that additional cost will be incurred which would not have been incurred if the physical conditions or artificial obstructions had not been encountered he shall if he intends to make any claim for additional payment give notice to the Engineer pursuant to Clause 52.

12.1.2 The Contractor shall specify in such notice the physical conditions and/or artificial obstructions encountered and with the notice if practicable or as soon as possible thereafter give details of the anticipated effects thereof the measures he is taking or is proposing to take and the extent of the anticipated delay or interference with the execution of construction, completion and maintenance of the Works.

12.2 Measures to be Taken

Following receipt of a notice under sub clause 12.1 the Engineer may at his sole discretion issue instructions or requirements as he considers necessary including any or all of the following:

- (i) Require the Contractor to provide an estimate of the cost of the measures he is taking or is proposing to take in accordance with provisions of sub clause 52.1.1 (iv);
- (ii) Require the Contractor to carry out the measures he is taking or is proposing to take in accordance with the provisions of sub clauses 52.1.1 (iv), (v), 52.1.2 and 52.1.3 inclusive;
- (iii) Approve in writing such measures with or without modification;
- (iv) Give written instructions as to how the physical conditions or artificial obstructions are to be dealt with; or
- (v) Order a suspension under Clause 40 or a variation under Clause 51.

12.3 Unforeseen Conditions

12.3.1 To the extent that the Engineer shall decide that the whole or some part of the said physical conditions or artificial obstructions could not have been foreseen by an experienced contractor the Engineer shall take any delay suffered by the Contractor as a result of such conditions or obstructions into account in determining any extension of time to which the Contractor is entitled under Clause 44.

12.3.2 In such an event the Contractor shall subject to Clause 52 (notwithstanding that the Engineer may not have given any instructions or orders pursuant to sub clause 12.2) be paid in accordance with Clause 60 such sum as represents:

- (i) the reasonable and necessarily incurred cost of carrying out any additional work done and additional Constructional Plant used which would not have been done or used had such conditions or obstructions or such part thereof as the case may be not been encountered;
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- (ii) together with a reasonable percentage addition thereto in respect of profit; and
 - (iii) the actual costs incurred by the Contractor by reason of any unavoidable delay or disruption of working suffered as a consequence of encountering the said conditions or obstructions or such part thereof.

12.4 Conditions Foreseeable

If the Engineer shall decide that the physical conditions or artificial obstructions could in whole or in part have been foreseen by an experienced contractor the Engineer shall so inform the Contractor in writing as soon as the Engineer shall have reached that decision but the value of any variation previously ordered by the Engineer pursuant to sub clause 12.2 (iv) shall be ascertained in accordance with Clause 52 and included in the Contract Price.

13. MANNER OF CARRYING OUT OF WORKS

13.1 Works to be to Satisfaction of Engineer

Subject to the other provisions of the Contract, save in so far as it is legally or physically impossible, the Contractor shall design (if expressly stated in the Contract for any such design to be carried out by the Contractor) construct complete and maintain the Works in strict accordance with the Contract to the satisfaction of the Engineer and shall comply with and adhere strictly to the Engineer's instructions and directions on any matter connected therewith (whether mentioned in the Contract or not). The Contractor shall take instructions and directions only from the Engineer or (subject to the limitations referred to in Clause 2) from the Engineer's Representative.

13.2 Mode and Manner of Construction

The whole of the materials plant and labour to be provided by the Contractor under Clause 8 and the mode manner and speed of construction of the Works are to be of a kind and conducted in a manner approved of by the Engineer.

13.3 Delay and Extra Cost

If in pursuance of sub clause 13.1 the Engineer shall issue instructions or directions which involve the Contractor in delay or disrupt his arrangements or methods of construction so as to cause him to incur cost beyond that reasonably to have been foreseen by an experienced contractor at the time of Tender then the Engineer shall take such delay into account in determining any extension of time to which the Contractor is entitled under Clause 44 and the Contractor shall subject to Clause 52 be paid in accordance with Clause 60 the amount of such cost as may be reasonable. If such instructions or directions require any variation to any part of the Works the same shall be deemed to have been given pursuant to Clause 51.

14. PROGRAMME

14.1 Programme to be Furnished

- 14.1.1 No later than 7 days after the Contract Date the Contractor shall submit to the Engineer for his approval a programme for the construction completion and maintenance of the Works including any Temporary Works Design and showing the point at which the Contractor requires any design to be supplied by the Engineer to be so supplied (the **Contractor's Programme**).
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- 14.1.2 The Contractor's Programme shall show the order in which the Contractor proposes to construct complete and maintain the Works, clearly define the critical path and show the Contractor's intended hours of working and his earliest start and finishing times for all activities distinguishing between activities to be undertaken between the hours of 0600 and 1800 and those to be undertaken between 1800 and 0600, all in the form as described in the Specification, on the basis that no part of the Works shall commence until all the necessary certification required under the Contract has been acknowledged.
- 14.1.3 The Contractor shall provide such further details and information as the Engineer may reasonably require in relation to the Contractor's Programme.
- 14.1.4 The Contractor shall at the same time also provide in writing for the information of the Engineer a general description of the arrangements and methods of construction, together with a list of all necessary method statements and procedures which the Contractor proposes to adopt for the construction completion and maintenance of the Works.
- 14.1.5 The Contractor shall ensure that the Contractor's Programme contains adequate provision for Undertakers' Works and Private Apparatus Works.
- 14.1.6 The Engineer may within 7 days after receipt of the Contractor's Programme reject it in writing with reasons or require the Contractor to supply further information to clarify or substantiate the Contractor's Programme or to satisfy the Engineer as to its reasonableness having regard to the Engineer and the Contractor's other obligations under the Contract. Such further information may require the submission of a revised Contractor's Programme.
- 14.1.7 Failure by the Engineer to so reject any Contractor's Programme shall not constitute deemed approval thereof.
- 14.1.8 Should the Engineer reject any Contractor's Programme under this sub clause 14.1 the Contractor shall within 7 days of such rejection submit a revised version thereof.
- 14.1.9 Upon the receipt of such further information identified in this sub clause 14.1 the Engineer may within a further 7 days reject the revised Contractor's Programme in accordance with this sub clause 14.1.

14.2 Revision of Programme

- 14.2.1 Should it appear to the Engineer at any time that the actual construction completion and maintenance of the Works does not conform with the approved Contractor's Programme the Engineer shall be entitled to require the Contractor to produce a revised Contractor's Programme showing the modification to the original Contractor's Programme necessary to ensure the completion of the Works within the time for completion as defined in Clause 43 or extended time granted pursuant to sub clause 44.2.
- 14.2.2 No proposed modification to the Contractor's Programme shall become effective until such time as the Engineer shall have notified the Contractor in writing of the Engineer's approval of that proposed modification.

14.3 Methods of Construction

Notwithstanding any other requirements of the Contract, if requested by the Engineer the Contractor shall submit at such times and in such detail as the Engineer may reasonably require in respect of the Works such information pertaining to the methods of construction (including Temporary Works and the use of the

Constructional Plant) which the Contractor proposes to adopt or use and such calculations of stresses strains and deflections that shall arise in the Permanent Works or any parts thereof during construction from the use of such methods as shall enable the Engineer to decide whether if these methods are adhered to the Works can be executed in accordance with the Drawings and Specification and without detriment to the Permanent Works when completed.

14.4 Engineer's Consent

14.4.1 The Engineer shall inform the Contractor in writing within a reasonable period after receipt of the information submitted in accordance with sub clause 14.3 either:

- (i) that the Contractor's proposed methods have the consent of the Engineer;
or
- (ii) in what respects in the opinion of the Engineer they fail to meet the requirements of the Contract or shall be detrimental to the Permanent Works.

14.4.2 In the latter event the Contractor shall take such steps or make such changes in the said methods as may be necessary to meet the Engineer's requirements and to obtain his consent. The Contractor shall not change the methods which have received the Engineer's consent without the further consent in writing of the Engineer which shall not be unreasonably withheld.

14.5 Design Criteria

Subject to the other provisions of the Contract, the Engineer shall provide to the Contractor such design criteria relevant to the Permanent Works having been designed by the Engineer or supplied by the Employer as may be necessary to enable the Contractor to comply with sub clauses 14.3 and 14.4.

14.6 Delay and Extra Cost

If the Engineer's consent to the proposed methods of construction shall be unreasonably delayed or the requirements of the Engineer pursuant to sub clause 14.4 or any limitations imposed by any of the design criteria supplied by the Engineer pursuant to sub clause 14.5 could not reasonably have been foreseen by an experienced contractor at the time of Tender and if in consequence of the aforesaid the Contractor unavoidably incurs delay or cost the Engineer shall take such delay into account in determining any extension of time to which the Contractor is entitled under Clause 44 and the Contractor shall subject to Clause 52 be paid in accordance with Clause 60 such sums in respect of the cost incurred as the Engineer considers fair in all the circumstances.

14.7 Responsibility Unaffected by Approval

Approval by the Engineer of the Contractor's Programme in accordance with sub clause 14.1 and sub clause 14.2 and the consent of the Engineer to the Contractor's proposed methods of construction in accordance with sub clause 14.4 shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

15. CONTRACTOR'S SUPERINTENDENCE AND AGENT

15.1 Contractor's Superintendence

Notwithstanding any other provisions of the Contract, the Contractor shall give or provide all necessary superintendence during the construction completion and maintenance of the Works and as long thereafter as the Engineer may consider

necessary. Such superintendence shall be given by sufficient persons having adequate knowledge of the operations to be carried out (including the methods and techniques required the hazards likely to be encountered and methods of preventing accidents) as may be requisite for the satisfactory construction of the Works.

15.2 Contractor's Agent

The Contractor or a competent and authorised agent or representative approved of in writing by the Engineer (which approval may at any time be withdrawn) is to be constantly on the Works and shall give his whole time to the superintendence of the same. Such authorised agent or representative shall be in full charge of the Works and shall receive on behalf of the Contractor directions and instructions from the Engineer or (subject to the limitations of Clause 2) the Engineer's Representative. The Contractor or such authorised agent or representative shall be responsible for the safety of all operations.

16. REMOVAL OF CONTRACTOR'S EMPLOYEES

The Contractor shall employ or cause to be employed in and about the construction completion and maintenance of the Works and in the superintendence thereof only such technical assistants as are careful skilled and experienced in their several trades and callings and such skilled, semi-skilled and unskilled labour as is necessary for the proper execution of the Works and the Engineer shall be at liberty to object to and require the Contractor to remove from the Works any person employed by the Contractor in or about the construction completion and maintenance of the Works who in the opinion of the Engineer misconducts himself or is incompetent or negligent in the performance of his duties or fails to conform with any particular provisions with regard to safety which may be identified in the Contract or persists in any conduct which is prejudicial to safety or health and such persons shall not be again employed upon the Works without the permission of the Engineer.

17. SETTING-OUT

The Contractor shall be responsible for the true and proper setting-out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labour in connection therewith. If at any time during the construction, completion and maintenance of the Works any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works the Contractor on being required so to do by the Engineer shall at his own cost rectify such error to the satisfaction of the Engineer unless such error is based on incorrect data supplied in writing by the Engineer or the Engineer's Representative in which case the cost of rectifying the same shall be borne by the Employer. The checking of any setting-out or of any line or level by the Engineer or the Engineer's Representative shall not in any way relieve the Contractor of his responsibility for the correctness thereof and the Contractor shall carefully protect and preserve all bench-marks sight rails pegs and other things used in setting out the Works.

18. BOREHOLES AND EXPLORATORY EXCAVATION

If at any time during the construction, completion and maintenance of the Works the Engineer shall require the Contractor to make boreholes or to carry out exploratory excavation such requirements shall be ordered in writing and shall be deemed to be

a variation ordered under Clause 51 unless a Provisional Sum or Prime Cost Item in respect of such anticipated work shall have been included in the Bill of Quantities.

19. SAFETY AND SECURITY AND EMPLOYER'S RESPONSIBILITIES

19.1 Safety and Security

19.1.1 The Contractor shall throughout the construction completion and maintenance of the Works:

- (i) have full regard for the safety of all persons entitled to be upon the Site and shall keep the Site (so far as the same is under his control) and the Works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons and shall inter alia in connection with the Works provide and maintain at his own cost all lights guards fencing warning signs and watching when and where necessary or required by the Engineer or by any competent statutory or other authority for the protection of the Works or for the safety and convenience of the public or others; and
- (ii) use all reasonable means which shall be necessary to secure the Site and to effect security measures adequate to protect:
 - (a) the Site, the Works and all Constructional Plant from obstruction of occupation or damage; or
 - (b) any persons entitled to be upon the Site from theft or injury;all such means and measures used by the Contractor shall require to be acceptable to the Engineer.

19.2 Employer's Responsibilities

19.2.1 If under Clause 31 the Employer shall carry out work on the Site with his own workmen he shall in respect of such work:

- (i) have full regard to the safety of all persons entitled to be upon the Site; and
- (ii) keep the Site in an orderly state appropriate to the avoidance of danger to such persons.

19.2.2 If under Clause 31 the Employer shall employ other contractors on the Site he shall require them to have the same regard for safety and avoidance of danger.

20. CARE OF THE WORKS AND RESPONSIBILITY

20.1 Care of the Works

The Contractor shall take full responsibility for the care of the Works from the Date of Commencement of the Works until 14 days after the Date of Completion of the Works. Provided that if the Engineer shall issue a Certificate of Completion in respect of any Section or part of the Permanent Works before he shall issue a Certificate of Completion in respect of the whole of the Works the Contractor shall cease to be responsible for the care of that Section or part of the Permanent Works 14 days after the Engineer shall have issued the Certificate of Completion in respect of that Section or part and the responsibility for the care thereof shall thereupon pass to the Employer. Notwithstanding the foregoing, the Contractor shall take full responsibility for the care of any outstanding work which he has undertaken to finish during the Period of Maintenance until such outstanding work is complete and all work of repair

amendment reconstruction rectification and making good of defects imperfections shrinkages and other faults identified under Clauses 49 and 50 until the issuance of a Maintenance Certificate in respect thereof.

20.2 Excepted Risks

20.2.1 The Excepted Risks that the Contractor shall not be liable for under Clauses 20 to 24 inclusive shall be any loss or damage to the extent that the same shall be:

- (i) due to:
 - (a) riot;
 - (b) war;
 - (c) invasion;
 - (d) act of foreign enemies; or
 - (e) hostilities (whether war be declared or not);
- (ii) due to:
 - (a) civil war;
 - (b) rebellion;
 - (c) revolution;
 - (d) insurrection; or
 - (e) military or usurped power;
- (iii) arising from ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste, from the combustion of:
 - (a) nuclear fuel;
 - (b) radioactive, toxic, explosive; or
 - (c) other hazardous properties of any explosive nuclear assembly or nuclear component thereof;
- (iv) arising from pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds; and
- (v) due to the use or occupation by the:
 - (a) Employer;
 - (b) their agents;
 - (c) servants;
 - (d) any contractor other than a Contractor Party; or
 - (e) the public;

of any part of the Works and subject to the other provisions of the Contract.

20.3 Responsibility for Reinstatement

20.3.1 In the event of any loss, damage or injury from any cause whatsoever (except such loss, damage or injury due to any of the Excepted Risks) to:

- (i) any design;
 - (ii) any materials plant or equipment forming part of the Works and for incorporation within the Works;
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(iii) the Works; or

(iv) any person on the Site including persons entitled to be on the Site;

while the Contractor shall be responsible for the care of such or during the construction completion and maintenance of the Works the Contractor shall at his own cost replace or rectify such loss damage or injury such that at completion of the Works and in any case at the end of the period specified in sub clause 20.1 the Works shall be in good order and condition and shall comply with the other provisions of the Contract and that the Employer shall have no liability in relation to any injuries claims or the like pursuant to sub clause 20.3.

20.3.2 Where any such loss damage or injury arises from any of the Excepted Risks the Contractor shall if required, as part of the Works, repair and make good the same as aforesaid at the expense of the Employer.

21. DAMAGE TO PERSONS AND PROPERTY AND INDEMNITY

21.1 Damage to Persons and Property

21.1.1 Without prejudice to and in addition to any other right or remedy that the Employer may have the Contractor shall except if and so far as the Contract provides otherwise and subject to the exceptions identified in sub clause 21.2 (the **Exceptions**) indemnify and keep indemnified the Employer against all:

(i) losses;

(ii) actions;

(iii) claims;

(iv) proceedings;

(v) costs;

(vi) damages;

(vii) demands; and/or

(viii) expenses (including all legal costs and disbursements);

incurred by or made against the Employer which arise out of:

(a) injury to or death of any person;

(b) loss of, or damage to any property (other than the Works) but including surface or other damage to land suffered by any persons who own or occupy such land; and/or

(c) any fault, failure, defect or negligence in, the Works and/or any infrastructure or structures which are the product of the Works, for any cause;

that may arise out of, in connection with, or in consequence of (whether directly or indirectly) either the Works, and/or the acts or omissions of the Contractor or any Contractor Party.

21.2 The Exceptions

21.2.1 The Exceptions identified in sub clause 21.1 that shall be the responsibility of the Employer shall be:

(i) death of or injury to persons or loss of or damage to property that results from any negligent act or omission or breach of any statutory duty by the

Engineer or the Employer or any contractor other than the Contractor or any Contractor Party, or for any:

- (a) claims;
- (b) demands;
- (c) proceedings;
- (d) damages;
- (e) costs; or
- (f) charges and expenses;

in respect thereof or in relation thereto;

- (ii) damage to crops being on the Site (but only in so far as possession or access has not been given to the Contractor or any Contractor Party);
- (iii) the use or occupation of land provided by the Employer for the purposes of the construction completion and maintenance of the Works (including consequent losses of crops) or interference whether temporary or permanent with any right of way, light, air or water or any other form of servitude or wayleave that are the unavoidable result of the construction completion and maintenance of the Works in accordance with the Contract;
- (iv) the right of the Employer to execute any part of the Works on over under in or through any land; and
- (v) damage that shall be the unavoidable result of the construction completion and maintenance of the Works.

21.3 Indemnity by Employer

21.3.1 The Employer shall subject to the provisions of:

- (i) sub clause 21.5; and
- (ii) sub clause 21.6;

indemnify the Contractor from and against all:

- (a) claims;
- (b) demands;
- (c) proceedings;
- (d) damages;
- (e) costs; or
- (f) charges and expenses;

for the Exceptions identified in sub clause 21.2.

21.4 Contractor's Liability to Indemnify

21.4.1 The Contractor's liability to indemnify the Employer pursuant to sub clause 21.1 shall be reduced in proportion to the extent that the negligent act or omission of the Engineer or the Employer or any contractor other than the Contractor (not being a Contractor Party) may have contributed to the said:

- (i) death;
 - (ii) injury;
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- (iii) loss; or
 - (iv) damage.

21.5 The Employer's liability limited due to the extent of neglect of Contractor

21.5.1 The Employer's liability to indemnify the Contractor under sub clause 21.3 for matters identified in sub clause 21.2 of this Clause shall be reduced in proportion to the extent that the act or neglect of the Contractor or any Contractor Party may have contributed to the said:

- (i) death;
- (ii) injury;
- (iii) loss; or
- (iv) damage.

21.6 The Employer's Limit on Liability for Damages or Compensation

21.6.1 The Employer shall not be liable for or in respect of (and the Contractor shall indemnify the Employer against) any damages or compensation payable at law in respect or in consequence of any accident or injury to any Contractor Party except to the extent where such accident or injury results from or shall have been contributed to by the:

- (i) negligent act;
- (ii) omission; or
- (iii) default;

of the Employer.

21.7 Provision Relating to Vehicle Supplied to Engineer

For the purpose of the Contract sub clause 21.2.1(i) and sub clause 21.4 shall not include any injury or damage to persons or property arising out of any incident involving a vehicle supplied by the Contractor for use by the Engineer and occurring when such vehicle is being driven by or is in the charge of the Engineer or any person authorised by him.

22. INSURANCE

22.1 Insurance Generally

22.1.1 Without limitation to his liability under any other provisions of the Contract on the Contract Date or prior to the Contractor commencing the construction completion and maintenance of the Works whichever shall be the earlier the Contractor shall take out and maintain the insurances specified in paragraph 3 to Annex 3 of these Conditions of Contract.

22.1.2 If any named insured makes any claim against any of the Required Insurances in respect of which that party is a named insured:

- (i) the relevant party's rights pursuant to these Conditions of Contract shall be unaffected; and
 - (ii) if any payment by an insurer is subject to a deductible or excess, the Contractor shall, on demand, make payment to the relevant named insured of an amount equivalent to that excess or deductible.
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- 22.1.3 The Contractor shall procure that all policies of insurance put in place and maintained by it provide equivalent cover for each Contractor Party.
- 22.1.4 The Contractor shall not be obliged to procure that insurance is put in place or maintained in respect of a risk which is Uninsurable except where the predominant cause of the risk being Uninsurable is any act or omission of the Contractor or any Contractor Party.
- 22.1.5 If a risk usually covered by the insurances identified in paragraph 3 to Annex 3 of these Conditions of Contract becomes Uninsurable then the Contractor shall notify the Employer and the Engineer within 3 days of the risk becoming Uninsurable and shall propose (and, at the Employer's request, procure) such insurance as is available in respect of that risk for acceptance by the Employer all at the cost of the Contractor.

22.2 Insurance effected with approved terms

Such insurance shall be effected with insurers and in terms approved by the Employer (which approval shall not be unreasonably withheld).

22.3 Contractor's responsibilities to disclose facts

- 22.3.1 The Contractor shall not and shall procure that each Contractor Party shall not take any action or fail to take any action (including failure to disclose any fact) or permit anything to be done or not to be done that would entitle any insurer to:
- (i) refuse to pay any claim under any of the Required Insurances;
 - (ii) delay payment of any claim under any of the Required Insurances; or
 - (iii) render any sum paid out under any of the Required Insurances repayable in whole or in part.

23. INSURANCE POLICIES AND COPIES

- 23.1.1 Subject to the other provisions of this Clause 23, the Contractor shall provide to the Engineer within three days of a request, such information as may be given to the insurers at any time during placement, replacement, alteration or duration of any insurance policy, together with copies of all policy documents in relation to the Required Insurances.
- 23.1.2 The Contractor shall procure and take all steps necessary to ensure that any such information (and any held by third parties acting on behalf of the Contractor) shall be retained for a period of not less than 5 years after the issue of the Maintenance Certificate.
- 23.1.3 In this respect, the Contractor shall:
- (i) other than the professional indemnity insurance where a cover note issued by the insurance broker to the Contractor detailing the period of insurance, limit of indemnity, participating insurers and their shares of the insurance, that the specific requirements of Annex 3 to these Conditions of Contract are catered for and any unusual terms and conditions shall be sufficient evidence of the existence of the insurance, provide to the Engineer all insurance policies or brokers' placing slips, suitably stamped initialled and dated by all underwriters and all endorsements and attachments or brokers' placing slip endorsements, market reform contracts, market reform contract endorsements suitably stamped initialled and dated by all underwriters and amendments and replacements of the same and other relevant documents
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as requested by the Engineer acting reasonably (or copies of the same certified in a manner that shall be acceptable to the Employer):

- (a) prior to the commencement of any part of the Temporary Works Design or part of the Works for the Contract;
- (b) prior to the expiry of an existing insurance; or
- (c) within 3 days of receiving a written request;

together with evidence from the insurer(s) that the premiums payable thereunder shall have been paid to the insurer(s) and that the insurance shall be in full force and effect;

- (ii) provide or take steps and give all necessary instructions to procure the provision of:
 - (a) the said policies; or
 - (b) the other documents identified in this Clause; and
 - (c) such additional evidence of compliance with Clauses 22 to 24 as may be required by the Engineer.

24. INSURANCE REQUIREMENTS.

24.1 Rights of Subrogation Non-Vitiation, Changes to Policy Provisions, Waiver of Disclosure Obligation and Notice of Cancellation

24.1.1 Except for the professional indemnity insurance requirement, the employers' liability insurance requirement and the motor insurance requirement all of the insurance required under the provisions of the Contract shall be subject to:

- (i) the waiver of all duties of disclosure; and
- (ii) the waiver of any rights of subrogation;

in so far as the Employer and their servants and agents and otherwise shall be concerned.

24.2 Insurance shall be subject to a non-vitiation provision

Except for the professional indemnity insurance requirement, all of the insurance required under the provisions of the Contract shall be subject to a non-vitiation provision in order that the actions of the Contractor or any other insured shall not prejudice the insurance in so far as the Employer shall be concerned.

24.3 Insurance shall be subject to undertakings from the Insurers and the Contractor

24.3.1 All the insurance required under paragraph 3 to Annex 3 to these Conditions of Contract shall be subject to undertakings from the insurers and the Contractor:

- (i)
 - (a) to notify the Engineer in writing of any intention or request to amend the terms and conditions of the said insurance; and
 - (b) to obtain confirmation of the acceptance of these amendments from the Employer via the Engineer;
 - (ii) to provide to the Engineer in writing not less than 30 days' notice prior to any cancellation or non-renewal or modification of the said insurance;
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- (iii) in the case of non-renewal by the Contractor to allow the Employer the opportunity to renew the insurances in accordance with Clauses 22 to 24 inclusive; and
 - (iv) accepting that the insurances shall be subject to Scots Law and the jurisdiction of the Scottish Courts.

25. NON COMPLIANCE WITH INSURANCE REQUIREMENTS

25.1 Failure to Provide suitable evidence of Insurance

25.1.1 If pursuant to Clause 23 the Contractor shall fail to produce when required such satisfactory evidence to the Engineer that there shall be in force any of the insurance required including such insurances identified in:

- (i) Clauses 22 to 24 inclusive;
- (ii) Annex 3 to these Conditions of Contract; or
- (iii) any other provisions of the Contract;

then the Employer may:

- (a) effect and keep in force any such insurance;
- (b) secure the renewal of such insurance;
- (c) pay any such premium as may be necessary for such purpose; and
- (d) from time to time deduct any such amount so paid from any monies due or which may become due to the Contractor or recover the same as a debt due to the Employer from the Contractor together with all recovery costs and expenses whatsoever incurred by the Employer their agents, servants and otherwise.

25.2 Contractor liability to indemnify Employer in event of non-compliance

25.2.1 Where the Contractor fails to comply with any condition imposed by any insurance policy taken out pursuant to:

- (i) Clauses 22 to 24 inclusive;
- (ii) Annex 3 to these Conditions of Contract; and/or
- (iii) any other provisions of the Contract;

it shall indemnify the Employer against all losses and claims arising from such failure.

25.3 Action by Employer where Contractor fails to provide insurance

25.3.1 Notwithstanding any other provisions of the Contract failure by the Contractor to provide the Engineer with suitable evidence of insurance satisfying the requirements identified in:

- (i) Clauses 22 to 24 inclusive; and
- (ii) Annex 3 to these Conditions of Contract; or
- (iii) any other provisions of the Contract;

shall result in action by the Employer in accordance with the provisions of Clause 63.

26. NOTICES AND FEES

26.1 Giving of Notices and Payment of Fees

The Contractor shall save as provided in Clause 27 give all notices and pay all fees and licences required to be given or paid by any Legislation in relation to the construction completion and maintenance of the Works and by the rules and regulations of all public bodies and companies whose property or rights are or may be affected in any way by the Works.

26.2 Notification

26.2.1 Each Party shall notify the other forthwith of the receipt by it or, in the case of the Contractor, any Contractor Party, of:

- (i) any notice, order, requisition or direction (or proposal for a notice, order, requisition or direction to be made or given) affecting the Site and, if so requested by the other Party, shall deliver a copy of such notice, order, requisition or direction to that other Party; and
- (ii) any damage to the Site or any defect which could give rise to a duty on the Employer or on any other person having an interest in the Site.

26.3 Contractor to Conform with Legislation

26.3.1 The Contractor shall ascertain and conform in all respects with all Legislation which may be applicable to the Works and shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such Legislation. Provided always that:

- (i) the Contractor shall not be required to indemnify the Employer against the consequences of any such breach which is the unavoidable result of complying with the drawings, specifications or instructions of the Engineer where the Contractor has notified the Engineer of the non-conformity and the Engineer has confirmed the instruction;
- (ii) if the drawings, specifications or instructions of the Engineer shall at any time be found not to be in conformity with any such Legislation the Engineer shall issue such instructions including the ordering of a variation under Clause 51 as may be necessary to ensure conformity with such Legislation.

26.4 Contractor to conform to Permissions

26.4.1 The Contractor shall not be responsible for obtaining any Permissions which may be necessary in respect of the Works having been designed by the Engineer and the Employer hereby warrants that all the said Permissions have been obtained. The Contractor shall be responsible for obtaining all other Permissions including, for the avoidance of doubt, any Temporary Works Design as identified in sub clause 8.2. The Contractor shall comply with all the Permissions (including any planning permission) in the construction, completion and maintenance of the Works and shall have included for so doing in the Tender. The Contractor shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such Permissions. Provided always that:

- (i) the Contractor shall not be required to indemnify the Employer against the consequences of any such breach which is the unavoidable result of complying with the instructions of the Engineer where the Contractor has notified the Engineer of the non-conformity and the Engineer has confirmed the instruction;
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- (ii) if the instructions of the Engineer shall at any time be found not to be in conformity with any such Permissions the Engineer shall issue such instructions including the ordering of a variation under Clause 51 as may be necessary to ensure conformity with such Permissions.

27. NEW ROADS AND STREET WORKS ACT AND TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997

27.1 Definitions

27.1.1 For the purpose of this Clause:

- (i) the expression **The Planning Act** shall mean and include the Town and Country Planning (Scotland) Act 1997; and
- (ii) all other expressions common to the New Roads and Street Works Act and to this Clause shall have the same meaning as that assigned to them by the New Roads and Street Works Act.

27.2 Notifications by Employer to Contractor

27.2.1 The Employer shall before the Date of Commencement of the Works notify the Contractor in writing:

- (i) whether the Works or any parts thereof (and if so which parts) are Emergency Works (as defined by section 111 of the New Roads and Street Works Act); and
- (ii) which (if any) parts of the Works are to be carried out in Controlled Land or in a Prospective public road.

27.2.2 If any duly authorised variation of the Works shall involve the execution thereof in a road or in Controlled Land or in a Prospective public road or are Emergency Works the Employer shall notify the Contractor in writing accordingly at the time such variation is ordered.

27.3 Service of Notices by Employer

27.3.1 The Employer hereby confirms that it has served on Undertakers all notices listed in Appendix 1/16 of the Specification.

27.3.2 From the Contract Date, the Contractor shall act as the Employer's Authorised Representative and shall serve all further notices as may be required in connection with the Undertakers' Works with regard to the New Roads and Street Works Act necessary for the Works in order to ensure that such Works shall comply with the Contract and the New Roads and Street Works Act.

27.3.3 From the Contract Date the Contractor shall in respect of any notice(s) required to be served under The Planning Act for the Works, required in order to ensure that such Works shall comply with the Contract and The Planning Act, request in writing any such notice(s) be issued by the Employer on behalf of the Contractor.

27.3.4 The Contractor shall provide all information necessary for the Employer to consider whether any such notice should be issued. If such a notice is to be issued, then it shall be issued within 14 days of receipt of all such information from the Contractor.

27.4 Notices by Contractor to Employer

27.4.1 The Contractor shall in relation to any part of the Works (other than Emergency Works) and subject to the compliance by the Employer with sub clause 27.2 give not less than 21 days' notice in writing to the Employer before:

- (i) commencing any part of the Works in a road (as defined by section 107(1) of the New Roads and Street Works Act); or
- (ii) commencing any part of the Works in Controlled Land or in a Prospective public road; or
- (iii) commencing in a road or in Controlled Land or in a Prospective public road any part of the Works which is likely to affect the apparatus of any Owning Undertaker (within the meaning of section 107(4) and (5) of the New Roads and Street Works Act).

27.4.2 Such notice shall state the date on which and the place at which the Contractor intends to commence the work identified therein.

27.5 Failure to Commence Road Works

If the Contractor having given any such notice as is required by sub clause 27.4 shall not commence the part of the Works to which such notice relates within 2 months after the date when such notice is given such notice shall be treated as invalid and compliance with the said sub clause 27.4 shall be requisite as if such notice had not been given.

27.6 Delays Attributable to Variations

In the event of such a variation of the Works as is identified in sub clause 27.2 being ordered by or on behalf of the Employer and results in delay to the Works by reason of the necessity of compliance by the Contractor with sub clause 27.4 the Engineer shall take such delay into account in determining any extension of time to which the Contractor is entitled under Clause 44 and the Contractor shall subject to Clause 52 be paid in accordance with Clause 60 such additional cost as the Engineer shall consider to have been reasonably attributable to such delay.

27.7 Contractor to Comply with Other Obligations of the New Roads and Street Works Act and The Planning Act

27.7.1 Except as otherwise provided by this Clause where in relation to the carrying out of the Works the New Roads and Street Works Act imposes any requirements or obligations upon the Employer the Contractor shall subject to Clause 49.5 comply with such requirements and obligations and shall (subject as aforesaid) indemnify the Employer against any liability which the Employer may incur in consequence of any failure to comply with the said requirements and obligations.

27.7.2 Except as otherwise provided by this Clause where in relation to the carrying out of the Works The Planning Act imposes any requirements or obligations upon the Employer the Contractor shall comply with such requirements and obligations and shall indemnify the Employer against any liability which the Employer may incur in consequence of any failure to comply with the said requirements and obligations.

28. PATENTS, ROYALTIES AND REINFORCED SOIL

28.1 Patent Rights

The Contractor shall except as provided in sub clause 28.3 below save harmless and indemnify the Employer from and against all claims and proceedings for or on account of use of any patent rights design trademark or name or other protected rights in respect of any Constructional Plant machine work or material used for or in connection with the Works and from and against all claims demands damages proceedings costs charges and expenses whatsoever in respect thereof or in relation thereto.

28.2 Royalties

Except where otherwise specified the Contractor shall pay all tonnage and other royalties rent taxes and other payments or compensation (if any) for getting stone gravel clay or other material required for the construction, completion and maintenance of the Works.

28.3 Reinforced Soil

In relation to the construction of any Reinforced Soil in accordance with the Engineer's design of the Works any use of any patent right design trademark or name or other protected rights necessarily arising out of that design shall not be a matter for which the Contractor shall by virtue of sub clause 28.1 bear any liability to save harmless or indemnify the Employer. But in relation to the construction of Reinforced Soil in accordance with any tender submitted by the Contractor and accepted by the Employer and not in accordance with the Engineer's original design of the Works the Contractor shall obtain and maintain all necessary Permissions to make use of all relevant patents rights design trademarks or names or other protected rights for such construction and shall save harmless and indemnify the Employer from and against all claims and proceedings for or on account of any infringement of such protected rights having due regard to the fact that no licence is required under any of the Vidal patents Nos. 1069361, 1324686, 1543806, 1550135 and 1563317 by virtue of the agreement between the Crown and M Vidal and the Reinforced Earth Co Ltd.

29. INTERFERENCE, NOISE AND DISTURBANCE ETC

29.1 Interference with Traffic and Adjoining Properties

The Contractor shall take all necessary steps to obtain access to adjacent land as may be necessary for the Works and shall have included for doing so in the Tender. All operations necessary for the Works shall so far as compliance with the requirements of the Contract permits be carried on so as not to interfere unnecessarily or improperly with the public convenience or the access to or use or occupation of public or private roads and foot-paths or to or of properties whether in the possession of the Employer or any other person and the Contractor shall save harmless and indemnify the Employer in respect of all claims demands proceedings damages costs charges and expenses whatsoever arising out of or in relation to any such matters.

29.2 Noise and Disturbance

All work shall be carried out without unreasonable noise and disturbance. The Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created during the Work and from and

against all claims demands proceedings damages costs charges and expenses whatsoever in regard or in relation to such liability.

29.3 Pollution

29.3.1 Subject and without prejudice to any other provision of the Contract the Contractor shall take all necessary precautions in connection with any underground water resources (including percolating water) rivers streams waterways drains watercourses lakes ditches reservoirs to prevent:

- (i) any interference with the supply to or abstraction from such sources;
- (ii) silting;
- (iii) erosion of their beds or banks;
- (iv) pollution of the water so as to affect adversely the quality or appearance thereof or cause injury or death to animal aquatic or plant life.

29.4 Measures for Mud Dirt Stones etc.

The Contractor shall take all necessary measures to prevent damage loss injury or nuisance caused by mud dirt stones or other material used or generated as a consequence of the Works. This shall include ensuring that no fuel or lubricant mud dirt stones or other material is spilled or deposited on the roads whether or not they are open to traffic.

29.5 Measures for Smoke and Dust

The Contractor shall take all necessary measures to prevent damage loss injury or nuisance caused by smoke or dust generated as a consequence of the construction, completion and maintenance of the Works.

30. DAMAGE TO ROADS AND TRANSPORT OF PLANT AND MATERIALS

30.1 Avoidance of Damage to Roads etc.

The Contractor shall use every reasonable means to prevent any of the public roads or bridges communicating with or on the routes to the Site from being subjected to extraordinary traffic within the meaning of section 96 of the Roads (Scotland) Act 1984 by any traffic of the Contractor or any Contractor Party and in particular shall select routes and use vehicles and restrict and distribute loads so that any such extraordinary traffic as shall inevitably arise from the moving of Constructional Plant and material or manufactured or fabricated articles from and to the Site shall be limited as far as reasonably possible and so that no unnecessary damage or injury may be occasioned to such public roads and bridges.

30.2 Transport of Constructional Plant

Save insofar as the Contract otherwise provides the Contractor shall be responsible for and shall pay the cost of strengthening any bridges or altering or improving any public road communicating with the Site to facilitate the movement of Constructional Plant equipment or Temporary Works required for the Works and the Contractor shall indemnify and keep indemnified the Employer against all claims for damage to any public road or bridge communicating with the Site caused by such movement including such claims as may be made by any competent authority directly against the Employer pursuant to any Legislation and shall negotiate and pay all claims arising solely out of such damage.

30.3 Transport of Materials

If notwithstanding sub clause 30.1 any damage shall occur to any public road or bridge communicating with the Site arising from the transport of materials or manufactured or fabricated articles for the Works the Contractor shall notify the Engineer as soon as he becomes aware of such damage or as soon as he receives any claim from the authority entitled to make such claim. Where under any Legislation the haulier of such materials or manufactured or fabricated articles is required to indemnify the roads authority against damage the Employer shall not be liable for any costs charges or expenses in respect hereof or in relation thereto. In other cases the Employer shall negotiate the settlement of and pay all sums due in respect of such claim and shall indemnify the Contractor in respect thereof and in respect of all claims demands proceedings damages costs charges and expenses in relation thereto. Provided always that if so far as any such claim or part thereof shall in the opinion of the Engineer be due to any failure on the part of the Contractor to observe and perform his obligations under sub clause 30.1 then the amount certified by the Engineer to be due to such failure shall be paid by the Contractor to the Employer or deducted from any sum due or which may become due to the Contractor.

30.4 Routeing of Vehicles

Without prejudice to the foregoing provisions of this Clause the Contractor his sub-contractors and suppliers shall comply with the requirements given in the Contract for the routeing of their vehicles, provided always that the Employer does not in specifying requirements warrant in any way that the route(s) shall be available in full or part for the whole or any part of the completion period of the Works. The Contractor shall erect and maintain in good condition signs of a type approved by the Engineer giving effect to these routeing requirements.

31. FACILITIES

31.1.1 The Employer shall be entitled to employ any other contractors and their workmen and workmen of the Employer and any other properly authorised authorities or statutory bodies or Undertakers who may be employed in the carrying out on or near the Site of any work not in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the Works and the Contractor shall in accordance with the requirements of the Engineer afford all reasonable facilities for any such other contractors and or workmen, authorities, statutory bodies or Undertakers.

31.1.2 If compliance with sub clause 31.1.1 shall involve the Contractor in delay or cost beyond that reasonably to be foreseen by an experienced contractor at the time of tender then the Engineer shall take such delay into account in determining any extension of time to which the Contractor is entitled under Clause 44 and the Contractor shall subject to Clause 52 be paid in accordance with Clause 60 the amount of such cost as may be reasonable.

32. FOSSILS, ETC.

All fossils coins articles of value or antiquity and structures or other remains or things of geological or archaeological interest discovered on the Site shall as between the Employer and the Contractor be deemed to be the absolute property of the Employer and the Contractor shall take reasonable precautions to prevent his workmen or any

other persons from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal acquaint the Engineer of such discovery and carry out at the expense of the Employer the Engineer's orders as to the disposal of the same.

33. CLEARANCE OF SITE ON COMPLETION

On the completion of any Section or on the completion of the whole of the Works the Contractor shall clear away and remove from the Site all Constructional Plant surplus material rubbish and Temporary Works of every kind and leave the whole of the Site and Permanent Works clean and in a workmanlike condition to the satisfaction of the Engineer.

34. LABOUR

34.1 Discrimination

The Contractor shall not unlawfully discriminate within the meaning and scope of the provisions of any Legislation including as a minimum the Equality Act 2010.

34.2 Steps by Contractor

The Contractor shall take all reasonable steps to secure the observance of the provisions of sub clause 34.1 by all Contractor Parties employed in the execution of the Contract.

35. RETURNS OF LABOUR AND PLANT

The Contractor shall if required by the Engineer deliver to the Engineer at his office a return in such form and at such interval as the Engineer may prescribe showing in detail the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information in respect of Constructional Plant as the Engineer may require. The Contractor shall require his sub-contractors to observe the provisions of this Clause.

36. WORKMANSHIP AND MATERIALS

36.1 Quality Management System

Subject to the other requirements of the Contract, the Contractor shall institute maintain and operate for the term of the Contract a Quality Management System for the purpose of ensuring and demonstrating that all aspects of the Works and all other matters for which the Contractor is responsible under the Contract shall be carried out in conformity with the relevant provisions of the Contract.

36.2 Quality of Materials and Workmanship, Samples and Tests

36.2.1 All materials and workmanship shall be of the respective kinds described in the Contract and in accordance with the Engineer's instructions and shall be subjected to the samples and tests required or reasonably implied by the terms of the Contract and identified in the method statements, or which may be ordered by the Engineer.

36.2.2 Except as may be provided otherwise by the Contract every sample and test required by the Contract shall be undertaken in a laboratory holding accreditation granted in respect of such test by the United Kingdom Accreditation Service (UKAS) or by the European Co-operation for Accreditation of Laboratories (EAL).

36.2.3 Unless provided for elsewhere within the Contract the Contractor shall provide a schedule of tests and inspections within 21 days of the Contract Date. Inspection check sheets shall be provided under the Contractor's quality plan and shall be supplied to the Engineer prior to the Date of Commencement of the Works.

36.2.4 If the Engineer considers it necessary in his opinion to undertake any tests under his own direction independently of the Contractor the Contractor shall provide such assistance instruments machines labour and materials as are normally required for examining measuring and testing any work and the quality weight or quantity of any materials used and shall supply samples of materials before incorporation in the Works for testing as may be selected and required by the Engineer.

36.3 Cost of Samples

The Contractor at his own cost shall supply all samples.

36.4 Cost of Tests

36.4.1 The cost of making a test shall be borne by the Contractor if such test is clearly intended by or provided for in the Contract including tests under load or tests to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfil. If any test is ordered by the Engineer in accordance with this Clause 36 which was not so intended or provided for then the cost of such test shall be borne by the Contractor if the test shows the workmanship or materials not to be in accordance with either:

- (i) the provision of the Contract, or
- (ii) Engineer's instructions;

but otherwise by the Employer.

36.5 Provision of Information

Notwithstanding any other provision of this Clause the Contractor shall provide to the Engineer or the Employer such information as the Engineer or the Employer may reasonably require to demonstrate the Contractor's compliance with this Clause 36.

36.6 Contractor's Responsibilities

Nothing contained in this Clause 36 shall relieve the Contractor of any of his responsibilities under the Contract.

37. ACCESS TO SITE

The Engineer and any person authorised by him shall at all times have access to the Works and to the Site and to all workshops and places where work is being prepared or whence materials manufactured articles and machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

38. EXAMINATION OF WORK AND UNCOVERING

38.1 Examination of Work before Covering up

The Contractor shall afford full opportunity for the Engineer to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. No such work shall be covered up or put out of view without the Engineer being given such opportunity to

examine and measure same. The Contractor shall give due notice to the Engineer whenever any such work or foundations is or are ready or about to be ready for examination and the Engineer shall without unreasonable delay unless he considers it unnecessary and advises the Contractor accordingly attend for the purpose of examining and measuring such work or of examining such foundations.

38.2 Uncovering and Making Openings

The Contractor shall uncover any part or parts of the Works or make openings in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been covered up or put out of view after compliance with the requirements of sub clause 38.1 and are found to be executed in accordance with the Contract the cost of uncovering making openings in or through reinstating and making good the same shall be borne by the Employer but in any other case all such cost shall be borne by the Contractor.

39. IMPROPER WORK AND MATERIALS

39.1 Removal of Improper Work and Materials

39.1.1 The Engineer shall during the progress of the Works have power to order in writing:

- (i) the removal from the Site within such time or times as may be specified in the order of any materials which in the opinion of the Engineer are not in accordance with the Contract;
- (ii) the substitution of proper and suitable materials; and
- (iii) the removal and proper re-execution (notwithstanding any previous test thereof or interim payment thereof) of any work which in respect of materials or workmanship is not in the opinion of the Engineer in accordance with the Contract.

39.2 Default of Contractor in Compliance

In case of default on the part of the Contractor in carrying out such order the Employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer or may be deducted by the Employer from any monies due or which may become due to the Contractor.

39.3 Failure to Disapprove

Failure of the Engineer or any person acting under him pursuant to Clause 2 to disapprove any work or materials shall not prejudice the power of the Engineer or any of them subsequently to disapprove such work or materials.

40. SUSPENSION

40.1 Suspension of Work

40.1.1 The Contractor shall on the written order of the Engineer suspend the progress of the Works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension properly protect and secure the work so far as is necessary in the opinion of the Engineer. Subject to Clause 52 the Contractor shall be paid in accordance with Clause 60 the extra cost

(if any) incurred in giving effect to the Engineer's instructions under this Clause except to the extent that such suspension is:

- (i) otherwise provided for in the Contract; or
- (ii) necessary by reasons of weather conditions or by some default on the part of the Contractor; or
- (iii) necessary for the proper execution of or for the safety of the Works or any part thereof inasmuch as such necessity does not arise from any act or default of the Engineer or the Employer or from any of the Excepted Risks defined in Clause 20.2.

40.2 Delay occasioned by a suspension

The Engineer shall take any delay occasioned by a suspension ordered under this Clause (including that arising from any act or default of the Engineer or the Employer) into account in determining any extension of time to which the Contractor is entitled under Clause 44 except when such suspension is otherwise provided for in the Contract or is concurrent with or necessary by reason of some default on the part of the Contractor.

40.3 Suspension lasting more than Three Months

If the progress of the Works or any part thereof is suspended on the written order of the Engineer and if permission to resume work is not given by the Engineer within a period of 3 months from the date of suspension then the Contractor may unless such suspension is otherwise provided for in the Contract or continues to be necessary by reason of some default on the part of the Contractor serve a written notice on the Engineer requiring permission within 28 days from the receipt of such notice to proceed with the Works or that part thereof in regard to which progress is suspended. If within the said 28 days the Engineer does not grant such permission the Contractor by a further written notice so served may (but is not bound to) elect to treat the suspension where it affects part only of the Works as an omission of such part under Clause 51 or where it affects the whole Works as an abandonment of the Contract by the Employer.

41. COMMENCEMENT TIME AND DELAYS

41.1 Commencement of Works

The Contractor shall commence the Works on the Date of Commencement of the Works. Thereafter the Contractor shall proceed with the Works with due expedition and without delay in accordance with the Contract.

42. LAND MADE AVAILABLE, WAYLEAVES ETC AND NETWORK RAIL LAND

42.1 Possession of Land Made Available by the Employer for the Works

Subject to sub clause 42.3 and save in so far as the Contract may prescribe the extent of portions of the Land Made Available by the Employer for the Works of which the Contractor is to be given possession from time to time and the order in which such portions shall be made available to him and subject to any requirement in the Contract as to the order in which the Works shall be executed the Employer shall, subject to any other provision of the Contract, at the Date of Commencement of the Works identified under Clause 41 give to the Contractor possession of so much of the Land Made Available by the Employer for the Works as may be required to enable

the Contractor to commence and proceed with the Works in accordance with the Contractor's Programme. The Employer will from time to time as the Works proceed give to the Contractor possession of such further portions of the Land Made Available by the Employer for the Works as may be required to enable the Contractor to proceed with the construction of the Works with due despatch in accordance with the Contractor's Programme. Subject to any other provision of the Contract, if the Contractor suffers delay or incurs cost from failure on the part of the Employer to give possession in accordance with the terms of this Clause then the Engineer shall take such delay into account in determining any extension of time to which the Contractor is entitled under Clause 44 and the Contractor shall subject to Clause 52 be paid in accordance with Clause 60 the amount of such cost as may be reasonable.

42.2 Wayleaves, etc.

The Contractor shall bear all expenses and charges for any wayleaves or use of any servitudes required by him in connection with access to the Site and in connection with the construction completion and maintenance of the Works. The Contractor shall also provide at his own cost anything outside the Site required by him for the purposes of the Works.

42.3 Not Used

43. TIME FOR COMPLETION

43.1.1 The whole of the Works and any Section required to be completed within a particular time as stated in Appendix A to the Form of Tender shall be completed within the time so stated (or such extended time as may be allowed under Clause 44) calculated from and including the Date of Commencement of the Works.

43.1.2 No work shall be executed when in the opinion of the Engineer the weather conditions or conditions due to weather conditions are such as to make the continuance of that work undesirable and/or impracticable.

43.1.3 Where the Engineer has determined the continuance of work is undesirable and/or impracticable because of weather conditions or conditions due to weather conditions and, in the opinion of the Engineer, the Contractor has taken all reasonable steps to mitigate the effects of such conditions and the said work falls on the critical path in the Contractor's Programme, the Engineer shall so certify to the Contractor that the continuous periods of 4 hours or more lost expressed as a proportion of the allowable working hours within the working day shall be excluded from the number of days taken by the Contractor for completion of the Works.

43.1.4 The Contractor shall not be entitled to claim any additional payment under the provisions of this clause or under the other provisions of the Contract nor any reimbursement from the Employer of costs associated with sub clauses 43.1.2 and 43.1.3.

44. EXTENSION OF TIME

44.1 Extension of Time for Completion

44.1.1 Should any variation ordered under Clause 51.1 or increased quantities referred to in Clause 51.3 or any other cause of delay identified in these Conditions of Contract (excepting the circumstances of weather conditions or conditions due to weather conditions) occur and be such as fairly to entitle the Contractor to an extension of time for the completion of the Works or (where different periods for completion of

different Sections are provided for in Appendix A to the Form of Tender) of the relevant Section the Contractor shall within 7 consecutive days after the cause of the delay has arisen or as soon thereafter as is reasonable in all the circumstances deliver to the Engineer full and detailed particulars of any claim to extension of time to which he may consider himself entitled in order that such claim may be investigated at the time.

- 44.1.2 Notwithstanding the granting of an extension of time in respect of weather (as contemplated by Clause 43.1.3), Undertakers' Works or other special circumstances, such extension of time shall be solely for the purpose of relieving the Contractor from the obligation to pay charges pursuant to Clause 47 and shall not provide the Contractor with an entitlement of any other kind.

44.2 Interim Assessment of Extension

The Engineer shall upon receipt of such particulars or if he thinks fit in the absence of any such claim consider all the circumstances known to him at that time and make an assessment of the extension of time (if any) to which he considers the Contractor entitled for the completion of the Works or relevant Section and not later than 7 consecutive days from receipt of particulars shall by notice in writing to the Contractor and the Employer grant such extension of time for completion. In the event that the Contractor shall have made a claim for an extension of time but the Engineer considers the Contractor not entitled thereto the Engineer shall so notify the Employer and the Contractor in writing not later than 7 consecutive days from receipt of particulars from the Contractor.

44.3 Assessment at Due Date for Completion

The Engineer shall at the due time or extended time for completion (and whether or not the Contractor shall have made any claim for any extension of time) consider all the circumstances known to him at that time and take action similar to that provided for in sub clause 44.2. Should the Engineer consider that the Contractor is not entitled to an extension of time he shall so notify the Employer and the Contractor in writing.

44.4 Final Determination of Extension

The Engineer shall upon the issue of the Certificate of Completion of the Works or of the relevant Section review all the circumstances of the kind identified in sub clause 44.1 and shall finally determine and certify to the Contractor with a copy to the Employer the overall extension time (if any) to which he considers the Contractor entitled in respect of the Works or any relevant Section. No such final review of the circumstances shall result in a decrease in any extension of time already granted by the Engineer pursuant to sub clauses 44.2 or 44.3.

45. ACTIVITIES OUTWITH THE PERMITTED HOURS AND TRAFFIC MANAGMENT

45.1 Engineer's Permission- Activities Out with the Working Day

No work shall be executed out with the hours detailed in the Specification without the permission in writing of the Engineer save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works in which case the Contractor shall immediately advise the Engineer or the Engineer's Representative.

45.2 Traffic Management

For the purposes of this Contract all traffic management installations are to be in accordance with the Traffic Signs Manual, Chapter 8 and the Contract. For the purposes of this Contract setting up and removal of traffic management installations will be permitted only during the times specified in the planned traffic control system as stated in the Contract.

45.3 Traffic Management Installations

Notwithstanding Clause 19.1 no traffic management installation shall be set up or removed by the Contractor except in a manner and at a time approved by the Engineer. Without prejudice to the foregoing the Contractor shall if required by the Engineer set up a traffic management installation which accords with the planned traffic control system as stated in the Contract and shall if required by the Engineer undertake such setting up or removal with the assistance of the police.

46. RATE OF PROGRESS

If for any reason which does not entitle the Contractor to an extension of time the rate of progress of the Works or any Section is at any time in the opinion of the Engineer too slow to ensure completion of the Works in accordance with the Contractor's Programme (as modified from time to time) by the prescribed time or extended time for completion of the Works or a Section of the Works the Engineer shall so notify the Contractor in writing and the Contractor shall thereupon take such steps as are necessary to expedite progress so as to complete the Works or such Section by the prescribed time or extended time for completion of the Works or a Section of the Works. The Contractor shall not be entitled to any additional payment for taking such steps. If as a result of any notice given by the Engineer under this Clause the Contractor shall seek the Engineer's permission to do any work outwith the hours detailed in the Specification such permission shall not be unreasonably refused.

47. BONUS FOR EARLY COMPLETION/CHARGE FOR CONTINUED SITE OCCUPATION

47.1 Continued Site Occupation or Early Completion

47.1.1 Payment of Charge for Continued Site Occupation

If the Contractor fails to complete the whole of the Works within the time prescribed by Clause 43 or any extension thereof granted under Clause 44, the Contractor shall pay the Employer the sum stated in Appendix A to the Form of Tender under the heading "Bonus for Early Completion/Charge for Continued Site Occupation" for every Working Day or part thereof which shall elapse between the date which the prescribed time or any extension thereof expired and the date of completion of the Works as certified in the Certificate of Completion issued by the Engineer in accordance with Clause 48.1. The Employer may deduct the sums so due as payment from sums otherwise due to the Contractor under the Contract or any other Contract which the Employer has with the Contractor.

47.1.2 Bonus for Early Completion

If the Contractor completes the whole of the Works within a shorter time than the date prescribed by Clause 43 or any extension thereof granted under Clause 44 the Employer shall add to the sums otherwise due to the Contractor the sum stated in

Appendix A to the Form of Tender under the heading "Bonus for Early Completion/Charge for Continued Site Occupation" for every full Working Day by which the date of completion of the Works (as certified in the Certificate of Completion issued by the Engineer in accordance with Clause 48.1) is earlier than the date prescribed by Clause 43 or any extension thereof granted under Clause 44.

47.2 Addition to/Deduction from Final Account Settlement

Where following a review under Clause 44.3 and Clause 44.4 the Engineer has issued the Certificate of Completion of the Works together with the accompanying certified statement of the overall extension of time (if any) to which the Engineer considers the Contractor to be entitled in respect of the whole of the Works the Employer shall add to or deduct from any payment due settlement of the final account such sum which is equal to the sum stated in Appendix A to the Form of Tender for every Working Day by which the Contractor may complete the Works earlier or later as the case may be in accordance with the respective provisions of sub clause 47.1.1 and 47.1.2.

47.3 Nil Effect on Retention Money Calculation

In the calculation of the amount to be deducted for each Working Day that the completion of the Works exceeds the due date for completion in accordance with Clause 43 such amount shall have no effect on the calculation of the retention money in accordance with the provisions of Clause 60.2 and 60.6.

47.4 Reimbursement of Charge for Continued Site Occupation

If upon a subsequent or final review of the circumstances causing delay the Engineer shall grant an extension or further extension of time or if an arbitrator appointed under Clause 66 shall decide that the Engineer should have granted such an extension or further extension of time the Employer shall no longer be entitled to charges for continued site occupation in respect of the period of such extension of time. Any sums in respect of such period which may have been deducted from payments due to the Contractor or paid by him shall be reimbursed forthwith to the Contractor together with interest at the rate provided for in Clause 60.8 from the date on which such charges for continued site occupation were paid or deducted. In the event that such a review shows the Contractor was rightfully entitled to a bonus payment then it shall be calculated in accordance with Clause 47.1.2 and paid forthwith with the addition of interest at the rate provided for in Clause 60.8.

47.5 Sums not a Penalty

All sums deducted as payment by the Employer pursuant to this Clause from sums otherwise due to the Contractor shall be paid as liquidated damages for delay and not as a penalty.

48. COMPLETION CERTIFICATE

48.1 Certificate of Completion of Works

When the Contractor considers that the whole of the Works have been substantially completed and have satisfactorily passed any final test that may be prescribed by the Contract, and the Contractor has provided to the (i) Engineer all the relevant As Constructed Requirements and (ii) the principal designer all the Health and Safety File Requirements he may give a notice to that effect to the Engineer or to the Engineer's Representative accompanied by an undertaking to finish any outstanding part of the Works during the relevant Period of Maintenance. Such notice and

undertaking shall be in writing and shall be deemed to be a request by the Contractor for the Engineer to issue a Certificate of Completion in respect of the Works and the Engineer shall within 21 days of the date of delivery of such notice and undertaking either issue to the Contractor (with a copy to the Employer) a Certificate of Completion stating the date on which in his opinion the Works were substantially completed in accordance with the Contract and all relevant As Constructed Requirements and all the Health and Safety File Requirements were provided or else give instructions in writing to the Contractor specifying all the parts of the Works which in the Engineer's opinion require to be done by the Contractor and or any outstanding information and other items required for the As Constructed Requirements and or the Health and Safety File Requirements before the issue of such certificate. If the Engineer shall give such instructions the Contractor shall be entitled to receive such Certificate of Completion within 21 days of completion to the satisfaction of the Engineer of the parts of the Works specified by the said instructions and delivery of any such outstanding information and other items.

48.2 Completion of Sections and Occupied Parts

48.2.1 Similarly in accordance with the procedure identified in sub clause 48.1 the Contractor may request and the Engineer shall issue a Certificate of Completion in respect of:

- (i) any Section in respect of which a separate time for completion is provided in Appendix A to the Form of Tender; and
- (ii) any substantial part of the Works, which has been both completed to the satisfaction of the Engineer and occupied or used by the Employer.

48.3 Completion of Other Parts of Works

If the Engineer shall be of the opinion that any part of Works shall have been substantially completed, shall have satisfactorily passed any final test that may be prescribed by the Contract and the Contractor has provided to the Engineer all the relevant As Constructed Requirements and all the Health and Safety File Requirements he may issue a Certificate of Completion in respect of that part of the Works before completion of the whole of the Works and upon the issue of such certificate the Contractor shall be deemed to have undertaken to complete any outstanding part of the Works during the relevant Period of Maintenance.

48.4 Reinstatement of Ground

Provided always that a Certificate of Completion given in respect of any Section or part of the Works before completion of the whole shall not be deemed to certify completion of any ground or surfaces requiring reinstatement unless such certificate shall expressly so state.

49. ROUTINE MAINTENANCE, COMPLIANCE SURVEYS, MAINTENANCE AND DEFECTS

49.1 Definition of "Period of Maintenance"

In the Contract the expression **Period of Maintenance** shall mean in respect of the Works or any Section or part of the Works as the case may be the period of maintenance named in Appendix A to the Form of Tender calculated from the Date of Completion of the Works or any Section or part thereof certified by the Engineer in accordance with Clause 48 as the case may be.

49.2 Execution of Work of Repair, etc

To the extent that the Works and each Section and part thereof shall at or as soon as practicable after the expiry of the relevant Period of Maintenance be delivered up to the Employer in the condition required by the Contract (fair wear and tear excepted) to the satisfaction of the Engineer the Contractor shall complete all parts of the Works (if any) outstanding at the date of completion as certified pursuant to Clause 48 as soon as may be practicable after such date but in any case not later than at the date of expiry of the relevant Period of Maintenance and shall execute during the relevant Period of Maintenance all work of repair amendment reconstruction rectification and making good of all defects, imperfections shrinkages or other faults as may during the relevant Period of Maintenance or within 14 days after its expiry be required of the Contractor by the Engineer as a result of an inspection made by or on behalf of the Engineer prior to its expiry.

49.3 Cost of Execution of Work of Repair, etc

All such work shall be carried out by the Contractor at his own expense if the necessity thereof shall in the opinion of the Engineer be due to the use of materials or workmanship not in accordance with the Contract or to neglect or failure on the part of the Contractor to comply with any obligation expressed or implied on the Contractor's part under the Contract. If in the opinion of the Engineer such necessity shall be due to any other cause the value of such work shall be ascertained and paid for as if it were additional work.

49.4 Remedy on Contractor's Failure to Carry out Work Required

If the Contractor shall fail to do any such work as aforesaid or in the opinion of the Employer unreasonably delay in doing any such work as aforesaid the Employer shall be entitled to carry out any such work by his own workmen or by other contractors and if such work is work which the Contractor should have carried out at the Contractor's own cost the Employer shall be entitled to recover from the Contractor the cost thereof or may deduct the same from any monies due or that become due to the Contractor.

49.5 Temporary Reinstatement

49.5.1 If in the course or for the purposes of the construction completion and maintenance of the Works or any part thereof any public road or other road or way shall have been broken into then notwithstanding anything herein contained:

- (i) If the permanent reinstatement of such public road or other road or way is to be carried out by the appropriate roads authority or by some person other than the Contractor (or any sub-contractor to him) the Contractor shall at his own cost and independently of any requirement of or notice from the Engineer be responsible for the making good of any subsidence or shrinkage or other defect imperfection or fault in the temporary reinstatement of such public road or other road or way and for the execution of any necessary repair or amendment thereof from whatever cause the necessity arises until the end of the relevant Period of Maintenance in respect of the Works beneath such public road or other road or way or until the roads authority or other person as aforesaid shall have taken possession of the public road or other road for the purpose of carrying out permanent reinstatement (whichever is the earlier) and shall indemnify and save harmless the Employer against and from any damage or injury to the Employer or to third parties arising out or in consequence of any neglect or
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failure of the Contractor to comply with the foregoing obligations or any of them and against and from all claims demands proceedings damages costs charges and expenses whatsoever in respect thereof or in relation thereto. As from the end of such Period of Maintenance or the taking of possession as aforesaid (whichever shall first happen) the Employer shall indemnify and save harmless the Contractor against and from any damage or injury as aforesaid arising out of or in consequence of or in connection with the said permanent reinstatement or any defect imperfection or failure of or in such work of permanent reinstatement and against and from all claims demands proceedings damages costs charges and expenses whatsoever in respect thereof or in relation thereto.

- (ii) Where the roads authority or other person as aforesaid shall take possession of such public road or other road or way as aforesaid in sections or lengths the responsibility of the Contractor under sub clause 49.5.1(i) shall cease in regard to any such section or length at the time possession thereof is so taken but shall during the continuance of the said Period of Maintenance continue in regard to any length of which possession has not been so taken and the indemnities given by the Contractor and the Employer respectively under the said paragraph shall be construed and have effect accordingly.

49.6 Charge for Maintenance Work

If the Contractor is required under this Clause to carry out work of repair amendment reconstruction rectification and making good of defects imperfections shrinkages and other faults at his own expense and/or finish the work (if any) outstanding at the date of completion as certified under Clause 48, the Contractor shall pay to Employer the appropriate sum stated in Appendix A to the Form of Tender under the heading "Charges for Maintenance Work" for each Working Day or part Working day taken to complete such work. The Employer may deduct the sums due as payments from sums otherwise due to the Contractor or any other Contract which the Employer or his Agents have with the Contractor. All sums deducted as payment by the Employer pursuant to this Clause from sums otherwise due to the Contractor shall be paid as liquidated damages for delay and not as a penalty.

50. CONTRACTOR TO SEARCH

The Contractor shall if required by the Engineer in writing carry out such searches tests or trials as may be necessary to determine the cause of any defect imperfection or fault under the directions of the Engineer. Unless such defect imperfection or fault shall be one for which the Contractor is liable under the Contract the cost of the work carried out by the Contractor as aforesaid shall be borne by the Employer. But if such defect imperfection or fault shall be one for which the Contractor is liable the cost of the work carried out as aforesaid shall be borne by the Contractor and he shall in such case repair rectify and make good such defect imperfection or fault at his expense in accordance with Clause 49.

51. ALTERATIONS ADDITIONS AND OMISSIONS

51.1 Ordered Variations

- 51.1.1 The Engineer shall order any variation to any part of the Works that may in his opinion be necessary for the construction completion and maintenance of the Works and
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shall have power to order any variation that for any other reason shall in his opinion be desirable for the satisfactory completion and functioning of the Works. Such variation may include additions omissions substitutions and alterations changes in quality form character kind position dimension level or line and changes in the specified sequence method or timing of construction (if any).

- 51.1.2 Where during the progress of the Works the Contractor considers that a variation to the Works should be ordered by the Engineer pursuant to Clause 51 and where the Engineer has not ordered any such variation the Contractor shall immediately that he becomes aware that any such variation should be ordered, issue a notification to the Engineer requesting the Engineer to order such a variation. Such notification by the Contractor shall include a detailed contractual justification and demonstration such that the Engineer shall be able to give consideration to the ordering of such a variation. Where in respect of any such notification the Engineer is of the opinion that such a variation is required the Engineer shall order such variation pursuant to Clause 51.1.1. Where the Engineer considers that the said notification contains insufficient justification and demonstration to show that a variation should be ordered, he shall be entitled to request from the Contractor and shall be supplied by the Contractor any such further information by way of justification or demonstration as in the opinion of the Engineer is necessary to permit him to consider whether he should order such a variation.

51.2 Ordered Variations to be in Writing

- 51.2.1 No variation shall be made by the Contractor without an order by the Engineer. All such orders shall be given in writing provided that if for any reason the Engineer shall find it necessary to give any such order orally in the first instance in respect of:
- (i) ensuring the safety of the Works;
 - (ii) ensuring the safety of the Site;
 - (iii) ensuring the safety of the Contractor's employees;
 - (iv) ensuring the safety of the Engineer's employees;
 - (v) ensuring the safety of the public; or
 - (vi) preventing damage to any other person or property;

the Contractor shall comply with such oral order. Such oral order shall be confirmed in writing by the Engineer as soon as is possible in the circumstances. If the Contractor shall confirm in writing to the Engineer any oral order by the Engineer and such confirmation shall not be contradicted in writing by the Engineer forthwith it shall be deemed to be an order in writing by the Engineer. No variation ordered or deemed to be ordered in writing in accordance with sub clauses 51.1 and 51.2 shall in any way vitiate or invalidate the Contract but the value (if any) of all such variations shall be taken into account in ascertaining the amount of the Contract Price.

51.3 Change in Quantities

No order in writing shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an order given under this Clause but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.

52. ENGINEER TO FIX VALUE OF VARIATIONS

52.1.1 The value of all variations ordered by the Engineer in accordance with Clause 51 shall be ascertained by the Engineer in accordance with the following principles:

- (i) Where work is of similar character and executed under similar conditions the rates and prices in the Bill of Quantities it shall be valued at such rates and prices contained therein as may be applicable.
- (ii) Where work is not of a similar character and/or is not executed under similar condition the rates and prices in the Bill of Quantities shall be used as the basis for valuation so far as may be reasonable failing which a fair valuation shall be made.
- (iii) Provided that if the nature or amount of any variation relative to the nature or amount of the whole of the Contract work or any part thereof shall be such that in the opinion of the Engineer or the Contractor any rate or price contained in the Contract for any item or work is by reason of such variation rendered unreasonable or inapplicable either the Engineer shall give to the Contractor or the Contractor shall give to the Engineer notice before the varied work is commenced or as soon as possible thereafter as is reasonable in the circumstances that such rate or price should be varied and the Engineer shall fix such rate as in the circumstances he considers reasonable and proper.
- (iv) By the Engineer ordering in writing that any varied work shall be valued on the basis of a lump sum quotation prepared by the Contractor prior to the commencement of the work relating to the ordered variation. Any lump sum quotation submitted by the Contractor in accordance with this Clause shall be submitted to the Engineer not later than 14 days after receipt of such instruction from the Engineer. The quotation shall show inter alia how the lump sum was calculated by showing separately the amounts attributable to:
 - (a) the direct cost or reduction in cost of providing the lump sum quotation;
 - (b) the cost or reduction in cost (if any) of any disruption to or prolongation of varied and unvaried work consequential to complying with the ordered variation;
 - (c) the cost or reduction in cost allowed for contingencies and risk;
 - (d) the cost or reduction in cost allowed for all overheads;
 - (e) the cost or reduction in cost allowed for profit; and
 - (f) copies of all relevant sub-contract or supply quotations.

The Contractor shall include with his lump sum quotation all such other information including quantities rates and prices as shall enable the Engineer to properly evaluate such quotation.

The Contractor shall not later than 7 days after being requested by the Engineer provide such further information required by the Engineer to enable him to complete his evaluation of the lump sum quotation.

No later than 7 days from the receipt of any such lump sum quotation or not later than 7 days after receipt of such further information identified in this sub clause (iv) whichever is the later the Engineer shall either:

- (a) instruct the Contractor at his sole discretion in a subsequent variation to proceed with the work the subject of such variation for such lump sum as specified for the original variation or for such other lump sum agreed between the Engineer and the Contractor. Such lump sum shall be the full sum to which the Contractor is entitled for complying with the subsequent ordered variation and no further claim for additional monies shall be made by him in respect of such subsequent variation; or
 - (b) decline to accept the lump sum quotation and instruct the Contractor to proceed no further with the work which was the subject of the original variation.
- (v) By the Engineer ordering in writing that any varied work shall be ordered on the basis of the proper and reasonable varied costs actually incurred by the Contractor. Costs for the purpose of this sub clause shall exclude any element of Contractor's head office overheads and profit or the Contractor's profit. The Contractor shall then be paid for such work, which shall be the reasonable varied costs actually incurred by the Contractor. To the amount of such proper and reasonable varied Contractor's costs shall be added the percentage identified in Appendix A to the Form of Tender in respect of Contractor's head office overheads and profit.

52.1.2 Before ordering materials the Contractor shall submit to the Engineer quotations for the same for his approval. Unless otherwise agreed in writing by the Engineer, the Contractor shall furnish to the Engineer such receipts or other vouchers as may be necessary to prove the amounts paid.

52.1.3 In respect of all work executed on the basis of proper and reasonable varied costs actually incurred by the Contractor in accordance with Clause 52.1.1 (v) the Contractor shall during the continuance of such work deliver each day to the Engineer's Representative an exact list in duplicate of the names occupation and time of all workmen employed on such work and a statement also in duplicate showing the description and quantity of all materials and plant used thereon or therefore. One copy of each list and statement shall if correct or when agreed be signed by the Engineer's Representative and returned to the Contractor. At the end of each month the Contractor shall deliver to the Engineer's Representative a priced statement of the labour material and plant used and the Contractor shall not be entitled to any payment unless such lists and statements have been fully and punctually rendered. Provided always that if the Engineer shall consider that for any reason the sending of such list or statement by the Contractor in accordance with the foregoing provision was impracticable he shall nevertheless be entitled to authorise payment for such work (on being satisfied as to the time employed and the plant and materials used on such work) at such value therefore as he shall consider fair and reasonable.

52.1.4 The actual principle to be employed for the valuation of each ordered variation shall be at the sole discretion of the Engineer.

52.2 Notice of Claims

- 52.2.1 If the Contractor intends to claim a higher rate or price than one notified to him by the Engineer pursuant to sub clauses 52.1.1(i), (ii) or (iii) or Clause 56.3 the Contractor shall within 28 days after such notification give notice in writing of his intention to the Engineer.
- 52.2.2 If the Contractor intends to claim any additional payment pursuant to any Clause of these Conditions of Contract other than sub clauses 52.1.1.(i), (ii) or (iii) he shall give notice in writing of his intention to the Engineer as soon as reasonably possible after the happening of the events giving rise to the claim. Upon the happening of such events the Contractor shall keep such contemporary records as may reasonably be necessary to support any claim he may subsequently wish to make.
- 52.2.3 Without necessarily admitting the Employer's liability the Engineer may upon receipt of a notice under this Clause instruct the Contractor to keep such contemporary records or further contemporary records as the case may be as are reasonable and may be material to the claim of which notice has been given and the Contractor shall keep such records. The Contractor shall permit the Engineer to inspect all records kept pursuant to this Clause and shall supply him with copies thereof as and when the Engineer shall so instruct.
- 52.2.4 After the giving of a notice to the Engineer under this Clause the Contractor shall as soon as is reasonable in all the circumstances send to the Engineer a first interim account giving full and detailed particulars of the amount claimed to that date and of the grounds upon which the claim is based. Thereafter at such intervals as the Engineer may reasonably require the Contractor shall send to the Engineer further up to date accounts giving the accumulated total of the claim and any further grounds upon which it is based.
- 52.2.5 If the Contractor fails to comply with any of the provisions of this Clause in respect of any claim which he shall seek to make then the Contractor shall be entitled to payment in respect thereof only to the extent that the Engineer has not been prevented from or substantially prejudiced by such failure in investigating the said claim.
- 52.2.6 The Contractor shall be entitled to have included in any interim payment certified by the Engineer and or the Engineer's Representative pursuant to Clause 60 such amount in respect of any claim as the Engineer may consider due to the Contractor provided that the Contractor shall have supplied sufficient particulars to the Engineer to determine the amount due. If such particulars are insufficient to substantiate the whole of the claim the Contractor shall be entitled to payment in respect of such part of the claim as the particulars may substantiate to the satisfaction of the Engineer.

53. PROPERTY IN MATERIALS AND PLANT

53.1 Plant, etc. – Definitions

- 53.1.1 For the purpose of this Clause:
- (i) the expression **Plant** shall mean any Constructional Plant Temporary Works and materials for Temporary Works but shall exclude any vehicles engaged in transporting any labour plant or materials to or from the Site;
 - (ii) the expression **agreement for hire** shall be deemed not to include an agreement for hire purchase.
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53.2 Vesting of Plant

All Plant goods and materials owned by the Contractor or by any company in which the Contractor has a controlling interest shall when on the Site be deemed to be the property of the Employer.

53.3 Conditions of Hire of Plant

With a view to securing in the event of default under Clause 63 the continued availability for the purpose of constructing completing and maintaining the Works of any hired Plant the Contractor shall not bring on to the Site any hired Plant unless there is an agreement for the hire thereof which contains a provision that the owner thereof shall on request in writing made by the Employer within 7 days after the date on which any forfeiture has become effective and on the Employer undertaking to pay all hire charges in respect thereof from such date hire such Plant to the Employer on the same terms in all respects as the same was hired to the Contractor save that the Employer shall be entitled to permit the use thereof by any other contractor employed by him for the purpose of constructing completing and maintaining the Works under the terms of the said Clause 63.

53.4 Costs for Purposes of Clause 63

In the event of the Employer entering into any agreement for the hire of Plant pursuant to sub clause 53.3 all sums properly paid by the Employer under the provisions of any such agreement and all expenses incurred by him (including stamp duties) in entering into such agreement shall be deemed for the purpose of Clause 63 to be part of the cost of constructing completing and maintaining the Works.

53.5 Notification of Plant Ownership

The Contractor shall upon request made by the Engineer at any time in relation to any item of Plant forthwith notify to the Engineer in writing the name and address of the owner thereof and shall in the case of hired Plant certify that the agreement for the hire thereof contains a provision in accordance with the requirements of sub clause 53.3.

53.6 Irremovability of Plant, etc.

No Plant (except hired Plant) goods or materials or any part thereof shall be removed from the Site without the written consent of the Engineer which consent shall not be unreasonably withheld where the same are no longer immediately required for the purposes of constructing completing and maintaining the Works but the Employer shall permit the Contractor the exclusive use of all such Plant goods and materials in and for the constructing completing and maintaining of the Works until the occurrence of any event which gives the Employer the right to exclude the Contractor from the Site and proceed with the constructing completing and maintaining of the Works.

53.7 Revesting and Removal of Plant

Upon the removal of any such Plant goods or materials as have been deemed to have become the property of the Employer under sub clause 53.2 with the consent as aforesaid the property therein shall be deemed to revert in the Contractor and upon completion of the Works the property in the remainder of such Plant goods and materials as aforesaid shall subject to Clause 63 be deemed to revert in the Contractor.

53.8 Disposal of Plant

53.8.1 If the Contractor shall fail to remove any Plant goods or materials as required pursuant to Clause 33 within such reasonable time after completion of the Works as may be allowed by the Engineer then the Employer may:

- (i) sell any which are the property of the Contractor; and
- (ii) return any not the property of the Contractor to the owner thereof at the Contractor's expense; and

after deducting from any proceeds of sale the costs charges and expenses of and in connection with such sale and of and in connection with return as aforesaid shall pay the balance (if any) to the Contractor but to the extent that the proceeds of any sale are insufficient to meet all such costs charges and expenses the excess shall be a debt due from the Contractor to the Employer and shall be deductible or recoverable by the Employer from any monies due or that may become due to the Contractor under the Contract or may be recovered by the Employer from the Contractor at law.

53.9 Liability for Loss or Injury to Plant

The Employer shall not at any time be liable for the loss of or injury to any of the Plant goods or materials which have been deemed to become the property of the Employer under sub clause 53.2 save as mentioned in Clauses 20 and 65.

53.10 Incorporation of Clause in Sub-contracts

The Contractor shall where entering into any sub-contract for the construction completion and maintenance of any part of the Works incorporate in such sub-contract (by reference or otherwise) the provisions of this Clause in relation to Plant goods or materials brought on to the Site by the sub-contractor.

53.11 No approval by Vesting

The operation of this Clause shall not be deemed to imply any approval by the Engineer of the materials or other matters identified herein nor shall it prevent the rejection of any such materials at any time by the Engineer.

54. VESTING OF GOODS AND MATERIALS NOT ON SITE

If the Employer considers it expedient to do so, the Employer may enter into a separate contract with the Contractor for the purchase of goods and materials prior to their delivery to the Site. Such separate contract shall be in the form to be provided by the Employer and such may include as a minimum, at the Employer's discretion, a requirement for an advanced payment bond in favour of the Employer; the identity of the granter of the said bond to be approved by the Employer. The Contractor shall incorporate provisions equivalent to those provided in this Clause in every sub-contract in which provisions are made for payment in respect of goods or materials before the same have been delivered to the Site.

55. MEASUREMENT

55.1 Quantities

55.1.1 The quantities set out in the Bill of Quantities are the estimated quantities of the work but they are not to be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfilment of his obligations under the Contract.

55.1.2

- (i) Any error in description in or omission from the Bill of Quantities shall not vitiate the Contract nor release the Contractor from the construction, completion or maintenance of the whole or any part of the Works in accordance with the Contract including the Drawings and Specification or from any of his other obligations or liabilities under the Contract.
- (ii) Any such error or omission in the Bill of Quantities shall be corrected by the Engineer and the value of the work actually carried out shall be ascertained in accordance with Clause 52.
- (iii) Provided there shall be no rectification of any errors omissions or wrong estimates in the descriptions of the items in the Bill of Quantities or any rate and price inserted by the Contractor in the Bill of Quantities and the Tender Total shall not be varied as a result of any such matter.

56. MEASUREMENT AND QUANTITIES

56.1 Measurement and Valuation

The Engineer shall except as otherwise stated in the Contract ascertain and determine by admeasurement the value in accordance with the Contract of the work done in accordance with the Contract including a variation ordered by the Engineer provided that any such variation necessitated by the failure of the Contractor to comply with the Contract shall not rank for payment to the Contractor.

56.2 Changes in Quantities

Subject to any other provisions of the Contract should the actual quantities executed in respect of any item be greater or less than those stated in the Bill of Quantities and if in the opinion of the Engineer such increase or decrease of itself shall so warrant the Engineer shall after consultation with the Contractor determine an appropriate increase or decrease of any rate or price in the Bill of Quantities rendered unreasonable or inapplicable in consequence thereof and shall notify the Contractor accordingly.

56.3 Attending for Measurement

The Engineer shall when he requires any part or parts of the Works to be measured give reasonable notice to the Contractor who shall attend or send a qualified agent to assist the Engineer or the Engineer's Representative in making such measurement and shall furnish all particulars required by either of them. Should the Contractor not attend or neglect or omit to send such agent then the measurement made by the Engineer or approved by him shall be taken to be the correct measurement of the work.

57. METHOD OF MEASUREMENT

Except where any statement or general or detailed description of the work in the Bill of Quantities expressly shows to the contrary the Bills of Quantities shall be deemed to have been prepared and measurements shall be made according to the procedure set forth in the Method of Measurement for Highway Works referred to in the Preambles to the Bill of Quantities notwithstanding any general or local custom.

58. PROVISIONAL SUMS AND PRIME COST ITEMS

58.1 Provisional Sums

Provisional Sum means a sum included in the Contract and Provisional Sums so designated for the execution of work or the supply of goods materials or services or for contingencies which sum may be used in whole or in part or not at all at the direction and discretion of the Engineer.

58.2 Prime Cost Sum

Prime Cost (PC) Item means an item in the Contract which contains (either wholly or in part) a sum referred to as Prime Cost (PC) which will be used for the execution of work or for the supply of goods materials or services for the Works.

58.3 Requirements to be Expressly Stated

58.3.1 If in connection with any Provisional Sum or Prime Cost Item the services to be provided include any matter of specification of any part of the Permanent Works or of any equipment or plant to be incorporated therein such requirement shall be expressly stated in the Contract.

58.3.2 The obligation of the Contractor in respect thereof shall be only that which has been expressly stated in accordance with this sub clause.

58.4 Use of Prime Cost Items

58.4.1 In respect of every Prime Cost Item the Engineer shall have power with the consent of the Contractor to order the Contractor to execute any such work or to supply any such goods materials or services in which event the Contractor shall be paid in accordance with the terms of a quotation submitted by him and accepted by the Engineer or in the absence thereof the value shall be determined in accordance with Clause 52.

58.5 Use of Provisional Sums

58.5.1 In respect of every Provisional Sum the Engineer shall have power to order work to be executed or goods materials or services to be supplied by the Contractor the value of such work executed or goods material or services supplied being determined in accordance with Clause 52 and included in the Contract Price.

59. NOT USED

60. CERTIFICATES AND PAYMENT

60.1 Monthly Statements

60.1.1 Unless otherwise agreed by the Employer and the Contractor, the Contractor shall submit to the Engineer at monthly intervals commencing within one month after the Date of Commencement of the Works pursuant to Clause 41 up to one month after the date of the Certificate of Completion and thereafter immediately following the Maintenance Certificate a statement (in such form as may be prescribed in the Specification) showing:

- (i) the estimated contract value of the Permanent Works executed up to the end of that month;
 - (ii) a list of any goods or materials delivered to the Site for but not yet incorporated in the Permanent Works and their value;
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- (iii) the estimated amounts to which the Contractor considers himself entitled in connection with all other matters for which provision is made under the Contract;

unless in the opinion of the Contractor such values and amounts together shall not justify the issue of an interim certificate.

The payments become due on certification by the Engineer in accordance with Clause 60.2 with the final date for payment being 14 days after the due date.

Statements submitted in February and March of each year shall be delivered to the Engineer between the 8th and 10th of the month (if specifically requested by the Engineer).

60.2 Monthly Payments

60.2.1 Within 14 days of the date of delivery to the Engineer in accordance with Clause 60.1 of the Contractor's monthly statement the Engineer shall certify (after deducting any previous amounts on account):

- (i) the amount which in the opinion of the Engineer on the basis of the monthly statement is due to the Contractor on account of Clause 60.1.1 less a retention as provided in Clause 60.5 and after deduction of (i) the sum to Railway Infrastructure Controller (Network Rail) paid by the Employer in accordance with Clause 78; and (ii) any other sums due to the Employer pursuant to this Contract and shall set out in the Engineer's certificate the basis on which this amount is calculated. The Engineer's certificate shall be issued by the Engineer to the Contractor and the Employer simultaneously. Each certificate shall constitute a Payer Notice.
- (ii) Prior to the date of issue of a Certificate of Completion for the whole of the Works the Contractor may not submit a monthly statement and the Engineer shall not be bound to issue an interim certificate for a sum less than that named in Appendix A to the Form of Tender.

60.3 Final Account

Within 3 months after the date of the Maintenance Certificate as identified in Clause 61 the Contractor shall submit to the Engineer a statement of final account and supporting documentation showing in detail the value in accordance with the Contract of the work done in accordance with the Contract together with all further sums which the Contractor considers to be due to him under the Contract up to the date of the Maintenance Certificate. No later than 3 months after receipt of this final account and of all information reasonably required for its verification the Engineer shall issue a final certificate stating the amount which in his opinion is finally due under the Contract up to the date of the Maintenance Certificate and the basis on which this amount is calculated. The final certificate shall give credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled under the Contract up to the date of the Maintenance Certificate the balance if any due from the Employer to the Contractor or from the Contractor to the Employer as the case may be. Such balance shall subject to Clauses 47 be paid to or by the Contractor as the case may require. The payment becomes due on certification. The final certificate shall be issued by the Engineer to the Contractor and the Employer simultaneously. The final certificate shall constitute a Payer Notice.

60.4 Due Date and Final Date

Payment will become due on the date of the final certificate or where no certificate is issued within 3 months after receipt of the Contractor's statement of final account and all information reasonably required for its verification by the Engineer 3 months after said receipt. The final date for payment is 28 days from the due date.

60.5 Retention

60.5.1 The retention to be made pursuant to Clause 60.2 shall be a sum equal to 5 per cent of the amount due to the Contractor until a reserve shall have accumulated in the hand of the Employer up to the following limits:

- (i) Where the Tender Total does not exceed £50,000 5 per cent of the Tender Total but not exceeding £1,500; or
- (ii) Where the Tender Total exceeds £50,000 3 per cent of the Tender Total;

except that the limit shall be reduced by the amount of any payment that shall have been made pursuant to Clause 60.6.

60.6 Payment of Retention Money

60.6.1 One half of the retention money, calculated in accordance with Clause 60.5, less any sums paid pursuant to Clause 60.6 shall be become due to the Contractor within 14 days of the date of delivery to the Engineer in accordance with Clause 60.1 of the Contractor's monthly statement received immediately following the Certificate of Completion for the whole of the Works pursuant to Clause 48.1 together with the relevant information pursuant to Clause 6.2. The Engineer shall certify the sum due and the basis on which this has been calculated on or before the due date. The Engineer's certificate shall be issued simultaneously to both the Employer and the Contractor. Each certificate shall constitute a Payer Notice. The final date for payment shall be fourteen days after the due date. Provided always that if at such time there shall remain to be executed by the Contractor any outstanding work referred to under Clause 48 or any works ordered during such period pursuant to Clauses 49 and 50 payment shall not be due from the Employer to the Contractor until the completion of such works of so much of the second half of retention money as shall in the opinion of the Engineer represent the cost of the works so remaining to be executed.

60.6.2 The final instalment amounting to fifty percent of the retention money becomes due to the Contractor within 14 days of the later of the date of delivery to the Engineer in accordance with Clause 60.1 of the Contractor's monthly statement received immediately following the issue of the Maintenance Certificate together with the relevant As Constructed Requirements pursuant to Clause 6.2. The Engineer shall certify the sum due and the basis on which this has been calculated on or before the due date. The Engineer's certificate shall be issued simultaneously to both the Employer and the Contractor. Each certificate shall constitute a Payer Notice. The final date for payment shall be fourteen days after the due date.

60.6.3 Notwithstanding that there may be outstanding claims by the Contractor against the Employer where:

- (i) At such time there shall remain to be executed by the Contractor any supply to the Engineer of any relevant information pursuant to Clause 6.2 or any outstanding work referred to under Clause 48 or any works ordered during such period pursuant to Clauses 49, 50 and or 62 payment shall not be due from the Employer to the Contractor until the completion of such works and
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or delivery of such information or so much of any instalment of retention money as shall in the opinion of the Engineer represent the cost of the works and or the value of the information so remaining to be executed and or delivered.

- (ii) The Contractor incurs a Charge for Maintenance Work under Clause 49.6 during any Period of Maintenance these may be deducted by the Employer from any payments otherwise due and such deductions will be detailed in the Pay Less Notice pursuant to Clause 60.11.

60.7 Failure to Certify

In the event of failure by the Engineer to certify in accordance with the time periods referred to in Clause 60.2, 60.3 and 60.6 the amount due to the Contractor on the final date for payment shall, subject to any Pay Less Notice pursuant to Clause 60.11, be the sum stated in the monthly statement.

60.8 Interest on Overdue Payments

In the event of failure by the Engineer to certify or the Employer to make payment in accordance with Clauses 60.1, 60.4, 60.7 and 60.12 the Employer shall pay to the Contractor interest upon any payment overdue thereunder at a rate per annum equivalent to 2 per cent plus the Base Lending Rate announced by the Royal Bank of Scotland which is current on the date upon which such payment first becomes overdue. In the event of any variation in the Base Lending Rate being announced whilst such payment remains overdue the interest payable to the Contractor for the period that such payment remains overdue shall be correspondingly varied from the date of each such variation. Notwithstanding any other provision of this Clause a payment due to be made by the Employer to the Contractor shall only be overdue for the purposes of this Clause if payment has not been made prior to the final date for such payment.

60.9 Certificates and work, goods, materials or services not in accordance with the Contract

The Engineer shall have power to omit from any certificate the value of any work done goods or materials supplied or services rendered with which he may for the time being be dissatisfied and for that purpose or for any other reason which to him may seem proper may by any certificate delete correct or modify any sum previously certified by him.

60.10 Certificates and Payer Notices

Every certificate issued by the Engineer pursuant to this Clause shall be sent to the Employer and on the Employer's behalf and to the Contractor. By this certificate the Employer shall give notice to the Contractor specifying the amount (if any) of the payment proposed to be made and the basis on which it was calculated.

60.11 Notice of Intention to Pay Less

Where a payment under this Clause 60 is to differ from that certified, or that contained in the monthly statement as the case may be, the Employer shall notify the Contractor in writing not later than one day before the final date for payment specifying the amount he considers to be due to the Contractor at the date the Notice is given and the basis on which that sum has been calculated (the Pay Less Notice).

60.12 Effect of Pay Less Notice

Where a Pay Less Notice is given by the Employer to the Contractor, the payment to be made to the Contractor on or before the final date for payment shall not be less than the amount stated in the Pay Less Notice.

61. MAINTENANCE CERTIFICATE

61.1 Issue of Maintenance Certificate

Upon the expiration of the Period of Maintenance or where there is more than one such period upon the expiration of the latest period and when all outstanding work referred to under Clause 48 and all work of repair amendment reconstruction rectification and making good of defects imperfections shrinkages and other faults identified in Clauses 49 and 50 shall have been completed and the Engineer shall have received from the Contractor all the relevant certificates and the final As Constructed Requirements in respect of the Works required by the Contract the Engineer shall issue to the Employer (with a copy to the Contractor) a Maintenance Certificate stating the date on which the Contractor shall have completed his obligations in respect of the Works to the Engineer's satisfaction.

61.2 Unfulfilled Obligations

The issue of the Maintenance Certificate shall not be taken as relieving either the Contractor or the Employer from any liability the one towards the other arising out of or in any way connected with the performance of their respective obligations under the Contract.

62. REMEDIES AND POWERS

62.1 Urgent Repairs

If by reason of any accident or failure or other event occurring to in or in connection with the Works or any part thereof either during the construction completion and maintenance of the Works or during the Period of Maintenance any remedial or other work or repair shall in the opinion of the Engineer be urgently necessary and the Contractor is unable or unwilling at once to do such work or repair the Employer may by his own or other workmen do such work or repair as the Engineer may consider necessary. If the work or repair so done by the Employer is work which in the opinion of the Engineer the Contractor was liable to do at his own expense under the Contract all costs and charges properly incurred by the Employer in so doing shall on demand be paid by the Contractor to the Employer or may be deducted by the Employer from any monies due or which may become due to the Contractor. Provided always that the Engineer shall as soon after the occurrence of any such accident or failure or other event as may be reasonably practicable notify the Contractor thereof in writing.

63. DEFAULT

63.1 Determination of Contractor's Employment

63.1.1 If:

- (i) the Contractor shall be in default in that he:
 - (a) becomes bankrupt or has a receiving order or administration order made against him or presents his petition in bankruptcy or makes an arrangement with or assignment in favour of his creditors or agrees
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- to carry out the Contract under a committee of inspection of his creditors or (being a corporation) goes into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction); or
- (b) assigns the Contract without the consent in writing of the Employer first obtained; or
 - (c) has an attachment order levied on his goods which is not stayed or discharged within 28 days; or
- (ii) the Engineer certifies in writing to the Employer that in his opinion the Contractor:
- (a) has abandoned the Contract; or
 - (b) without reasonable excuse has failed to commence the construction completion and maintenance of the Works in accordance with Clause 41 or has suspended the progress of the construction completion and maintenance of the Works for 14 days after receiving from the Engineer written notice to proceed; or
 - (c) has failed to remove goods or materials from the Site or to pull down and replace work for 14 days after receiving from the Engineer written notice that the said goods materials or work have been condemned and rejected by the Engineer; or
 - (d) despite previous warning by the Engineer in writing is failing to proceed with the construction completion and maintenance of the Works with due diligence or is otherwise persistently or fundamentally in breach of his obligations under Contract; or
 - (e) has to the detriment of good workmanship or in defiance of the Engineer's instruction to the contrary sub-let any part of the Contract; or
 - (f) has not complied with any of the provisions of Clauses 22 to 25 inclusive;

then the Employer may after giving 7 days' notice in writing to the Contractor specifying the default, save in relation to Clause 63.1.1(i) (a) whereby the Employer shall be entitled to terminate forthwith, enter upon the Site and the Works and expel the Contractor therefrom without thereby avoiding the Contract or releasing the Contractor from any of his obligations or liabilities under the Contract or affecting the rights and powers conferred on the Employer or the Engineer by the Contract. Provided that the Employer may extend the period of notice to give the Contractor opportunity to remedy the default.

- (iii) In the event that the Contractor is in default in terms of Clause 63.1.1(i)(a) no further sum will become due to the Contractor and the Employer need not pay any sum that has already become due either:
- (a) insofar as the Employer has given a Pay Less Notice under Clause 60.11; or
 - (b) if the Contractor, after the last date upon which such notice could have been given by the Employer, has become bankrupt or has a receiving order or administration order made against him or presents
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his petition in bankruptcy or makes an arrangement with or assignment in favour of his creditors or agrees to carry out the Contract under a committee of inspection of his creditors or (being a corporation) goes into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction).

63.2 Completing the Works

Where the Employer has entered upon the Site and the Works as hereinbefore provided he may himself complete the Works or may employ any other contractor to construct complete and maintain the Works and the Employer or such other contractor may use for such construction completion and maintenance so much of the Contractor's Constructional Plant Temporary Works goods and materials which have been deemed to become the property of the Employer under Clause 53 as he or they may think proper and the Employer may at any time sell any of the said Contractor's Constructional Plant Temporary Works and unused goods and materials and apply the proceeds of sale in or towards the satisfaction of any sums due or which may become due to him from the Contractor under the Contract.

63.3 Assignment to Employer

By the said notice or by further notice in writing within 14 days of the date of expiry thereof the Engineer may require the Contractor to assign to the Employer and if so required the Contractor shall forthwith assign to the Employer the benefit of any agreement for the supply of any goods or materials or for the execution of any work for the purposes of the Contract which the Contractor may have entered into.

63.4 Payment after Determination

If the Employer enters and expels the Contractor under this Clause he shall not be liable to pay to the Contractor any money on account of the Contract until the expiration of the Period of Maintenance and thereafter until the costs of completion damages for delay in completion (if any) and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum or sums (if any) as the Engineer may certify would have been due to him upon due completion by him after deducting the said amount. But if such amount shall exceed the sum which would have been payable to the Contractor on due completion by him then the Contractor shall upon demand pay to the Employer the amount of such excess and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly.

63.5 Valuation at Date of Determination

63.5.1 As soon as may be practicable after any such entry and expulsion by the Employer the Engineer shall fix and determine as at the time of such entry and expulsion:

- (i) the amount (if any) which had been reasonably earned by or would reasonably accrue to the Contractor in respect of work actually done by him under the Contract; and
- (ii) the value of any unused or partially used goods and materials and any Contractor's Constructional Plant and Temporary Works which had been deemed to become the property of the Employer under Clause 53;

and shall certify accordingly.

63.5.2 The said determination may be carried out ex parte or by or after reference to the parties or after such investigation or enquiry as the Engineer may think fit to make or institute.

64. FRUSTRATION

64.1 Payment in Event of Frustration

In the event of the Contract being frustrated whether by war or by any other supervening event which may occur independently of the will of the parties the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 65.5 if the Contract had been determined by the Employer under Clause 65.

65. WAR CLAUSE

65.1 Works to Continue for 28 days on Outbreak of War

If during the currency of the Contract there shall be an outbreak of war (whether war is declared or not) in which Great Britain shall be engaged on a scale involving general mobilisation of the armed forces of the Crown the Contractor shall for a period of 28 days reckoned from midnight on the date that the order for general mobilisation is given continue so far as is physically possible to construct complete and maintain the Works in accordance with the Contract.

65.2 Effect of Completion within 28 days

65.2.1 If at any time before the expiration of the said period of 28 days the Works shall have been completed or completed so far as to be usable all provisions of the Contract shall continue to have full force and effect save that:

- (i) the Contractor shall in lieu of fulfilling his obligations under Clauses 49 and 50 be entitled at his option to allow against the sum due to him under the provisions hereof the cost, (calculated at the prices ruling at the beginning of the said period of 28 days) as certified by the Engineer at the expiration of the Period of Maintenance, of any work for which the Contractor would have been liable under the said Clauses had they continued to be applicable;
- (ii) the Employer shall not be entitled at the expiration of the Period of Maintenance to withhold payment under Clause 60.6 of the remaining parts of the retention money or any part thereof except such cost as may have been allowed by the Contractor under sub clause 65.2.1 (i) which amount may (without prejudice to any other mode of recovery thereof) be deducted by the Employer from such parts.

65.3 Right of Employer to Determine Contract

If the Works shall not have been completed as aforesaid the Employer shall be entitled to determine the Contract (with the exception of this Clause and Clauses 66 and 68) by giving notice in writing to the Contractor at any time after the aforesaid period of 28 days has expired and upon such notice being given the Contract shall (except as above mentioned) forthwith determine but without prejudice to the claims of either Party in respect of any antecedent breach thereof.

65.4 Removal of Plant on Determination

If the Contract shall be determined under the provisions of the last preceding sub clause the Contractor shall with all reasonable despatch remove from the Site all his Constructional Plant and shall give facilities to his sub-contractors to remove similarly all Constructional Plant belonging to them and in the event of any failure so to do the Employer shall have the like powers as are contained in Clause 53.8 in regard to failure to remove Constructional Plant on completion of the Works but subject to the same condition as is contained in Clause 53.9.

65.5 Payment on Determination

65.5.1 If the Contract shall be determined as aforesaid the Contractor shall be paid by the Employer (insofar as such amounts or items shall not have been already covered by payment on account made to the Contractor) for all work executed prior to the date of determination at the rates and prices provided in the Contract and in addition:

- (i) the amounts payable in respect of any preliminary items and Temporary Works Design so far as the work or service comprised therein has been carried out or performed and a proper proportion as certified by the Engineer of any such items the work or service comprised in which has been partially carried out or performed;
- (ii) the cost of materials or goods reasonably ordered for the Works which shall have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery (such materials or goods becoming the property of the Employer upon such payment being made by him);
- (iii) a sum to be certified by the Engineer being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the Works in so far as such expenditure shall not have been covered by the payments in this sub clause before mentioned;
- (iv) any additional sum payable under sub clause 65.6.1 (ii), (iii) and (iv);
- (v) the reasonable cost of removal under sub clause 65.4.

65.6 Provisions to Apply as from Outbreak of War

65.6.1 Whether the Contract shall be determined under the provisions of sub clause 65.3 or not the following provisions shall apply or be deemed to have applied as from the date of the said outbreak of war notwithstanding anything expressed in or implied by the other terms of the Contract viz:

- (i) The Contractor shall be under no liability whatsoever whether by way of indemnity or otherwise for or in respect of damage to the Temporary Works Design and the Works or to property (other than property of the Contractor or property hired by him for the purposes of constructing completing and maintaining the Works) whether of the Employer or of third parties or for or in respect of injury or loss of life to persons which is the consequence whether direct or indirect of war hostilities (whether war has been declared or not) invasion civil war rebellion revolution insurrection military or usurped power and the Employer shall indemnify the Contractor against all such liabilities and against all claims demands proceedings damages costs charges and expenses whatsoever arising therefrom or in connection therewith.
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- (ii) If the Works shall sustain destruction or any damage by reason of any of the causes mentioned in sub clause 65.6.1(i) the Contractor shall nevertheless be entitled to payment for any part of the Works so destroyed or damaged and the Contractor shall be entitled to be paid by the Employer the cost of making good any such destruction or damage so far as may be required by the Engineer or as may be necessary for the completion of the Works on a cost basis plus such profit as the Engineer may certify to be reasonable.
 - (iii) If under decision of the Civil Engineering Construction Conciliation Board or of any other body recognised as an appropriate body for regulating the rates of wages in any trade or industry other than the Civil Engineering Construction Industry to which Contractors undertaking works of civil engineering construction give effect by agreement or in practice or by reason of any Statute or Statutory Instrument there shall during the currency of the Contract be any increase or decrease in the wages or the rates of wages or in the allowances or rates of allowances (including allowances in respect of holidays) payable to or in respect of labour of any kind prevailing at the date of outbreak of war as then fixed by the said Board or such other body as aforesaid or by Statute or Statutory Instrument or any increase in the amount payable by the Contractor by virtue or in respect of any Scheme of State Insurance or if there shall be any increase or decrease in the cost prevailing at the date of the said outbreak of war of any materials consumable stores fuel or power (and whether for permanent or temporary works) which increase or increases decrease or decreases shall result in an increase or decrease of cost to the Contractor in constructing completing and maintaining the Works the net increase or decrease of cost shall form an addition or deduction as the case may be to or from the Contract Price and be paid to or allowed by the Contractor accordingly.
 - (iv) If the cost of the Works to the Contractor shall be increased or decreased by reason of the provisions of any Statute or Statutory Instrument or other Government or Local Government Order or Regulation becoming applicable to the Works after the date of the said outbreak of war or by reason of any trade or industrial agreement entered into after such date to which the Civil Engineering Construction Conciliation Board or any other body as aforesaid is party or gives effect or by reason of any amendment of whatsoever nature of the Working Rule Agreement of the said Board or of any other body as aforesaid or by reason of any other circumstance or thing attributable to or consequent on such outbreak of war such increase or decrease of cost as certified by the Engineer shall be reimbursed by the Employer to the Contractor or allowed by the Contractor as the case may be.
 - (v) Damage or injury caused by the explosion whenever occurring of any mine bomb shell grenade or other projectile missile or munitions of war and whether occurring before or after the cessation of hostilities shall be deemed to be the consequence of any of the events mentioned in sub clause 65.6.1 (i).
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66. DISPUTES RESOLUTION PROCEDURE

66.1 Procedures

66.1.1 Disputes shall be resolved in accordance with the provisions identified in this Clause 66 and Annex 2 to these Conditions of Contract.

In this Clause 66 and Annex 2 to these Conditions of Contract the following expressions shall have the following meanings:

- (i) **Adjudicator** means the person identified as such in the acceptance of the Tender or such other person or such replacement as may be appointed for the time being pursuant to paragraph 1 of Annex 2 to these Conditions of Contract;
- (ii) **Dispute** means a difference or dispute of whatever nature between the Employer and the Contractor arising out of or concerning the Contract;
- (iii) **Disputes Resolution Procedure** means the procedure identified in this Clause 66 and Annex 2 to these Conditions of Contract.

66.2 Notice of Disputes

Where any Dispute shall arise between the Employer and the Contractor concerning the Contract, either the Employer or the Contractor may refer the Dispute to the Disputes Resolution Procedure as identified in this Clause 66 and Annex 2 to these Conditions of Contract. For the purposes of this Clause the Dispute shall be that stated in the Notice of Dispute. For the purposes of all matters arising concerning the Contract the word **dispute** shall be construed accordingly and shall include any difference.

66.3 Contractor to perform obligations

Notwithstanding the existence of a Dispute following the service of a Notice under Clause 66.2 and Annex 2 to these Conditions of Contract and unless the Contract has already been determined or abandoned the Employer and the Contractor shall continue to perform their obligations under the Contract.

66.4 Employer and Contractor to give effect to decisions

66.4.1 The Employer and the Contractor shall give effect forthwith to every decision of:

- (i) the Engineer on any matter arising concerning the Contract;
- (ii) the Adjudicator on a Dispute given under this Clause 66;

unless and until the decision is revised by agreement of the Employer and the Contractor or pursuant to this Clause 66 and Annex 2 to these Conditions of Contract.

66.5 Engineer as a Witness

No decision opinion instruction direction certificate or valuation given by the Engineer under the Contract shall disqualify him from being called as a witness and giving evidence before an Adjudicator or arbitrator on any matter relevant to any Dispute which shall arise between the Employer and the Contractor concerning the Contract.

66.6 Adjudication Rules

66.6.1 If a Dispute shall arise, whether before or after the commencement of the Works and whether before or after repudiation or other termination of the Contract or of the Contractor's employment under the Contract, the Dispute shall be referred and

decided in the first instance by the Adjudicator acting as independent adjudicator but not as arbitrator.

- 66.6.2 Any decision of the Adjudicator shall be binding upon the Employer and the Contractor unless and until there is an amicable settlement in accordance with paragraph 2 of Annex 2 to these Conditions of Contract or unless and until the Dispute has been referred to arbitration as hereinafter provided and an arbitral award has been made or a settlement reached between the Employer and the Contractor.
- 66.6.3 Unless both the Employer and the Contractor otherwise agree in writing any concessions made by one Party to the Adjudicator or any concessions or agreements (other than a settlement agreement) made in the course of discussions pursuant to paragraph 2 of Annex 2 to these Conditions of Contract between the chief executive officer of the Contractor and the official nominated by the Employer shall be without prejudice and shall not be raised by either the Employer and the Contractor in any subsequent arbitration or other legal proceedings.
- 66.6.4 Unless the Contract has already been determined or terminated the Contractor shall in every case continue to construct complete and maintain the Works with all due diligence regardless of the nature of the Dispute and the Employer and the Contractor shall give effect forthwith to every decision of the Adjudicator except and to the extent that the same shall have been revised by a settlement reached between the Employer and the Contractor or an arbitral award.

67. SCOTS LAW

The Contract and every sub-contract and order for goods and services including Temporary Works Design services shall be interpreted in accordance with Scots Law and shall be subject to the jurisdiction of the Scottish Courts.

68. NOTICES

68.1 Service of Notice on Contractor

Any notice to be given to the Contractor under the terms of the Contract shall be served by sending the same by post to or leaving the same at the Contractor's principal place of business (or in the event of the Contractor being a Company to or at its registered office).

68.2 Service of Notice on Employer

Any notice to be given to the Employer under the terms of the Contract shall be served by sending the same by post to or leaving the same at the Employer's last known address (or in the event of the Employer being a Company to or at its registered office).

69. TAX MATTERS

- 69.1.1 The rates and prices contained in the Bill of Quantities take account of the levels and incidence at the date for return of Tenders (hereinafter called **the relevant date**) of the taxes levies and contributions (including national insurance contributions but excluding income tax and any levy payable under the Industrial Training Act 1964) which are by law payable by the Contractor in respect of his workpeople and the premiums and refunds (if any) which are by law payable to the Contractor in respect of his workpeople. Any such matter is hereinafter called **a labour-tax matter**.
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- 69.1.2 The rates and prices contained in the Bill of Quantities do not take account of any level or incidence of the aforesaid matters where at the relevant date such level or incidence does not then have effect but although then known is to take effect at some later date. The taking effect of any such level or incidence at the later date shall for the purposes of sub clause 69.1.3 be treated as the occurrence of an event.
- 69.1.3 If after the relevant date there shall occur any of the events specified in sub clause 69.1.4 and as a consequence thereof the cost to the Contractor of performing his obligations under the Contract shall be increased or decreased then subject to the provisions of sub clause 69.1.5 the net amount of such increase or decrease shall constitute an addition to or deduction from the sums otherwise payable to the Contractor under the Contract as the case may require.
- 69.1.4 The events referred to in the preceding sub clause are as follows:
- (i) any change in the level of any labour-tax matter;
 - (ii) any change in the incidence of any labour-tax matter including the imposition of any new such matter or the abolition of any previously existing such matter.
- 69.1.5 In this Clause workpeople means persons employed by the Contractor on manual labour whether skilled or unskilled but for the purpose of ascertaining what if any additions or deductions are to be paid or allowed under this Clause account shall not be taken of any labour-tax matter in relation to any workpeople of the Contractor unless at the relevant time their normal place of employment is the Site.
- 69.1.6 The Contractor may incorporate in any sub-contract made for the purpose of performing his obligations under the Contract provisions which are mutatis mutandis the same as the provisions of this Clause and in such event additions or deductions to be made in accordance with any such sub-contract shall also be made under the Contract as if the increase or decrease of cost to the sub-contractor had been directly incurred by the Contractor.
- 69.1.7 As soon as practicable after the occurrence of any of the events specified in sub clause 69.1.4 the Contractor shall give the Engineer notice thereof. The Contractor shall keep such contemporary records as are necessary for the purpose of ascertaining the amount of any addition or deduction to be made in accordance with this Clause and shall permit the Engineer to inspect such records. The Contractor shall submit to the Engineer with his monthly statements full details of every addition or deduction to be made in accordance with this Clause. All certificates for payment issued after submission of such details shall take due account of the additions or deductions to which such details relate. Provided that the Engineer may if the Contractor fails to submit full details of any deduction nevertheless take account of such deduction when issuing any certificate for payment.

70. VALUE ADDED TAX

- 70.1.1 In this Clause **exempt supply, invoice, tax, taxable person and taxable supply** have the same meanings as in the Value Added Tax Act 1994 (hereinafter referred to within this Clause 70 as **the VAT Act**) and any reference to the Value Added Tax (General) Regulations 1972 (S.I. 1972/1147) (hereinafter referred to as the **VAT Regulations**) shall be treated as a reference to any enactment corresponding to those regulations for the time being in force in consequence of any amendment or re-enactment of those regulations.
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70.1.2 The Contractor shall be deemed not to have allowed in his Tender for the tax payable by him as a taxable person to the Commissioners of HM Revenue and Customs (the **Commissioners**) being tax chargeable on any taxable supplies to the Employer which are to be made under the Contract.

70.1.3

- (i) The Contractor shall not in any statement submitted under Clause 60 include any element on account of tax in any item or claim contained in or submitted with the statement.
- (ii) The Contractor shall concurrently with the submission of the statement identified in sub clause 70.1.3(i) furnish the Employer with a written estimate showing those supplies of goods and services and the values thereof included in the said statement and on which tax shall be chargeable under Regulation 21 of the VAT Regulations at a rate other than zero.

70.1.4 At the same time as payment (other than payment in accordance with this sub clause) for goods or services which were the subject of a taxable supply provided by the Contractor as a taxable person to the Employer is made in accordance with the Contract there shall also be paid by the Employer a sum (separately identified by the Employer and in this Clause referred to as **the tax payment**) equal to the amount of tax payable by the Contractor on that supply. Within seven days of each payment the Contractor shall:

- (i) if he agrees with that tax payment or any part thereof issue to the Employer an authenticated receipt of the kind referred to in Regulation 21(2) of the VAT Regulations in respect of that payment or that part; and
- (ii) if he disagrees with that tax payment or any part thereof notify the Employer in writing stating the grounds of his disagreement.

70.1.5

- (i) If any dispute difference or question arises between the Employer and the Contractor in relation to any of the matters specified in section 83 of the VAT Act then:
 - (a) if the Employer so requires the Contractor shall refer the matter to the said Commissioners for their decision on it;
 - (b) if the Contractor refers the matter to the said Commissioners (whether or not in pursuance of sub clause 70.1.5(i)(a)) and the Employer is dissatisfied with their decision on the matter the Contractor shall at the Employer's request refer the matter to a Value Added Tax Tribunal (a **Tribunal**) by way of appeal under section 83 of the VAT Act whether the Contractor is so dissatisfied or not;
 - (c) a sum of money equal to the amount of tax which the Contractor in making a deposit with the said Commissioners under section 84(3)(a) of the VAT Act is required so to deposit shall be paid to the Contractor; and
 - (d) If the Employer requires the Contractor to refer such a matter to the Tribunal in accordance with sub clause 70.1.5(ii) (b) then he shall reimburse the Contractor any costs and any expenses reasonably and properly incurred in making that reference less any costs awarded to the Contractor by the Tribunal and the decision of the
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Tribunal shall be binding on the Employer to the same extent as it binds the Contractor.

- (ii) Clause 66 shall not apply to any dispute difference or question arising under sub clause 70.1.5(i).

70.1.6

- (i) The Employer shall without prejudice to his rights under any other Clause hereof be entitled to recover from the Contractor:
 - (a) any tax payment made to the Contractor of a sum which is in excess of the sum (if any) which in all the circumstances was due in accordance with sub clause 70.1.4;
 - (b) in respect of any sum of money deposited by the Contractor pursuant to sub clause 70.1.5(i)(c) a sum equal to the amount repaid under section 84(8) of the VAT Act together with any interest thereon which may have been determined thereunder.
- (ii) If the Contractor shall establish that the Commissioners have charged him in respect of a taxable supply for which he has received payment under this Clause tax greater in amount than the sum paid to him by the Employer the Employer shall subject to the provisions of sub clause 70.1.5 pay to the Contractor a sum equal to the difference between the tax previously paid and the tax charged to the Contractor by the Commissioners.

70.1.7 If after the date for return of Tenders the descriptions of any supplies of goods or services which at the date of Tender are taxable or exempt supplies are with effect after the date for return of Tenders modified or extended by or under the VAT Act and that modification or extension shall result in the Contractor having to pay either more or less tax or greater or smaller amounts attributable to tax and that tax or those amounts as the case may be shall be a direct expense or direct saving to the Contractor in constructing completing and maintaining the Works and not recoverable or allowable under the Contract or otherwise then there shall be paid to or allowed by the Contractor as appropriate a sum equivalent to that tax or amounts as the case may be.

70.1.8 Provided always that before that tax is included in any payment by the Employer or those amounts are included in any certificate by the Engineer as the case may be the Contractor shall supply all the information the Engineer requires to satisfy himself as to the Contractor's entitlement under this Clause.

70.1.9 The Contractor shall upon demand pay to the Employer the amount of any sum due in accordance with this Clause and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly.

70.1.10 The Contractor shall observe and comply with all the provisions of the CIS insofar as applicable to the Contract. The Contractor will notify the Engineer of any change in the status of the Contractor relevant to the CIS.

If the Employer is or at any time up to payment of the final certificate becomes a "contractor" for the purposes of CIS, the obligation of the Employer to make payments under this Contract shall be subject to the provisions of the CIS.

71. METRICATION

- 71.1.1 If any materials described in the Contract or instructed by the Engineer pursuant to Clause 51 are described by dimensions in the metric or imperial measure and having used his best endeavours the Contractor cannot without undue delay or additional expense or at all procure such materials in the measure specified in the Contract but can obtain such materials in the other measure to dimensions approximating to those described in the Contract or instructed by the Engineer pursuant to Clause 51 then the Contractor shall forthwith give written notice to the Engineer of these facts stating the dimensions to which such materials are procurable in the other measure. Such notice shall where practicable be given in sufficient time to enable the Engineer to consider and if necessary give effect to any design change which may be required and to avoid delay in the performance of the Contractor's other obligations under the Contract. Any additional cost or expense incurred by the Contractor as a result of any delay arising out of the Contractor's default under this sub clause shall be borne by the Contractor.
- 71.1.2 As soon as practicable after the receipt of any such notice under the preceding sub clause the Engineer shall if he is satisfied that the Contractor has used his best endeavours to obtain materials to the dimensions described in the Contract or instructed by the Engineer pursuant to Clause 51 and that they are not obtainable without undue delay or without putting the Contractor to additional expense either:
- (i) instruct the Contractor pursuant to Clause 13 to supply such materials (despite such delay or expense) in the dimensions described in the Contract or originally instructed by the Engineer; or
 - (ii) give an instruction to the Contractor pursuant to Clause 51:
 - (a) to supply such materials to the dimensions stated in his said notice to be procurable instead of to the dimensions described in the Contract or originally instructed by the Engineer; or
 - (b) to make some other variation whereby the need to supply such materials to the dimensions described in the Contract or originally instructed by the Engineer shall be avoided.

72. PROMPT PAYMENT ETC

- 72.1.1 For the purposes of performing the Contract:
- (i) Any sub-contract for works entered into by the Contractor shall provide for timely payment of the sub-contractor on terms consistent with Legislation or 30 days whichever is the earlier.
 - (ii) For any other sub-contract for goods or services the Contractor shall pay his suppliers within 30 days of the receipt of a valid demand for payment, or within any other period as may be normal practice within the industry for the supply of such goods and services whichever is the earlier.

73. NON CORRUPT PRACTICES

73.1 Non Corrupt Practices

- 73.1.1 The Contractor or anyone employed by him or acting on his behalf shall not:
- (i) offer or give or agree to the giving to any person in the service of the Employer any gift or consideration of any kind as an inducement or reward
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for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract with the Employer or for showing or forbearing to show favour or disfavour of any person in relation to this or any other Contract with the Employer; or

- (ii) enter into this or any other Contract with the Employer in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer; or
- (iii) commit an offence under the Bribery Act 2010.

73.2 Breaches

Any breach of the above prohibitions or the commission of any offence under the Bribery Act 2010 by the Contractor or anyone employed by him or acting on his behalf (whether such breach or offence is with or without the knowledge of the Contractor) in relation to this or any other Contract with the Employer shall entitle the Employer to enter upon the Site under Clause 63 and expel the Contractor therefrom and thereupon the provisions of Clause 63 shall have effect as if such breach or offence as aforesaid were expressed in Clause 63.1 as a ground therefore. In that case the Contractor shall not be entitled to payments on the Contract or Contracts beyond those (if any) provided for by Clause 63. In addition to the costs and expenses recoverable by the Employer as provided for in Clause 63 the Employer shall also be entitled to recover from the Contractor any other costs or losses incurred by the Employer consequent upon such breach by the Contractor or anyone employed by him (including recovery by the Employer of any payments made to the Contractor under the provisions of the Contract together with bank interest accrued since such payments had been made at the rate of 2 percent over the bank rate) and entry and expulsion under this Clause and to receive from the Contractor such sums as in the opinion of the Employer represents the amount or value of any gift consideration paid or agreed to be paid in breach of this Clause.

73.3 Provisions in Sub-contracts

In every sub-contract of any part of the Works the Contractor shall incorporate such provisions as shall impose on the sub-contractor liabilities similar to those imposed on the Contractor by this Clause and such provisions as shall entitle the Contractor to determine the sub-contract on terms equivalent to those contained in Clause 63. In the event of any breach by the sub-contractor of any such provision the Contractor shall without prejudice to any of his obligations under the Contract take action in accordance with the terms of the sub-contract to exercise his rights against the sub-contractor. Failure by the Contractor to take action shall be grounds for the exercise by the Employer of his right under sub clause 73.2 to enter the Site and expel the Contractor. When the Contractor exercises his rights against a sub-contractor in accordance with the Clause he shall make no claim nor agree to any claim being made on his behalf against the Employer in respect of any consequential delays and extra costs arising from the Contract.

73.4 Settlement of Disputes

Any dispute to the amount recoverable by the Employer from the Contractor under this Clause shall be settled in the manner provided by Clause 66.

74. MONEY RECOVERABLE UNDER GOVERNMENT CONTRACTS

When under the Contract any sum of money shall be recoverable from or payable by the Contractor such sum may be deducted from or reduced by the amount of any such sum or sums then due or which at any time thereafter may become due to the Contractor under the Contract or any other contract with the Employer or any contract with any Department or Office of Her Majesty's Government.

75. LANE OCCUPATION CHARGES

NOT USED (see Lane Occupation Charges version if charges are required)

76. CDM REGULATIONS 2015

76.1 Definitions

76.1.1 In this Clause:

- (i) **the Regulations** means the Construction (Design and Management) Regulations 2015 as amended or updated from time to time and includes all guidance issued by the Health & Safety Executive or any governmental body or any department pursuant thereto;
- (ii) **principal contractor** and **principal designer** means the persons so described in regulation 2(1) of the Regulations.

76.2 Responsibilities

The Contractor shall act in the role of the principal contractor under the Regulations until issuance of the Certificate of Completion in respect of the whole or, where the Works have been completed in Sections, the relevant Section of the Works.

76.3 Additional Payment and Extension of Time

Any action required under the Regulations taken by the principal contractor and the principal designer shall not entitle the Contractor to any additional payment or any extension of time in respect of any such provision and action.

76.4 Health and Safety File Requirements

Notwithstanding any other provisions of the Contract, the Contractor shall prepare and maintain at all times, if and to the extent required by the Regulations and in accordance with the requirements set out in the Specification, a construction phase plan (as such term is used in the Regulations) in respect of the construction, completion and maintenance of the Works. The Contractor shall, and shall procure that any sub-contractors shall through the Contractor, promptly on request by the principal designer provide to the principal designer the Health and Safety File Requirements and all such information and other items as may be required by the principal designer to allow the principal designer to prepare the Health and Safety File (as such term is used in the Regulations). If the Employer so requests at any time the Contractor shall forthwith allow the Employer access to the Health and Safety File Requirements (whether in paper or electronic form) and to inspect such and where required by the Employer the Contractor shall provide copies of such or part of such to the Employer.

77. SPECIAL REQUIREMENTS

77.1 Contractor to Comply with Special Requirements Relating to Undertakers and other Relevant Companies

77.1.1 The Contractor shall comply with the Special Requirements of any Relevant Organisation and shall in addition comply with any reasonable requirements of any Relevant Organisation.

77.1.2 "Relevant Organisation" means the authorities, Undertakers and other organisations having an interest in the Works as determined by the Engineer and such may include as a minimum those listed in Table 77.1.2/A and includes their successor organisations and any subsidiary or parent undertakings (within the meaning of Section 1162 of the Companies Act 2006 save that for the purposes of subsection (2) of that Section an undertaking shall be treated as a member of another undertaking if any shares in that other undertaking are held by a person or that person's nominee by way of security or in connection with the taking of security granted by the undertaking) of such organisations.

Table 77.1.2/A- Relevant Organisations

British Telecommunications Group plc
The Health and Safety Executive
Historic Scotland
Scottish Environment Protection Agency
Scottish Government Rural and Environment Directorate
Ministry of Defence
BEAR Scotland Ltd.

77.2 Contractor to Comply with Special Requirements Relating to Spread of Animal and Poultry Diseases

77.2.1 In the event of an outbreak of animal or poultry disease occurring the Contractor shall comply with:

- (i) Legislation; and
- (ii) The Special Requirements to Prevent the Spread of Animal and Poultry Diseases as identified in the Specification.

77.3 References to Employer and Contractor

In each and every case where within the several documents forming the Special Requirements reference is made to actions by the Employer and/or to information supplied or required to be supplied under the Contract by the Employer such references shall be deemed for the purposes of this Clause to be an action by the Contractor and/or information supplied or required to be supplied under the Contract by the Contractor as the context of each particular case requires in relation to the Contract which shall be construed accordingly notwithstanding anything else contained in the Contract.

77.4 Unfulfilled Obligations

Compliance with such Special Requirements identified in sub clauses 77.1 and 77.2 shall not relieve the Contractor of any of his other obligations and liabilities under the Contract and fulfilment of such other obligations and liabilities shall not relieve him of his responsibility to comply with the said Special Requirements.

78. SPECIAL REQUIREMENTS IN RELATION TO OPENRREACH

78.1.1 1 In these Special Requirement the following terms shall have the meanings assigned to them:-

78.1.2 a) 'Company' means Openreach

78.1.3 b) 'Company Representative' means the staff of Openreach or its Authorised Representatives

78.1.4 and Agents.

78.1.5 c) 'Apparatus' means all surface or sub-surface equipment and plant including any associated

- 78.1.6 cabling and/or ducting owned, leased or rented by Openreach.
- 78.1.7 2. Before commencing any work or moving heavy plant or equipment over any portion of the Site the
- 78.1.8 Contractor shall confirm details of the Apparatus, within the Site with the Company Representative

Address	Openreach	Openreach	Openreach
	Pp404B, Telephone House, Trinity Street, Hanley, Stoke on Trent, ST1 5ND	Telephone House, 21 Ward Road , Dundee, DD1 1BA	Pp B26, 301 St Vincent Street, Glasgow, G2 5BA
Contact	Notice Handling Centre		
Telephone	██████████	██████████ ██████████ ██████████	██████████
Fax	██████████		
email	██████████ ██████████	██████████ ██████████	

- 78.1.9 who can be contacted at the following point:-All communications between the Contractor and Network Rail in connection with the Special Requirements in relation to Network Rail, the Contract and the construction, completion and maintenance
- 78.1.10 Where such details show that the works or the movement of plant or equipment may endanger any Apparatus, the Contractor must give the Company Representative at least 7 days written notice of the date on which it is intended to commence such works or the movement of plant and equipment in order that the presence of any sub-surface Apparatus can be indicated by markers to be supplied by the Company and placed by the Contractor under the supervision of a Company Representative. The Contractor shall ensure that all Apparatus, particularly surface running cabling, is adequately protected from damage and such protective measures shall be approved by the Engineer.
- 78.1.11 In the event of a Company marker being disturbed for any reason it shall not be replaced other than in the exact position and to its former depth unless the repositioning is carried out at the direction and under the supervision of a Company Representative.
- 78.1.12 The Contractor shall take particular care in relation to the protection of Apparatus, where such Apparatus includes the presence within the Site of optical fibre and/or co-axial cabling. The Contractor should particularly note that damage to such Apparatus is extremely disruptive to the Company network and costly to reinstate. The Contractor shall make every effort to avoid the disturbance of Apparatus more than is absolutely

necessary for the completion of the Works in accordance with the Contract.

- 78.1.13 When excavating around, moving or backfilling around Apparatus, the Company Representative shall be given adequate notice, which shall not be less than 3 days, of the Contractor's intentions in order that he may supervise the works. The Contractor should note that the normal depth of cover for Company Apparatus and ducts is as follows:-
- a) In carriageways 600mm, which is to be maintained.
 - b) In footways 450mm, which is to be maintained.
- 78.1.14 Where the 600/450mm depth of cover cannot be maintained the Contractor shall carry out the instructions of the Engineer for the protection of Apparatus and such actions that follow from the Engineer's instruction shall be supervised by a Company Representative. Where the required depth of cover cannot be maintained over cabling, such cables as are affected shall be enclosed and protected in UPVC duct to be supplied by the Company as directed by the Company Representative.
- 78.1.15 With regard to excavation in the vicinity of Apparatus and ducts the Contractor should have particular regard to the possibility of reduced cover and the encountering of such Apparatus and ducts at depths of cover less than that given at a) and b) above.
- 78.1.16 All excavation adjacent to Apparatus is to be carried out by hand until the exact extent and/or location of Apparatus is known. Mechanical borers and/or excavators shall not be used within 1.0m of Apparatus without the supervisory presence of a Company Representative. To prevent any movement of Apparatus during excavation, complete shuttering shall be used as directed by the Engineer if:-
- a) Excavation is deeper than the depth of cover of adjacent Apparatus.
 - b) Excavation is within 1.0m of Apparatus in stable soil.
 - c) Excavation is within 5.0m of Apparatus in unstable soil.
- 78.1.17 If for the completion of the Works the Contractor intends using any of the following:
- i) Pile driving equipment within 10.0m of Apparatus.
 - ii) Explosives within 20.0m of Apparatus.
 - iii) Laser Equipment within 10.0m of Apparatus.
- 78.1.18 the Contractor shall advise the Company Representative, giving at least 7 days written notice, in order that any special protective measures for the Company Apparatus affected may be arranged.
- 78.1.19 All Company manholes, joint boxes and/or other access points and chambers within the Site shall be kept clear and unobstructed. Access for vehicles, winches, cable drums and/or any further equipment required by the Company for the maintenance of its Apparatus, must be maintained at all reasonable times. The Contractor should particularly note the footway type jointing chambers are not specified for carriageway loadings and will need to be adequately protected and/or demolished and rebuilt under the supervision of a Company Representative where such chambers are likely
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to be placed at risk, either temporarily or permanently, from the movement of plant and/or equipment on the Site.

78.1.20 The covers to Company chambers and/or Apparatus shall only be lifted by means of appropriate keys obtained from the Company Representative and under the direct supervision of the Company Representative. No employee of the Contractor or of any sub-contractor employed by the Contractor shall enter any chamber and/or Apparatus of the Company unless under the supervision of the Company Representative and in any case not before the mandatory gas check has been carried out in the presence of the Company Representative and such checks have shown it to be safe to enter the Chamber and/or Apparatus. The Company Representative shall be given reasonable access to all Apparatus and chambers when required.

78.1.21 In the event of any damage whatsoever to any Apparatus the Contractor shall immediately inform the Engineer and report the occurrence immediately by contacting the Company as follows:-

78.1.22 Telephone:- DIAL 100 and ask operator for 'Freephone 111 / Dial before you dig' (0800 800 150) or Freephone 0800 917 3993 / fax: 0208 326 4050.

78.1.23 Compliance with the above requirements shall not relieve the Contractor of any of his obligations under the Contract.

78.2 SPECIAL REQUIREMENTS IN RELATION TO HEALTH AND SAFETY EXECUTIVE.

78.2.1 The Contractor shall take cognisance of the health and safety conditions associated with all facets of the Works and shall comply with all relevant legislation.

78.2.2 The Contractor shall consult with Health & Safety Executive in this regard and take all reasonable steps to accommodate their recommendations and provide access to the Site for health and safety monitoring.

78.3 SPECIAL REQUIREMENTS IN RELATION TO HISTORIC SCOTLAND

78.3.1 Definitions

78.3.2 **Archaeological Contractor/Consultant** - means an archaeological organisation with access to professionally qualified staff with appropriate knowledge, experience and skills, and with a track record of successful contract completion.

78.3.3 **Archaeological Reports** - means all the archaeological reports produced under Historic Environment Scotland's management during the scheme's Environmental Assessment process, in compliance with procedures for assessing and mitigating impact on the cultural heritage set out in the Design Manual for Roads and Bridges Volume 11.

78.3.4 **Desk Research** - means the desk-based survey of existing archaeological records held by national and local archives plus the study of additional historic maps, other readily available historic documents and all available aerial photographs, both low level obliques and high level verticals, in order to determine the nature, significance and extent of the recorded archaeological resource of the area to be affected by the Works.

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- 78.3.5 **Environmental Assessment Process** - means to the statutory procedures required in accordance with EC Directive 85/337 as amended by Directive 97/11/EC. The standard methodology for addressing impact on the Cultural Heritage in trunk road schemes is set out in the Design Manual for Roads and Bridges Volume 11.
- 78.3.6 **Field Research** - means the use of standard archaeological field techniques including field walking, geophysics and trial trenching to build upon and augment the findings of the Desk Research and ensure that, as far as possible, the full archaeological resource and potential of the area to be affected by the Works is understood.
- 78.3.7 **Historic Environment Scotland's Nominated Archaeologist** - means the archaeologist appointed directly by Historic Environment Scotland to undertake work within the Site on Historic Environment Scotland's behalf, for example the topsoil strip monitoring.
- 78.3.8 **National Planning Policy Guideline 5** - refers to the statement of Government policy on Archaeology and Planning issued by the (then) Scottish Office Environment Department in January 1994. Amongst other issues this sets out Government policy on how archaeological remains and discoveries should be handled in the planning and execution of developments.
- 78.3.9 **Planning Advice Note 42** - refers to the advice on good practice on the treatment of archaeological remains in development set out in Archaeology - the Planning Process and Scheduled Monument Procedures published by the (then) Scottish Office Environment Department in January 1994.
- 78.3.10 **Planning Permission** - means statutory consent under the Town and Country Planning (Scotland) Act 1997.
- 78.3.11 **Scheduled Monument** - means monument of national importance protected under the Ancient Monuments and Archaeological Areas Act 1979.
- 78.3.12 **Topsoil Strip** - means the removal of all superficial deposits to the satisfaction of Historic Scotland's nominated archaeologist.
- 78.3.13 **Topsoil Strip Monitoring** - means the archaeological supervision of the Operating Company's removal of topsoil, with agreed provision for means of removal and the time to be allowed for archaeological investigation of any features found during this process.
- 78.3.14 **Topsoil Strip Monitoring**
- 78.3.15 The Contractor shall afford access, as agreed by the Engineer, to archaeologists directly appointed by Historic Scotland to monitor topsoil stripping.
- 78.3.16 To enable proper monitoring the Contractor shall ensure that Historic Scotland nominated archaeologists is notified in writing of the programme of topsoil stripping at least 14 days before commencement of this activity;
- 78.3.17 The Contractor shall appoint a nominated representative to liaise with Historic Scotland's nominated archaeologists. All communications shall be directed through this individual;
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78.3.18 To facilitate the archaeological monitoring work the Contractor shall ensure that topsoiling procedures shall be conducted as follows.

(i) as far as possible vehicles removing topsoil shall not track over the subsoil surface but work away from the subsoil surface.

78.3.19 (ii) the topsoil shall be removed completely as it may mask archaeological features,

78.3.20 (iii) Construction plant used for topsoil removal shall use smooth blades as toothed blades disturb the subsoil surface, making identification of the archaeological subsoil features more difficult.

78.3.21 The Contractor shall allow Historic Scotland's nominated archaeologist sufficient and reasonable time for the recording of archaeological features revealed during topsoil monitoring. The following procedures and timescales shall apply.

78.3.22 (i) If minor features are located they shall require simple archaeological excavation, note taking, drawing and photography. Where necessary the Contractor shall assist the archaeologist by employing Construction Plant present on Site.

78.3.23 (ii) If somewhat larger features are discovered, the progress of the Works may have to be stopped in the area of the features, to allow a sufficient level of archaeological recording to take place. In such cases Historic Scotland's nominated archaeologist shall be authorised to stop the Works, at least within a defined area, for no more than one hour. The archaeologist shall obtain the authorisation of the Engineer for any longer stoppage

78.3.24 (iii) Where substantial remains may be located greater stoppages may be required. The nominated archaeologist shall require agreement in writing from Historic Scotland and the Engineer before incurring longer stoppages. (Note for information: In such cases Historic Scotland's nominated archaeologist shall ensure that he has a small back-up team of additional trained archaeologists ready for rapid response to such needs.),

78.3.25 Unexpected Discoveries/Finds

78.3.26 Should unexpected finds be encountered on the Site during the course of the Works (over and above any finds made during topsoil monitoring), the Contractor shall consult and comply with Historic Scotland's requirements for the treatment of such finds.

78.3.27 Should such finds result in Historic Scotland requiring their nominated archaeologist to undertake further works on Site, the Contractor shall co-operate with Historic Scotland's nominated archaeologist. Where necessary the Operating Company shall assist the archaeologist by employing Constructional Plant present on the Site.

78.3.28 In the event of an unexpected find, the Contractor shall contact Historic Scotland within 24 hours as follows:

78.3.29 Historic Scotland, Longmore House, Salisbury Place, Edinburgh EH9 1SH

Contact: XXXXXXXXXX

78.3.30 Discovery of Human Remains

78.3.31 Any human remains which are encountered, by law, shall be handled differently from other finds, and shall initially be left *in situ* and the relevant authorities (the Police, Procurator Fiscal and Historic Scotland) shall be informed of their discovery within 24 hours. Excavation procedures relating to human remains shall comply with Scots Law as set out in Historic Scotland's published Operational Policy Paper 5: the Treatment of Human Remains in Archaeology. NOTE: In principle an archaeologist shall always be present during the examination of any human remains encountered, even where the examination is by the notified legal authority. Typically very few accidental discoveries of human remains are those of recent murder victims. Most are of archaeological interest only. Unfortunately, it is not uncommon for sites to have been disturbed either by the finder or by the police in the conduct of their investigations before archaeologists are informed of the discovery, and this can result in the loss of archaeological information.

78.3.32 Guidance Notes on Good Practice

78.3.33 While the following guidance is not obligatory under the Contract, Transport Scotland Enterprise Transport and Lifelong Learning Department expect that the Contractor shall take cognisance of this information and apply it to his activities where necessary and appropriate. If the Contractor is planning any work outwith the Site, he is responsible for assessing their impact on the archaeological heritage and ensuring their appropriate mitigation. He is expected to comply with the normal principles of government policy which apply to the treatment of archaeological remains and discoveries within development. These are explained in the following two Transport Scotland publications which are part of their wider series of planning guidance.

National Planning Policy Guideline 5, Archaeology and Planning (NPPG5)

78.3.34 **Planning Advice Note 42, Archaeology – the Planning Process and Scheduled Monument Procedures.**

78.3.35 The text of NPPG5 is available on the Transport Scotland Web Site, at www.scotland.gov.uk/planning . Printed copies of both documents can be obtained from Historic Scotland.

Key Points to note

78.3.36 Government Policy stresses that archaeological remains are a finite and non-renewable resource, part of our environment to be protected and managed.(ii) The preservation of archaeological sites and their settings is thus a material consideration in the planning process and will be a factor in the determination of any application for planning consent. Archaeological condition(s) may be attached to the grant of any planning consent.

78.3.37 The following broad principles apply in this process: Developments shall generally be planned to avoid adverse impact on significant archaeological features and their settings.

78.3.38 For lesser sites where avoidance is not feasible, an archaeological excavation incorporating the recording and analysis of remains and reporting and publication of findings, together with the deposition of the

artefacts in an appropriate museum and the records in the National Monuments Record of Scotland, may be an appropriate alternative..

78.3.39 In areas of general archaeological sensitivity but where the full potential remains uncertain, prior archaeological evaluation may be required to establish the facts before a decision is reached on whether either of the two above options should apply.

78.3.40 When work is planned outwith the Site the Contractor shall seek archaeological information and advice at the outset from the appropriate Council Archaeological Service. (A booklet on sources of archaeological information which gives the contact point for all Council Archaeological Services in Scotland is available from Historic Scotland.) The Contractor also consider engaging his own archaeological contractor to provide him with appropriate information and advice at the pre-planning stage, and to undertake any archaeological investigations required. Developers are responsible for meeting the costs of all archaeological work necessitated by their developments

78.4 SPECIAL REQUIREMENTS IN RELATION TO SCOTTISH ENVIRONMENTAL PROTECTION AGENCY (SEPA)

78.4.1 Definitions

78.4.2 'Agency' means the Scottish Environmental Protection Agency.

78.4.3 Bound - applies to stabilisation of soil heaps by a method other than seeding such as the use of mesh netting, plastic sheeting etc.

78.4.4 Control of Pollution Act 1974 - an Act made by Parliament to make provision with respect to waste disposal and water pollution. The Centre of Pollution Act was amended by Schedule 23 of the Water Act 1989. Under the Act, as amended, the Agency is empowered to control the entry of polluting matter or effluents into water. It is an offence for any party to cause or knowingly permit polluting materials or effluents to enter or to be discharged to controlled waters without the prior consent of the Agency. To do so is liable to lead to prosecution. Any party found guilty in a court of law can be fined up to £20,000 on each offence under the Act.

78.4.5 Contractor - means the person or persons, firm or company, whose tender has been accepted by the Employer and involves the Contractors personal representatives successors and permitted assignees.

78.4.6 Controlled Waters - includes coastal waters, inland waters, lochs, ponds, rivers or watercourses and ground waters.

78.4.7 Construction Plant - means all appliances or things of whatsoever nature required in or about the construction completion and maintenance of the Works but does not include materials or other things intended to form or forming part of the Permanent Works.

78.4.8 Design - means all the work necessary for the preparation and completion of the Drawings from which the permanent Works are to be construction and includes carrying out all procedures and checks and the obtaining of all approvals and provision of all certificates required by the Contract.

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- 78.4.9 Effluent - means any liquid, excluding uncontaminated surface or groundwater, including particles and other substances in suspension in the liquid discharged to Controlled Waters.
- 78.4.10 Engineer - means the Consulting Engineer or Resident Engineer or such other Engineer appointed from time to time by the Employer and notified in writing to the Contractor to act as Engineer for the purpose of the Contract in place of the said Engineer.
- 78.4.11 Engineer's Representative - means a person being the Resident Engineer or assistant of the Engineer appointed from time to time by the Employer or the Engineer and notified in writing to the Contractor by the Engineer to perform the duties set out in the Contract.
- 78.4.12 Erosion - the wearing away of rocks or soils through the action of water. The process can be considerably accelerated during construction work as the result of the stable surface soils and vegetation being removed.
- 78.4.13 Fauna - a collective term for the animals of any Controlled Waters including, for example, fish, insect larvae and other invertebrates.
- 78.4.14 Flora - a collective term for the plants of any Controlled Waters.
- 78.4.15 Groundwater - any water contained below the surface of the ground of the construction site e.g. the ground water table, aquifers etc.
- 78.4.16 Inert - stable, unable to react chemically under normal circumstances or to be dissolved in water.
- 78.4.17 Licensed Tip Site - a public or privately operated waste disposal site fully licensed to receive the types of material to be disposed of from the building or construction site.
- 78.4.18 Non-toxic - not poisonous or harmful to flora or fauna.
- 78.4.19 Oil : any fuel oil petrol diesel, hydraulic, lubricating oil etc., utilised or stored on the site.
- 78.4.20 Seeded - applies to the planting of a fast growing crop of plants such as clover and certain grasses in order to stabilise soil heaps thus preventing soil particles from being washed off by rainfall.
- 78.4.21 Site - means the lands and other places on, under, in, or through which the Works are to be executed and any other lands or places provided by the Employer for the purposes of the Contract.
- 78.4.22 Sub Contractor - any party of person who is employed to supply materials or undertake works as a subordinate of the Contractor. Pollution prevention is the responsibility of the Contractor and hence the pollution of any Controlled Waters as a consequence of the actions of a Sub Contractor could result in the Contractor being prosecuted.
- 78.4.23 Surface Water - any uncontaminated waters which drain off the surface of the ground or can be made to drain or be pumped from an area of ground by the actions of a Contractor.
- 78.4.24 Temporary Works - means all temporary works of every kind required in or about the construction, completion and maintenance of the Works.
- 78.4.25 Works - means the permanent works together with the Temporary Works.
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General

- 78.4.26 The Contractor shall identify all Controlled Waters (including ditches) which may be affected by the Works and the permanent or temporary discharge points to these watercourses.
- 78.4.27 When planning the Works the Contractor should seek agreement with the Agency on pollution prevention measures and strategy plus emergency procedures for all the construction stages. These should cover.
- (1)The protection of Controlled Waters and sensitive receptors by planning site drainage including the run-off from borrow pits, spoil heaps, haul roads and water crossing p[laces: and.
- (2)the Design and application of measures, (including land acquisition) to provide adequate mitigation of any pollution arising from the project. Contamination of Controlled Waters can lead to serious water quality problems and adversely affect flora and fauna. Therefore, for this and other reasons, the Contractor could be prosecuted under the Control of Pollution Act 1974, as amended by Schedule 23 of the Water Act 1989. The Agency's formal Consent for discharges may be required and in extreme cases the Engineer or the Engineer's Representative may have to suspend work until adequate pollution prevention measures have been carried out
- 78.4.28 In the event of spillage of any polluting substance and/or pollution of any Controlled Waters,the Contractor must notify the Agency and the Engineer immediately by telephone.
- 78.4.29 In this regard it should be noted that the Agency can be contacted on a 24 hour basis (as 81.1.66
- 78.4.30 Where required, the Contractor shall submit to the Engineer his proposals for maintaining the free passage of fish in any watercourse likely to be affected by the Works, at all times. These shall be submitted to the District Salmon Fishery Board for their approval.
- 78.4.31 Materials which may cause pollution shall not be stored near Controlled Waters nor shall they be stored in such a manner that they may fall or be carried into Controlled Waters. All refuse and debris arising from the Site in the vicinity of Controlled Waters shall be collected and removed as required so that none may fall or be carried into the Controlled Waters.
- 78.4.32 In the event that temporary sanitation cannot be connected to the public foul sewerage system, the Contractor shall apply to the Agency for consent for any discharge in compliance with Section 34 of the Control of Pollution Act 1974.
- 78.4.33 The Contractor must not use construction plant in any Controlled Waters without the prior written approval of the Agency. Such approval will only be given where it can be demonstrated that plant is secure from oil leaks etc.
- 78.4.34 Where Controlled Waters transect the construction site the Contractor shall agree with the Agency where these should be:-
- (i) diverting around the working area:
- (ii) temporarily culverted through the working area
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(iii) blocked, diverted or overpumped. This shall be limited to a period to be agreed with the Agency and where appropriate, with the District Salmon Fishery Board.

- 78.4.35 Where construction plant has to cross watercourses, temporary bridges or culverts should be installed together with suitable mud splashguards. The fording of any Controlled Waters will not be permitted without the Contractor obtaining the prior written approval of the Agency.
- 78.4.36 Cut-off drains must be installed to intercept uncontaminated surface water and thereby prevent it from entering the work area. Agreement shall be reached with the Agency regarding its satisfactory disposal.
- 78.4.37 Construction plant washing facilities (including wheel washes) shall be designed to operate on total recirculation wherever possible. Where this cannot be achieved, the disposal of wash water to any Controlled Waters shall not take place without adequate settlement and oil removal prior to discharge. The Contractor will require the Agency's consent for such discharges.
- 78.4.38 Borehole drilling of other ground investigations can produce a polluting effluent, which may require treatment before being discharged to Controlled Waters. The Agency must be advised by the Contractor of the measures to be taken to prevent pollution before the commencement of any such operations liable to give rise to an effluent.
- 78.4.39 Earthworks
- 78.4.40 Temporary topsoil and subsoil heaps and stockpiles created after land stripping should be located at reasonable distances from drains or Controlled Waters to prevent any collected materials from either falling into Controlled Waters, or being integrated with run-off caused by rain and then discharged into such waters. They shall be seeded or bound as soon as practicable after deposition to ensure quick stabilisation and cut-off drains shall be provided to intercept run-off from the stockpiles.
- 78.4.41 Drainage from borrow pits, quarries or spoil areas must be treated to the satisfaction of the Agency (e.g. by use of settlement lagoons) before discharge to any drain or Controlled Waters. The Contractor may require the Agency's consent for such discharges.
- 78.4.42 Only inert and non-toxic material shall be used to:-
- (i) backfill drainage trenches:
 - (ii) Backfill burn crossings:
 - (iii) infill areas of standing water
 - (iv) infill areas where contact with groundwater is probable.
- 78.4.43 Where in-river bunding is required and the geology of the river bed is appropriate, sheet piling shall be used for the in-river bund. However, where native material is subject to excess scouring, imported impervious material such as puddle clay or sand bags shall be used or the formation of in-river bunds after consultation by the Contractor with the Agency. Any material placed within the channel or flood plain during the construction of Temporary Works shall be removed by the Contractor in a manner which minimises pollution as soon as its function has been fulfilled.
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- 78.4.44 The Contractor shall stockpile and replace on completion of the Works, any bed material necessarily excavated from a watercourse during construction of the Works. The Contractor shall not remove any bed material from Controlled Works for use in construction.
- 78.4.45 Surface water or Groundwater from excavations or other parts of the working area must not be pumped nor be allowed to issue directly into Controlled Waters or drains but should receive treatment to ensure removal of pollutants in accordance with the Agency requirements discharge to Controlled Waters.
- 78.4.46 Oil Pollution
- 78.4.47 The Contractor must ensure that oil is stored well away from any drain or Controlled Waters. Oil storage tanks must be located on an impermeable base and must be surrounded by an impervious bund with no surface water outlet. The bund must be capable of retaining at least 110 per cent (110%) of the volume of the tank. If there is more than one tank within the storage area, the bund must be able to contain 110% of the largest tank or 25% of the total capacity of the tanks, whichever is greatest.
- 78.4.48 Valves and couplings connected to oil storage tanks must be located within the bund and delivery hoses shall be fitted with trigger-type spring handles suspended back within the bund after use. Valves and trigger filler handles must be kept padlocked when not in use.
- 78.4.49 The transportation of fuel and oil across the site in drums or other containers must be avoided as far as practicable. Where this is unavoidable, extreme caution must be taken to avoid spillages or leaks. The Contractor shall hold adequate stocks of oil-absorbent and containment materials on site. The Contractor must ensure that relevant staff are familiar with the use of these materials.
- 78.4.50 Surface water, together with any material which accumulates within the storage tank bund, must be removed by means of a manually controlled positive lift pump. Oil contaminated water must be disposed of off-site at an appropriate licensed tip, incineration plant or oil recovery plant.
- 78.4.51 The Contractor shall ensure that personnel are nominated as being responsible for the supervision of the filling of oil storage tanks, vehicles etc. and that a "Nominated Person" is available at all appropriate times.
- 78.4.52 Mobile fuel and lubricant serving units must be provided with appropriate quality delivery hoses with trigger type delivery nozzles. These vehicles when not in use, must be parked in a secure area within an impermeable bund. Vehicles and plant must not be refuelled near drains or Controlled Waters. Oil powered pumps, generators and the like shall be positioned on impervious drip trays surrounded by earth or sand bunds and located at least 10 metres from any Controlled Waters. The use of such plant adjacent to Controlled Waters is not permitted and the disposal of waste oil/only waters from the drip trays must be by the methods outline in clause 81.1.27 of these requirements.
- 78.4.53 The Contractor shall take all reasonable measures to ensure the security of all oil storage facilities from acts of wilful damage or vandalism.
- 78.4.54 Concrete Works
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- 78.4.55 Cement, grout and un-set concrete (unless specialist products as approved by the Agency are used) must not be allowed to enter any Controlled Waters. Prevention may be achieved by diverting the Controlled Waters away from the working area with fixed shuttering or sandbags or by damming the flow upstream and pumping it beyond the working area. The inlet to the pump should be screened. Residual cement or concrete must be removed from the original channel before the Controlled Waters are returned to it.
- 78.4.56 The Contractor must ensure that drainage from excavations where concrete is being, or has been, newly poured shall not be pumped or allowed to issue directly into Controlled Waters without the prior approval of the Agency.
- 78.4.57 Tools and equipment must not be washed in Controlled Waters. If it is necessary to wash equipment on site, this must be done well away from Controlled Waters and wash water must not be discharged directly into Controlled Waters or road drains without appropriate treatment.
- 78.4.58 The Contractor must ensure that if concrete has to be sprayed in the vicinity of Controlled Waters (e.g. on bridges, retaining walls, etc.) suitable protective sheeting is provided to prevent rebounded or windblown concrete from falling into Controlled Waters. Rebounded material must be cleared away before the sheeting is removed.
- 78.4.59 .The direct discharge from any concrete batching plant to Controlled Waters shall not be permitted. Subject to consultation with an agreement by the Agency a discharge to a soakaway may be permissible.

Miscellaneous

- 78.4.60 The Contractor shall take suitable precautionary measures, as agreed by the Agency, to prevent any material from falling into Controlled Waters when concreting, bitumen spraying, plant cleaning or painting operations are being carried out above or adjacent to Controlled Waters.
- 78.4.61 The Contractor should note that any approval by the Agency of the Contractor's proposals will not relieve the Contractor of his responsibilities with respect to any pollution which may occur. The Agency will not be held liable for any damage to pollution resulting from operations on the Site.
- 78.4.62 It is an offence to release, plant or allow the spread of any invasive non-native weed species into the wild. If invasive weeds are identified on site they must not be disturbed. If absolutely necessary to disturb the weed or the soil around it (buffer distance varies for each species) an Invasive Weed Management Plan must be created to implement appropriate mitigation, minimising the risk of spread of the species.
- 78.4.63 The Contractor shall provide to the Agency in advance of the commencement of the Works the names of responsible personnel on site together with 24 hour contact telephone numbers.
- 78.4.64 The Agency's addresses are: -
Area: Argyll and Bute Council:
- 78.4.65 Address: Scottish Environmental Protection Agency
Smithy Lane, Lochgilphead, Scotland, PA31 8TA
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Contact: [REDACTED]

Tel [REDACTED]

Note: SEPA provides a 24 hour pollution hotline, the phone number is 0800 807060.

78.4.66 3. Guidelines for Water Pollution Prevention from Civil Engineering Contracts

78.4.67 These Guidelines are supplementary to the "Special Requirements" which are a definitive list of clauses for incorporation into contractual documents. The guidelines are intended to be used for advice only and are not a definitive list. The Contractor is fully responsible for the design, construction and maintenance of pollution prevention facilities on the construction site. The Agency's formal CAR authorisation must be obtained by the Contractor before the commencement of any discharges to Controlled Waters from the construction site.i) It is essential that the Contractor contact the Agency at the construction planning

78.4.68 Pre-Construction Requirements

78.4.69 (i) It is essential that the Contractor contact the Agency at the construction planning stage prior to submitting his bid price for the work

Contractors should establish with the Agency the type of pollution prevention measure required for the project as certain works may call for the acquisition of substantial areas of land, over and above that needed for construction, in order that if required, appropriate pre-treatment facilities may be installed. Moreover, the contract may be suspended until adequate facilities have been installed and if pollution occurs the contractor could be prosecuted under the Water Environment and Water Services (Scotland) Act 2003 (WEWS) by means of the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR) as amended.

(ii) In addition to consulting with the Agency at an early stage, Contractors must contact riparian owners, fishery and angling concerns in the vicinity of and downstream of the proposed project so that the interest of these parties, which are completely separate to those of the Agency, are protected

Responsibility

78.4.70 The party or company to whom the contract is granted will normally be solely responsible for pollution prevention during the project and in some instances for a specified time following the completion of the work. This responsibility will include the actions of any third party who is contacted or otherwise involved in the project. If a Contractor is exempted from third party responsibility within the contract document he should advise the Agency of such prior to construction commencing

78.4.71 Main Polluting sources of Controlled Waters

Controlled Waters means all watercourses including minor tributaries, ditches, sub-soil field drains etc (whether "dry" or flowing), lochs, ground water and coastal waters.

There are a number of ways in which civil engineering contracts may lead to the pollution of Controlled Waters and these can generally be categorised as follows:

- (i) The discharge and entry into Controlled Waters of contaminated site run-off or pumped contaminated surface/ground waters.
- (ii) Direct disturbance of the beds of Controlled Waters by excavation or fording of streams or rivers.
- (iii) Loss of oil from machinery or from storage areas
- (iv) Cement and cement wash from batching plants, storage areas and other areas where cement grout or concrete is being applied

78.4.72 Prevention of Pollution

78.4.73 (i) Erosion is the process whereby soil is transported by wind and water. Natural erosion usually occurs at a slow rate but activities which alter the landscape (such as road building, house construction and industrial site developments) can greatly accelerate the process. The removal of the normal vegetative cover can lead to the loss of large quantities of soil particles and cause pollution of watercourses as the result of these being carried into streams.

The discharge of eroded soil may not only result in pollution but can also induce long term damage to fish stocks and to the general biology of a watercourse. Fine solids may kill fish by coating their gills, or may reduce growth rates and resistance to disease. In addition, accumulation of sediment on the bed will adversely affect the biological diversity of a watercourse, thereby reducing the abundance of food available to fish. The successful development of fish eggs and larvae may also be inhibited.

It is essential that the degree of land disturbance and subsequent erosion is controlled and kept to a minimum. Therefore, any earthmoving works or other similar operations giving rise to contaminated drainage must be carried out in compliance with BSI Code of practice for Earth Works, BS6031:1981. Before any discharge of contaminated site drainage is made, prior agreements must be made with the Agency regarding the quality and quantity of effluent to be discharged.

Where appropriate, the Agency will issue a Temporary Consent to discharge treated site drainage.

(ii) Sedimentation is the settling out of soil particles which have been transported by wind and water. The rate of deposition depends primarily on particle size and runoff flow rates. Heavier particles, such as gravel and sand, settle out quicker than fine particles, such as clay, which may become electrostatically charged and stay suspended in water for long periods, contributing to water turbidity and discolouration.

(iii) A Structured Erosion and Sediment Plan should be prepared for each site and fully discussed with the Agency prior to the commencement of any mechanical works. Such a plan should incorporate the following:

- (a) Pollution risk assessment for the site.
 - (b) Planning and design of appropriate control measures.
 - (c) Management of the system, including the safe disposal methods for settled sludge and dirty water.
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- 78.4.74 Contingency planning and emergency procedures. This should include relevant telephone numbers (e.g. Scottish Environmental Protection Agency, downstream landowners and water users, etc) and record the availability of equipment to carry out any emergency remedial work.
- 78.4.75 (iv) Principles of Control are based on the protection of the soil surface from rainfall and run-off, and on containing eroded soil particles on-site. Fine particles can be very difficult to contain once they have been mobilised and the best way to control the generation of sediment is to prevent erosion taking place. The following principles should be incorporated into the planning, design, construction and management of any measures to control erosion and sedimentation.
- (a) Obtain all necessary agreements and consents before starting work.
 - (b) Keep disturbed areas small by scheduling construction activities to minimise the area of soil exposed and limit the time of exposure. Account should be taken of the season and, in the case of sensitive operations, the weather forecast. Limit the area of construction.
- 78.4.76 (c) Stage the project where practicable e.g. in 100 metre lengths, with complete rehabilitation of each stage before progressing to the next. Only those areas which can be fully developed in a construction season should be worked.
- 78.4.77 (d) Run-off from undisturbed areas surrounding a site should be intercepted (e.g. cut-off trenches) and diverted around the works. Temporary erosionproof outfalls should be utilised where necessary. Isolate the works. If drainage water is clean, keep it clean. Work in the dry by diverting/pumping Controlled Waters around the working area or alternatively by temporary culverts through the working area after agreement with the Agency.
- 78.4.78 (e) Removal of vegetative cover increases the volume and rate of run-off. Contour drains, retention of natural vegetation, provision of buffer strips of vegetation, short slopes and low gradients help keep run-off velocities low and therefore reduce erosion.
- 78.4.79 (f) If some erosion is unavoidable then resultant suspended particles should be contained on site. Plan and implement control measures before undertaking earthworks.
- 78.4.80 (g) Disturbed areas should be stabilised as soon as construction has finished. This may be achieved through structural methods, utilising synthetic fabrics, hydroseeding and other quick stabilisation/re-vegetation techniques as necessary.
- 78.4.81 (h) If not properly maintained some control measures may cause more damage than they prevent. All control measures should be regularly inspected for structural defects and associated leakage. Regular inspections should also be undertaken to ensure that watercourses have not become polluted. The frequency of inspections should be increased at times when the risk of pollution is high, such as during and after heavy rainfall.
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- 78.4.82 (i) The Contractor and others involved in earthworks which could pollute the environment should be aware of their statutory responsibility not “cause of knowingly permit” water pollution. All such persons should be aware, and should make their employees aware, of the likely causes and consequences of environmental pollution and should be familiar with any control measures and emergency procedures.
- 78.4.83 (j) As part of the Erosion and Sediment Control plan, those involved in earthworks should have a contingency arrangement to deal with environmental pollution incidents. A sketch plan showing the location of the drainage system should be prepared and equipment should be available for emergency situations to plug drains, dam ditches, excavate catchpits or retain oil spillages by placing oil absorbent materials or wooden scum boards across watercourses.
- 78.4.84 (k) Sediments commonly act as transporting agents for other contaminants. Usually the finer grained sediments are prominent in this regards as they take longer to settle than coarser particles. Consequently, the standard techniques for controlling erosion and sedimentation may not be effective in limiting the off-site transfer for contaminants and other measures may be necessary, such as tankering off-site for suitable disposal to a licensed landfill site or use of approved specialised chemical aids before discharge.
- 78.4.85 (l) Whereas it is highly desirable to minimise the amount of erosion on construction sites it will usually also be necessary to provide settlement ponds or lagoons to remove the sediment which will invariably be present in site drainage. Such facilities will also be required for the drainage from borrow pit and on site quarries. The design and satisfactory operation of settlement ponds or lagoons depends on a number of factors including the anticipated flow rate of the drainage, the settleability of the soil particles and the quality which the discharge must meet in terms of the Agency’s consent requirements. The Contractor should consider long term rainfall figures for the area where construction is taking place as this varies significantly in different regions and is an important criterion when determining the size of settlement ponds/lagoons. The location of settlement ponds/lagoons on natural watercourse should be avoided and, where practical, the location of treatment facilities for the construction phase should be considered with a view to these being utilised as method/treatment systems for any permanent drainage from the site
- Discharges to watercourses from treatment facilities will require the consent of the Agency.
- (m) Temporary culverts and/or bridges must be provided to enable vehicles to cross streams and thus prevent disturbance of the river bed.
- (n) Stockpiles and spoil heaps should be located well away from streams and drainage ditches.
- 78.4.86 Miscellaneous
- (i) Inert and non-toxic materials should be used for:
- (a) Backfill in drainage trenches.
- (b) Backfill for stream crossings.
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(c) Infilling of standing waters.

(d) Infilling of places where the material will come into contact with ground water.

(ii) Blast furnace slag is unsuitable for use in 81.1.87 (a) - (d) above, nor is it considered suitable for use in shotblasting adjacent to Controlled Waters such as bridgeworks

The demolition of old concrete structures such as culverts can give rise to potentially toxic dusts and care should be taken to prevent these from entering Controlled Waters.

78.5 SPECIAL REQUIREMENTS IN RELATION TO SCOTLAND'S ENVIRONMENTAL AND RURAL SERVICES (SEARS)

78.5.1 In these Special Requirements the following term shall have the meaning assigned to it "SEARS Representative" means the staff of Scotland's Environmental and Rural Services or its appropriately Authorised Representatives and Agents empowered to act on its behalf

78.5.2 Before commencing any work over any portion of the Site the Contractor shall confirm with the SEARS Representative details of any restrictions relating to the prevention of the spread of animal, plant and/or poultry diseases which may for the time being be in force relating to the Site and any surrounding land and/or access ways to which the Contractor or any sub-contractor employed by him may have or seek to gain entry for the purpose of the Works. The SEARS Representative, can be contacted at the following points

Area:	North Region	Argyll and the Outer Hebrides	Perth and Argyll Conservancy
Address:	Scottish Environmental Protection Agency Kilbrandon House Manse Brae Lochgilphead PA31 8QX	Scottish Natural Heritage 1 Kilmory Industrial Estate Lochgilphead Argyll PA31 8RR	Forestry Commission Scotland Oban Outstation Millpark Road Oban Argyll PA34 4NH
Contact:		██████████	██████████ Policy, Support and Development Officer
Tel:	██████████	██████████	██████████
Fax:	██████████		██████████

78.5.3 The Contractor shall ensure that his employees or the employees of any sub-contractor employed by him shall avoid all contact with livestock on or adjacent to the Site and keep strictly to any route which has been agreed with any owner/occupier of land affected by the Works at all times.

78.5.4 . Where it is necessary for the purpose of the Works to enter land on which livestock are or may be kept the Contractor shall take all precautions to prevent any livestock penetration from adjacent land onto such land and/or contact between any livestock on that land and other livestock from adjacent land.

78.5.5 Where it is necessary for the purpose of the Works to enter land which is or has recently been occupied by livestock the Contractor shall provide, at

each entry or exit to such land, appropriate arrangements for disinfecting all footwear and vehicles upon entry or exit from such land to the satisfaction of the Engineer. He shall ensure that all footwear and vehicles are cleansed of all dirt and mud before disinfecting with a clean disinfectant, regularly replenished at the correct dilution and which carries a valid citation on the label certifying approval by the Department of the Environment, Food and Rural Affairs (DEFRA)

- 78.5.6 The Contractor shall not enter buildings occupied or used by livestock for the purpose of the Works without the express written consent of the owner/occupier. When such entry is necessary, rubber boots and protective over-garments of an appropriate type shall be worn at all times which shall be disinfected upon the entry and exit from such buildings in accordance with the instructions given at paragraph 82.1.5 above.
- 78.5.7 Notwithstanding any other provisions within the Contract the Contractor shall take all necessary precautions to ensure that streams, ditches and water troughs are not polluted as a result of the carrying out of the Works and that ditches and drainage outfalls are adequately protected from damage pollution and/or silting to the satisfaction of the Engineer.
- 78.5.8 The Contractor shall ensure that litter and/or debris resulting from the Works is not left or allowed to accumulate on or adjacent to the Site in areas accessible to livestock. The Contractor should particularly make every effort to remove discarded foodstuffs remaining from human consumption - these may carry infectious agents harmful to livestock.
- 78.5.9 The Contractor shall ensure that all gates are kept closed and appropriately secured and shall make every effort to avoid damage to fences hedges trees and walls in order to prevent livestock from straying. Where such damage does occur the Contractor shall take immediate action to secure any resulting breach from the penetration and/or escape of livestock and immediately thereafter notify the Engineer who shall consult the owner/occupier as appropriate
- 78.5.10 .In addition to the above requirements the Contractor shall take all necessary precautions to protect farmers stock herds against the risk/spread of Brucellosis. Such precautions shall include, but not be limited to, the provision by the Contractor at each entry or exit to such land, appropriate arrangements for disinfecting all footwear and vehicles upon entry or exit from such land to the satisfaction of the Engineer. He shall ensure that all footwear and vehicles are cleansed of all dirt and mud before disinfecting with a clean disinfectant, regularly replenished at the correct dilution and which carried a valid citation on the label certifying approval by the Department of the Environment, Food and Rural Affairs (DEFRA).
- 78.5.11 The Contractor shall strictly comply with any restrictions and/or precautions relating to the movement of soil which may be requested by Scotland's Environmental and Rural Services in the interest of restricting the spread of the following crop diseases:-

Rhizomania	(affecting beet)
Red Core Disease	(affecting strawberries)
Wart Disease	(affecting potatoes)

Verticillium Wilt (affecting hops)
Cyst Nematodes (affecting potatoes/beet)

The Contractor shall strictly comply with any restrictions and/or precautions relating to the movement of soil which may be requested by Scotland's Environmental and Rural Services in the interests of preventing the spread of the following plant species:-

Japanese Knotweed
Giant Hogweed

In particular any soil or other such arisings contaminated with or suspected of being contaminated with the rhizomes and/or roots of these species SHALL NOT be spread to areas currently free of these plants but shall be disposed of as directed by the SEARS Representative.

With regard to livestock diseases:-

Foot and Mouth Disease
Newcastle Disease (Fowl Pest)
Swine Fever
Swine Vesicular Disease

Should an outbreak of any of the above highly infectious diseases occur in the area the Contractor and/or any sub-contractor employed by him shall not enter further upon any land and shall immediately inform the Engineer and request instructions. The Engineer shall consult with and seek instructions immediately from the SEARS Representative.

Carcass Burial Pits

Such pits contain the remains of animals which have been slaughtered for the purposed of containing certain diseases (particularly Foot and Mouth, but occasionally Anthrax). Unauthorised exhumation of such carcasses is illegal. Where there is prior knowledge that Carcass Burial Pits may exist in the area of the Works the SEARS Representative may be able to offer assistance in their location. However, if during the course of the Works a Carcass Burial Pit is encountered by the Contractor or any sub-contractor employed by him all work shall cease at that location and the Contractor shall appropriately secure that area of the Site against access and immediately inform the Engineer and request instructions. The Engineer shall consult with and seek instructions immediately from the SEARS Representative.

- 78.5.12 Compliance with the above requirements shall not relieve the Contractor of any of his obligations under the Contract
- 78.5.13 When visiting or working on or near farm on similar premises the Contractor shall follow the guidelines "Biosecurity Guidance for Business Visitors, Contractors and Utility Workers on or near Farm or Similar Premises" published by Scotland's Environmental and Rural Services and reproduced below.
- 78.5.14 Strone Point Site of Special Scientific Interest (SSSI), to the south of the road, is designated for its Dalradian geology. The contractor shall ensure that the following restrictions are adhered to in order to ensure that there
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is no damage to the rocks in the SSSI. Rocks in the SSSI must not be in any way damaged or removed, for example by activities including drilling, digging and creation of drainage. Geology must not be obscured by dumping materials in the SSSI or by the creation of structures overlying rocks. There should be no driving on the foreshore. For details on restrictions on the SSSI please see the Operations Requiring Consent, which can be found at: https://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1500

- 78.5.15 The loch below Strone Point is part of Upper Loch Fyne and Loch Goil MPA, designated for features including 'burrowed mud' and 'sublittoral mud and mixed sediment communities', both of which are found below Strone Point. These features could potentially be affected by release of chemicals or large amounts of sediment into the loch, but we consider that the features are unlikely to be affected by this work, other than insignificantly, if good practice on pollution control methods is followed. The contractor shall ensure that good practice on pollution control is followed in line with Scottish Environmental Protection Agency (SEPA) guidance. If there are any questions about this guidance please contact SEPA on: 01546602876. Details on the MPA can be found at: https://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=10424
- 78.5.16 Work at Strone Point will involve disturbance of an otter holt and otter couches and a bat roost, for which species licenses are being issued by SNH. The contractor will ensure that all licenses are adhered to and all conditions are met. If in any doubt about the terms of a license please contact the SNH licensing team on: 01463 725 364 or at: licensing@snh.gov.uk
- 78.5.17 Visitors to farm properties and/or buildings where farm animals or crops, etc are kept, for example business visitors, contractors, and utility workers, need to be aware of their role in helping the community combat the transmission of animal and plant diseases.
- 78.5.18 The term biosecurity describes the working practices adopted to prevent disease occurring or spreading between farm or similar premises e.g. livestock markets. A common sense approach is required.
- 78.5.19 There are two broad farm types – livestock e.g. cattle, sheep, pigs, farmed deer and arable e.g. crops and plants. A mixture is also possible. The following precautions form the basis of guidance followed by Officials of Scotland's Environmental and Rural Services in the absence of an outbreak of a notifiable animal and/or plant disease. The detailed guidance followed by officials is available in Annex A. Business visitors, contractors and/or subcontractors are encouraged to follow these guidelines
- 78.5.20 It is very important to avoid careless behaviour by business visitors, contractor and/or sub-contractors' employees. The risk of spreading disease must be minimised; the consequences for Scotland and further a field can be significant
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General Guidelines

- 78.5.21 Business visitors, contractors and/or sub-contractors should contact the farmer or representative **first** to arrange the visit and follow the biosecurity advice given in respect of the relevant land/premises.
- 78.5.22 Establish what washing and disinfection facilities are available, and seek information from the farmer on the precautions to be taken at the location concerned.
- 78.5.23 Establish whether there are any Separation Areas for controlling the movement of animals. These areas are governed by stricter disease control measures.
- 78.5.24 If you are visiting the farm premises as a representative of any organisation, you should ensure that your clothes are not muddy and that your shoes/boots have been cleaned and then disinfected. This is particularly important if visiting a number of farms.
- 78.5.25 Business visitors, contractor and/or subcontractor vehicles, including those shared/hired, should be kept clean (inside and outside) to reduce the risk of spreading any disease when travelling to and from farm premises.
- 78.5.26 Vehicles should be parked on hard standing, not in any fields containing livestock and should not be driven through fields which have or have recently had stock in them, to the extent that this is feasible without severely limiting access.
- 78.5.27 Ensure that gates are left as they are found, as per the Scottish Executive's Biosecurity Code. <http://www.gov.scot/resource/doc/47007/0017624.pdf>
- 78.5.28 Never feed animals or leave food, litter or associated packaging around where animals can eat it, including in adjacent fields

Detailed Guidance

- 78.5.29 If officials come into contact with livestock or faecal material, they must thoroughly clean and then disinfect all footwear, leggings etc on entry to and on leaving the farm premises. All equipment used must be clean on entry and again on departure. Great care must be taken when cleaning electrical apparatus or tools. Where possible equipment should be protected from contamination e.g. using plastic bags. Health and Safety rules must be observed. It is accepted that working in rural areas may mean that clean vehicles quickly become 'soiled'. It is not proposed that entire vehicles be cleaned and then disinfected but attention should be focused on areas which have contact with the ground or which may not be immediately visible but have dirt thrown up from the ground e.g. wheel arches. If your vehicle comes into contact with livestock, it should be thoroughly cleaned and then disinfected (do not forget wheel arches) removing contamination of excreta, slurry or similar material before leaving the farm premises. If waterproof clothing has been used previously at a different location, it must be thoroughly cleaned and then disinfected before entering and leaving the farm premises. All other protective clothing must not be used again until it has been laundered. Disposable boiler suits can either be left on the premises with the owner's agreement or bagged and suitably disposed of
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Disinfecting Procedures.

78.5.30 To be effective at killing disease, disinfectant should be applied to a clean surface. Ensure surfaces to be disinfected are clear of mud, faeces and other organic matter by washing in a water bath or hosing down before applying disinfectant. Where no washing and disinfection facilities are available it may be necessary for the official to carry a full disinfecting kit. This comprises an approved disinfectant, bucket, brush, eye goggles, facemask (where appropriate), impervious gloves, waste disposal bags and a reasonable sized container filled with water in case there is none available on the farm. Only disinfectants approved by Scotland's Environmental and Rural Services (SEARS) should be used. Further details are available from (www.hmsso.gov.uk/legislation/Scotland/ssi2003/20030334.htm) Specified dilution rates and label recommendations must be strictly adhered to. When a particular disease risk has been identified e.g. Newcastle disease, Foot and Mouth Disease, further information will be made available on the Scottish Executive website. First thoroughly clean the boot/sole or equipment and then place in the disinfectant solution and use a hand held brush, brushing away from the face/eyes. If this is unavoidable, you must wear suitable eye protection. Avoid contact with the skin. The disinfectant solution should then be rinsed off with clean water before drying occurs. The solution may over time damage natural fabrics such as leather so care must be taken to rinse off any excess solution straight away.

78.5.31 Dispose of disinfectant very carefully and preferably with the prior consent of the farmer/owner. Ideally dilute the used disinfectant with water and spread thinly on land well away from watercourses or water supplies.

Vists/ Site work on livestock farms

78.5.32 Protective clothing must be worn on all visits/site work that will include entering areas where livestock are present or to which they normally have access. Disposable boiler type suits can be used for visits/site work providing that they are robust enough for their intended purpose. Disposable clothing must be used only once and must not be re-used.

78.5.33 Waterproof protective clothing and footwear should be worn when entering areas in close proximity to livestock. Footwear must be thoroughly cleaned and then disinfected before entering and leaving the farm premises.

Officials should be aware that some commercial poultry and pig units may have particularly stringent biosecurity requirements. This is an industry rather than statutory requirement.

The owner may require freedom from contact with the species for up to 5 days before the proposed work commences. Showering in and out and using protective clothing provided is not uncommon.

78.5.34 Records of all visits/site work should be kept at all times

Vists/ Site works on Arable Farms.

78.5.35 The direct transmission of infectious plant diseases is the obvious risk associated with carrying out visits/site work. Officials should therefore ensure that leggings, wellingtons and equipment are thoroughly cleaned and then disinfected between farms.

78.5.36 Officials should also be aware of the possibility of spreading livestock diseases. Again a common sense approach is required. Wherever possible avoid fields with livestock or where manure/slurry has been recently spread.

78.5.37 ALWAYS FOLLOW THE BIOSECURITY ADVICE GIVEN BY INDIVIDUAL FARMERS

SEARS, Room 345 Animal Health and Welfare Division, Pentland House 47 Robb's Loan

Edinburgh EH14 1TY

Tel: 0131 244 1938

Fax: 0131 244 5656

78.6 SPECIAL REQUIREMENTS IN RELATION TO MINISTRY OF DEFENCE

78.6.1 The Ministry of Defence (MOD) operates a network of Noise Ranges in the UK, and Loch Fyne hosts one of these ranges. The operation of the range relies upon navigational marker posts which are placed on land at locations which are visible from Loch Fyne.

78.6.2 The A83 Strone Point Improvement Works shall have an impact on the existing navigational aid and cable located within the scheme extents. The navigational aid and cable within the land made available boundary (refer to drawing 13/NW/0901/052/200/001 for details) shall be removed to tip off site. The cable to the aid may be energised.

78.6.3 Should further information be required, the contact details for the relevant persons within the Ministry of Defence are listed below

Names	Address/Tel	Contact
<u>Ministry of Defence</u>	Forthview House, 30 Hilton Road, Rosyth, Fife, KY11 2BL	[REDACTED] [REDACTED] [REDACTED] [REDACTED]
<u>Ministry of Defence</u>	Port Conservancy Officer Renown Building HMNB Clyde Faslane G84 8HL	[REDACTED] [REDACTED] [REDACTED]

78.7 SPECIAL REQUIREMENTS IN RELATION TO BEAR SCOTLAND LTd

78.7.1 TRAFFIC SAFETY AND MANAGEMENT

78.7.2 The Contractor is responsible for the Traffic Safety and Management and associated work

78.7.3 The Contractor shall provide and maintain adequate protection to the road users from likely rock falls during the works. The Contractor is required to

show in detail drawings of his proposals to the Engineer. These proposals require the approval of the Engineer before they may be implemented.

- 78.7.4 The Contractor is responsible for identifying all Traffic Management measures, which are necessary for his own works. In respect of work by others, the Contractor shall discuss with the Engineer the work proposed to be carried out and shall take account of these works when preparing his traffic management measures. The Contractor is required to show in detail drawings of his proposals for Traffic Safety and Management. These proposals require the approval of the Engineer's Representative before they may be implemented. (Before approval can be given the Engineer's Representative will consult with various parties including BEAR Scotland's Journey Time Reliability Co-ordinator (JTRC) and the Police). The traffic management will be subject to on-going monitoring and improvement where considered necessary.
- 78.7.5 The Contractor is responsible for any damages to road surface from falling rock fragments / blocks.
- 78.7.6 Traffic Safety and Management measures must be in accordance with the requirements and advice of the "Traffic Signs Manual" Chapter 8 (2009) published by Her Majesty's Stationery Office and any amendments thereto.
- 78.7.7 Road lighting requirements are to be in accordance with the "Traffic Signs Manual" Chapter 8 (2009).
- 78.7.8 The following points must be adhered to when making an application for occupying roadspace on the network:
- 78.7.9 A Roadspace Application Form must be obtained from, completed and subsequently returned to BEAR Scotland before commencement of the works. Electronic copies can be obtained from NWRoadspace@Bearsotland.co.uk
- 78.7.10 Phasing of Works - the Contractor may, as part of his traffic management proposals, propose a speed limit to apply throughout the Works. For the purposes of roadworks, an application for any required temporary speed restriction must be made to BEAR Scotland's JTRC a minimum of 6 weeks in advance.
- 78.7.11 Road closures may require a minimum notice period of up to ten weeks to allow for consultation and approval with relevant parties, i.e., Bus Companies, Local Authorities, Police, etc.
- 78.7.12 The BEAR Scotland network is subject to restricted working hours on certain sections. These will be detailed if applicable. It is the responsibility of the applicant to seek clarification of any restrictions that may apply before commencing work.
- 78.7.13 The Contractor shall submit his traffic management proposals to the Engineer for his approval at least 7 days in advance of the Works in order to allow time for discussions with BEAR Scotland's JTRC. Drawings should clearly show:
- (a) Width of lanes;
 - (b) Working areas;
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- (c) Safety zones (lateral and longitudinal);
 - (d) Provision for cyclists, pedestrians and equestrians;
 - (e) Protection of road users from rock debris;
 - (f) Position and nature of temporary traffic signals (if any) and signs including those required for (d) above;
 - (g) Road lighting requirements.

78.7.14 BEAR Scotland will only deal with the applicant

78.7.15 BEAR Scotland will have the final decision on allocation of slots on the network. This decision is non-negotiable.

78.7.16 Requests that involve emergency works/repairs will be treated on their individual merits.

78.7.17 Any queries please contact:

BEAR House, Inveralmond Industrial Estate, Inveralmond Road, Perth
PH1 3TW

Tel: 01738 448600 Email: nwroadspace@bearsotland.co.uk

78.7.18 The following points must be adhered to whilst occupying roadspace on the network:

78.7.19 A traffic safety and control officer and deputy are required to be contactable whenever traffic management is in place.

78.7.20 The Contractor is responsible for the provision, maintenance and surveillance of all traffic management measures associated with his Works. All traffic management equipment must be kept in clean and proper order throughout the duration of the works.

78.7.21 The Contractor shall take particular care with the siting of all huts, plant, equipment, materials, stockpiles or heaps within the public road, to ensure that there is no danger or limitation to sight lines.

78.7.22 The Contractor shall carry out inspections of his traffic management installations, during the period when operations are being carried out. The findings of these inspections shall be recorded and made available to the Engineer on demand.

78.7.23 The Contractor shall carry out inspections of his traffic management installations prior to the commencement of operations each day and upon the completion of operations for the day. The findings of these inspections shall be recorded and made available to the Engineer on demand.

78.7.24 Within one hour of notification, the Contractor must be able to respond to any report regarding defects in traffic management during any period when operations are not on-going.

78.7.25 Applicants MUST notify Traffic Scotland 15 minutes prior to placing the first cone on the network and again when all traffic management is lifted by telephoning 0131 203 8700.

78.7.26 Weekly Programme of Intent – The Contractor shall by 09.30 each Wednesday, provide the BEAR Scotland's JTRC with a detailed summary

of traffic management installations proposed within the Contract for the following week.

- 78.7.27 Daily Record of Traffic Installations - The Contractor shall by 09.30 each following Monday, provide BEAR Scotland's JTRC with a detailed summary of traffic management installations that have been in use on the Contract on each day.
- 78.7.28 Every employee, whilst engaged in operations on or near a road, shall wear high visibility reflective/fluorescent clothing of an approved type as per Clause 6.3 of Chapter 8 of the "Traffic Signs Manual".
- 78.7.29 All vehicles must comply with Clause 5.2 of Chapter 8 of Volume 1 of the "Traffic Signs Manual". Hazard warning lights are not an acceptable alternative to a roof-mounted amber flashing lamp.
- 78.7.30 The Contractor shall provide and erect all necessary signs, posts and fittings for the purpose of traffic management (including speed restriction signs, signs to Diag. 7290 and signs to Diag. 670 & 671).
- 78.7.31 All traffic signs required by the Regulations to be reflective shall be made reflective by the application of Class 1 retro-reflective material.
- 78.7.32 All temporary traffic signs must comply with the Traffic Regulations (TSRGD, 2016).
- 78.7.33 Signs must be erected of an appropriate size to display the name and telephone number of the organisation undertaking the works.
- 78.7.34 As a minimum provision the traffic management arrangements must ensure that during single lane working a width of at least 3.25 metres is available to traffic.
- 78.7.35 Advanced signing outside of the Site Area is required.
- 78.7.36 The Contractor is required to provide all traffic management measures necessary for the various statutory undertakers and their nominated subcontractors.
- 78.7.37 BEAR Scotland and the Police reserve the right to remove or have removed any traffic management works, if safe to do so, should exceptional circumstances arise, e.g., a road traffic accident.
- 78.7.38 Unless subsequently instructed by the Engineer the Contractor shall not be responsible for maintenance of the road within the site, other than for road crossings as part of his works. However, the Contractor shall ensure to the satisfaction of the Engineer that any carriageway, footway and footpath which is part of the works and is being used by traffic and/or pedestrians, shall be kept clean and clear of all dirt, mud and stones, etc., dropped from vehicles or tyres. When necessary, the Contractor shall provide, maintain and use, as directed by the Engineer, suitable cleaning equipment, including mechanical road sweepers, for this cleaning. The site shall be cleared of all materials and debris and cleared of dirt once works are completed before the Contractor leaves the site.

TEMPORARY SIGNING OF THE WORKS

- 78.7.39 Traffic signing shall generally be in accordance with Chapter 8 of the "Traffic Signs Manual" (2009) amended by Table 1/17. The Contractor's
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attention is also drawn to “Safety at Street Works and Road Works” published by Her Majesty’s Stationery Office. All reflective material shall be Class 1.

CONE AND SIGN SIZES Minimum Height of Cone Minimum Height of Sign

- 78.7.40 All-purpose single carriageway (40mph or greater) 750mm Various (see Chapter 8, Appendix 1.2)
- 78.7.41 Where sharp deviations of routes are required the cones shall be positioned in such a manner as to form a “wall”.
- 78.7.42 Where the verge or kerbing has been removed, cones or other similar methods must be used to clearly define the edge of the carriageway.
- 78.7.43 Adequate temporary lighting will be provided by the Contractor at all crossovers or sharp deviations of route.
- 78.7.44 Safety zones must be clearly delineated, appropriate to the speed limit applicable to the site, i.e. 0.5 metre < 40mph, 1.2 metres > 40mph.

TEMPORARY TRAFFIC LIGHT SIGNALS

- 78.7.45 Signal controlled roadwork’s will be permitted as required provided they are used in a responsible manner in compliance with Chapter 8 of the "Traffic Signs Manual" (2009) published by Her Majesty's Stationery Office or any amendments thereto. Any work requiring the use of traffic lights must be programmed to minimise disruption to the travelling public. BEAR Scotland’s JTRC must be notified in advance of the commencement of the construction works and immediately of their being removed from the carriageway.
- 78.7.46 If it is considered necessary to use traffic lights then the length controlled by the lights must be kept to a minimum. The traffic lights are to be removed outside of the Contractor’s working day when considered safe to do so.
- 78.7.47 At least 7 days notice shall be given for all works other than emergency and urgent works. For emergency and urgent works, (e.g., when circumstances arise which could result in immediate danger to the public or serious damage to the road), this notice must be sent within 2 hours of work starting.
- 78.7.48 BEAR Scotland must be notified within 15 minutes of signals being removed from carriageway.
- 78.7.49 The signal equipment and traffic signs must satisfy fully all the requirements set out in the Traffic Signs Regulation and General Directions 2016, and all other relevant regulations, directions and technical memoranda.
- 78.7.50 Procedures, layouts and operations shall be in accordance with the “Safety at Street Works and Road Works – A Code of Practice” and “Traffic Signs Manual – Chapter 8 (2009)”.
- 78.7.51 The mode of operation of the signals shall be “Vehicle Actuation” to the Department of Transport’s booklet “An introduction to the Use of Traffic
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Actuated Portable Traffic Signals” (the pink booklet) unless otherwise agreed by BEAR Scotland in writing.

78.7.52 All apparatus whether hired or owned by the use will be subject to a “beck and call” maintenance contract. The user must establish a safe working method of traffic control within 1 hour of notification of a fault or defect.

78.7.53 The apparatus must be inspected and tested before delivery to site and the user must satisfy BEAR Scotland that the equipment meets all the necessary requirements and that a competent person has made the pre-delivery check.

79. PRIVACY OF INFORMATION

The Contractor shall not give information concerning the Works for publication in the Press or on radio, television, screen or any other medium without the written consent of the Engineer.

80. DATA PROTECTION ACT: CONTRACTOR'S INDEMNITY AND WARRANTY

Where the Contractor or its servants having obtained without the approval of the Employer personal data within the meaning of the Data Protection Act 1998 directly or indirectly discloses or publishes the data to any other person or allows improper access to the data or in any event directly or indirectly causes the loss damage or destruction of such data it shall indemnify the Employer against all claims proceedings costs and expenses in respect of any damage or distress suffered thereby by any person.

81. CONSIDERATE CONSTRUCTORS SCHEME

The Contractor shall register the Site under the Considerate Constructors Scheme and thereafter comply with the Considerate Constructors Scheme's Code of Practice constructing completing and maintaining the Works.

82. FREEDOM OF INFORMATION (SCOTLAND) ACT 2002

All information submitted to the Scottish Ministers (including the Employer) may need to be disclosed or published by the Scottish Ministers (including the Employer). Without prejudice to the foregoing generality, the Scottish Ministers (including the Employer) may disclose information in compliance with the Freedom of Information (Scotland) Act 2002, the decisions of the Scottish Ministers (including the Employer) in the interpretation thereof shall be final and conclusive in any dispute, difference or question arising in respect of disclosure under its terms, any other law, or, as a consequence or judicial order, or order by any court or tribunal with the authority to order disclosure. Further the Scottish Ministers (including the Employer) may also disclose all information submitted to them to the Scottish or United Kingdom Parliament or any other department, office or agency of Her Majesty's Government in Scotland or the United Kingdom, and their servants and agents. When disclosing such information to either the Scottish Parliament or the United Kingdom Parliament it is recognised and agreed by both parties that the Scottish Ministers (including the Employer) shall if they see fit disclose such information but are unable to impose any restriction upon the information that they provide to Members of the Scottish

Parliament, or Members of the United Kingdom Parliament; such disclosure shall not be treated as a breach of these Conditions of Contract.

83. WASTE MANAGEMENT

83.1 Waste Management

Subject to any other provision of this Contract, the Contractor shall institute maintain and operate for the term of the Contract a Site Waste Management Plan which shall contain objectives for reducing, reusing and recovering waste materials resulting from the Works.

83.2 Approval of Site Waste Management Plan

The Contractor shall not commence or permit the commencement of any aspect of the Works or any other matters for which the Contractor shall be responsible under the Contract before those parts of the Site Waste Management Plan which concern such parts of the Works or such other matters have been approved in writing by the Engineer.

83.3 Contents of SWMP

83.3.1 Notwithstanding any other provisions of the Contract the Site Waste Management Plan shall include:

- (i) identification of the roles and functions of:
 - (a) the Contractor (including the members of the Contractor's site personnel and all other key personnel associated with the Works);
 - (b) the Employer;
 - (c) all other sub-contractors and relevant third parties;
- (ii) a description of the construction completion and maintenance of the Works and any other matters for which the Contractor shall be responsible under the terms of the Site Waste Management Plan;
- (iii) identification of the proposed location of records tracing the origin and location in the Site of everything incorporated in the Works;
- (iv) a description of how the Contractor shall minimise any adverse impacts that the Works have on the environment;
- (v) details of how the materials selection, construction techniques, operational methods and any design decisions by or on behalf of the Contractor shall minimise any adverse impacts that the Works have on the environment;
- (vi) details of how the Site Waste Management Plan shall comply with regulatory requirements; and
- (vii) project-specific targets for waste recovery, reused and recycled content and waste reduction.

83.4 Sub-contractors and suppliers to comply

The Contractor shall make a condition in each and every sub-contract and order for goods and services including Temporary Works Design services whereby sub-contractors and suppliers shall for the term of the Contract comply with the requirements of the Site Waste Management Plan for the purpose of ensuring and

demonstrating the services or goods provided conform with the relevant provisions of the Contract.

83.5 Submission of SWMP

Subject to the other requirements of the Contract the Contractor shall within 21 days after the acceptance of his Tender submit to the Engineer for his written approval his Site Waste Management Plan.

83.6 Changes to SWMP

The Contractor shall submit to the Engineer for approval any changes to the Site Waste Management Plan which are required during the construction completion and maintenance of the Works.

83.7 Waste performance

83.7.1 The Contractor shall provide the following information to the Engineer in which the performance for construction, demolition and excavation waste streams shall be identified separately:

- (i) a copy of the Site Waste Management Plan, which shall identify but not be limited to:
 - (a) the estimated total mass of waste and the estimated recovery rate before mitigating actions, with a list of actions to reduce waste and increase the level of recovery (distinguishing construction, demolition/strip-out and excavation wastes as appropriate) and increase reused and recycled content; and
 - (b) a revised estimate of the total mass of waste and the estimated recovery rate after mitigating actions, and forecast performance indicators for:
 - (i) tonnes of waste sent to landfill per £100k construction value; and
 - (ii) tonnes of waste produced per £100k construction value.
- (ii) A monthly report identifying actual performance for waste quantities, disposal routes, and reused and recycled content used in construction, identifying the following indicators of actual performance:
 - (a) tonnes of waste sent to landfill per £100k construction value; and
 - (b) tonnes of waste produced per £100k construction value.
- (iii) Upon completion of the Works, a completed Site Waste Management Plan, identifying the forecast and actual performance for waste quantities, disposal routes, and reused and recycled content used in construction, including the following indicators of actual performance:
 - (a) tonnes of waste sent to landfill per £100k construction value; and
 - (b) tonnes of waste produced per £100k construction value.

83.8 WRAP

The Contractor may use WRAP's Designing out Waste Tools/Net Waste Tool (www.wrap.org.uk/nwtool) to forecast waste quantities, quantify potential reductions in waste and costs, identify actions to reduce and recover waste, and quantify and select materials with reused and recycled content.

83.9 Provision of Information

Notwithstanding any other provision of this Clause the Contractor shall provide to the Engineer or the Employer such information as the Engineer or the Employer may reasonably require to demonstrate the Contractor's compliance with this Clause 83.

83.10 Responsibilities

Nothing contained in this Clause 83 shall relieve the Contractor of any of his responsibilities under the Contract.

84. CARBON MANAGEMENT SYSTEM

84.1 Carbon Management System

Subject to the other requirements of the Contract, the Contractor shall institute maintain and operate for the term of the Contract a Carbon Management System.

84.2 Compliance

The Contractor and any Contractor Party shall comply with the requirements of the Carbon Management System.

84.3 Minimum requirements

The minimum requirements for the Carbon Management System shall be as identified in Appendix 1/72 of the Specification.

85. BLACKLISTING

The Contractor must not commit any breach of the Employment Relations 1999 Act (Blacklists) Regulations 2010 or section 137 of the Trade Union and Labour Relations (Consolidation) Act 1992, or commit any breach of the Data Protection Act 1998 by unlawfully processing personal data in connection with any blacklisting activities. Breach of this clause is a material default which shall entitle the Employer to terminate the Contract with immediate effect.

86. CONSTRUCTION SKILLS CERTIFICATION SCHEME

86.1.1 The Contractor shall ensure that on-site staff are accredited under the Construction Skills Certificate Scheme or an equivalent scheme.

86.1.2 Where the Contractor enters into any sub-contract for the purpose of performing all or part of this Agreement, the Contractor shall cause a term to be included in each sub-contract:

- (i) which requires the sub-contractor to ensure that on-site staff are accredited under the Construction Skills Certificate Scheme or an equivalent scheme; and
- (ii) in the same terms as that set out in this Clause 86 (including for the avoidance of doubt this sub clause 86.2(ii) subject only to modification to refer to the correct designation of the equivalent party as the Contractor and sub-contractor as the case may be.

86.1.3 In this Clause "on-site staff" means all persons engaged by the Contractor to undertake any works or part thereof on the Site.

87. PUBLIC CONTRACTS SCOTLAND

The Contractor shall ensure that all contracts with sub-contractors and suppliers which the Contractor intends to procure following the Contract Date, and which the Contractor has not, before the Contract Date, already planned to award to a particular sub-contractor or supplier, are advertised through the Public Contracts Scotland procurement portal (www.publiccontractsscotland.gov.uk) and awarded following a fair, open, transparent and competitive process proportionate to the nature and value of the contract.

88. TRAINING AND EMPLOYMENT OPPORTUNITIES

88.1 Training and Employment Opportunities

Subject to the other requirements of the Contract, the Contractor shall institute maintain and operate for the term of the Contract a Training and Employment Opportunities Plan.

88.2 Compliance

The Contractor and any Contractor Party shall comply with the requirements of the Training and Employment Opportunities Plan.

88.3 Minimum Requirements

The minimum requirements for the Training and Employment Opportunities Plan shall be as identified below.

88.4 Provision of Information

88.4.1 The Contractor shall provide a report monthly, identifying but not limited to the following information:

- (i) for the Contractor:
 - (a) numbers of staff employed on site broken down by postcode; and
 - (b) number of staff providing head office support to the site;
- (ii) for all Contractor Parties:
 - (a) numbers of staff employed on site broken down by postcode;
 - (b) the total number of staff broken down by postcode providing head office support to the site; and

the Company Reference Number as registered at Companies House for each Contractor Party.

2.2 Annex 1A to Conditions of Contract

FORM OF BOND AND UNDERTAKING

THE SCOTTISH MINISTERS
Transport Scotland
Buchanan House
58 Port Dundas Road
Glasgow
G4 0HF

Dear Sirs,

ON DEMAND PERFORMANCE BOND

1. We [*name and address of issuer*] ("**the Guarantor**") understand that Scottish Ministers have entered, or are about to enter, into a contract with [*] Limited, incorporated under the Companies Acts (company number [] and having their registered office at [] ("**the Contractor**") for [*details of underlying contract*] ("**the Contract**"), and that under the Contract, Scottish Ministers require an on demand bond for 3% of the contract price in respect of the due performance by the Contractor of its obligations under the Contract.*
 2. The Guarantor hereby irrevocably and unconditionally promises to pay forthwith, as a primary obligation, to Scottish Ministers on its first written demand an amount not exceeding in aggregate [£ *] provided that such demand complies with the provisions of this Bond.*
 3. This Bond shall expire, and the Guarantor's liability shall be released and discharged absolutely on issue of the completion certificate ("**Expiry**") except in respect of any Demand Notice received before such date.
 4. Scottish Ministers' demand under this Bond must be received by the Guarantor before Expiry and must be in the form of a statement signed by Scottish Ministers ("**Demand Notice**") that:
 - 4.1 the Contractor has failed to perform its obligations under the Contract in accordance with its terms and conditions;
 - 4.2 as a result of such failure, the amount claimed is due to Scottish Ministers;
 - 4.3 specifies in what respects the Contractor has so failed; and
 - 4.4 specifies the amount claimed.The Guarantor shall accept such Demand Notice as conclusive evidence, for the purposes of this Bond alone, that the amount claimed is due to Scottish Ministers under this Bond.
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5. On Expiry, this Bond shall become null and void, whether returned to the Guarantor for cancellation or not, and any Demand Notice received after Expiry shall be ineffective.
 6. Scottish Ministers may only transfer or assign this Bond to a successor body which substantially performs the functions previously performed by Scottish Ministers.
 7. For the avoidance of doubt, nothing in this Bond shall confer on any third party any benefit or the right to enforce any term of this Bond and no *jus quaesitum tertio* is hereby created in favour of any person.
 8. This Bond shall be governed by and construed in accordance with the law of Scotland and the parties submit to the exclusive jurisdiction of the Scottish courts.

Yours faithfully,

.....
For and on behalf of
[*issuer*]

2.3 Annex 2 to Conditions of Contract

DISPUTES RESOLUTION PROCEDURE

DISPUTES RESOLUTION PROCEDURE

1. ADJUDICATION PROCEDURE

1.1 Subject to Clause 66 either Party may give notice to the other Party in writing to refer a Dispute to adjudication at any time. Such notice shall specify the difference or matter in dispute and shall set out the principal facts and arguments relating to it which shall include inter alia:

- (i) a concise summary of the nature and background of the Dispute and the issues arising:
 - (a) a statement of the relief claimed;
 - (b) a reference to any agreed record of a meeting between the Contractor and the Engineer in which the subject matter of the Dispute is raised;
 - (c) a statement of any matters which the Contractor and the Engineer have already agreed in relation to the procedure for determination of the Dispute;
- (ii) 2 copies of all documents which have an important and direct bearing on issues in relation to the Dispute and on which the claimant to the dispute intends to rely.

1.2 The Adjudicator shall have power to open up, review and revise any decision, opinion, instruction, direction, notice (with the exception of statutory notices) objection or certificate of any person given or made pursuant to the Contract, relating in any way to the Dispute except as otherwise expressly provided within the Contract.

1.3 The Adjudicator shall have power to appoint suitably qualified and experienced independent professional advisors as he may reasonably require (and any necessary secretarial assistance as is necessary) to advise him on any issues and the Adjudicator shall have proper regard to such advice in reaching his decision.

1.4 Where after consideration of the written submissions of the Parties the Adjudicator is of the opinion that:

- (i) such written submissions are insufficient for him to reach a decision; or
- (ii) clarification of the precise question, which is being addressed to him, is required;

then he/she shall so advise the Parties within 7 calendar days of his/her receipt of such written submissions or if late, and in that event he/she shall be entitled to determine the further procedures which he considers necessary to enable him to resolve the Dispute.

The Adjudicator shall be required to reach a decision in writing in accordance with the timetable hereinafter provided. In the event of the Adjudicator failing to do so, either Party may serve a fresh notice in terms of paragraph 1.1 hereof and request another Adjudicator to act in accordance with the provisions of this Annex 2. Such Adjudicator shall provide a reasoned decision in writing to the Parties.

1.5 The Adjudicator shall have power:

- (i) to hold a hearing or otherwise or to take oral evidence from the Parties;
 - (ii) fix the date time and place of any meetings, hearings or inspections which he deems appropriate giving the Parties reasonable notice thereof and declaring that either Party may appoint representatives to appear on its behalf at any hearing;
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- (iii) to examine any witness or conduct an inspection of any property or thing relevant to the Dispute in the absence of any or any other representative of the Parties or any other person;
 - (iv) to allow at his sole discretion refuse or limit the appearance of witnesses whether witnesses of fact or expert witnesses;
 - (v) to allow any witness who gives oral evidence at a hearing to be questioned by the Parties under the control of the Adjudicator. The Adjudicator may put questions at any stage of the examination of the witness and such witness shall be obliged to answer;
 - (vi) to allow at his discretion the evidence of any witness to be presented in written form either as a signed statement or by a duly sworn affidavit. Either Party may make representations that such a witness shall attend for oral examinations at a hearing. If the Adjudicator so orders, and if the witness thereafter fails to attend, the Adjudicator may place such weight on the evidence as he considers fit, or excludes it altogether;
 - (vii) at any time to permit either Party to amend any submission;
 - (viii) to continue with the reference to the adjudication in default of appearance or of any act by either Party in like manner as a Judge of the Court of Session may continue with proceedings in that Court when either Party fails to comply with an order of that Court or requirement of rules of Court, including power to strike out any claim, defence, counter claim or other submission and to make any decision consequent upon any such striking out, in the event that Party fails within the timescale identified in this procedure or in any order to do any act required by this procedure or to comply with any order of the Adjudicator;
 - (ix) to order either Party to produce to the other and to the Adjudicator for inspection, and to supply copies of any documents in that Party's possession, custody or power which in the event of a Dispute, the Adjudicator determines to be relevant. Subject to the rules of privilege, and in the event of privilege being claimed the Adjudicator shall have power hereunder to decide this question;
 - (x) to order either Party to answer interrogations on the application to the other party;
 - (xi) to require either Party to submit if required in advance of any meeting or hearing or inspection a list of questions which he requires them to treat with special attention;
 - (xii) to order the inspection, preservation, storage, or interim custody of any property or thing relevant to the Dispute under the control of either of the Parties;
 - (xiii) to order the authorisation of any sample to be taken, or any observation to be made, or experiment to be tried which may, in the Adjudicator's discretion, be necessary or expedient for the purpose of obtaining full information or evidence;
 - (xiv) to require the Parties to provide a written statement of their respective cases in relation to particular issues, to provide a written answer and to provide reasons for any disagreement;
 - (xv) to award simple interest to the successful party to the adjudication on any sums held to be due from one Party to the other from any date including any date prior to the date of reference to adjudication. The rate of interest shall be at the discretion of the Adjudicator;
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- (xvi) to ensure that all meetings hearings or inspections shall be in private unless the Parties agree otherwise;
 - (xvii) to allow the Parties to appoint representatives to appear on their behalf, subject to such proof of authority as the Adjudicator may require.

Notwithstanding any of the foregoing, nothing in this procedure shall be taken as conferring power upon the Adjudicator to order either Party or a representative of either Party to give evidence (whether in person or by way of documentary or similar evidence) which could not be ordered if the proceedings were before the Court of Session.

- 1.6 The Adjudicator's appointment shall be secured by the Parties either by written agreement, or failing any such written agreement, the Adjudicator shall be nominated by the Institution of Civil Engineers.
 - 1.7 The Dispute shall be referred to the Adjudicator within 7 days of the notice referred to in paragraph 1.1 of this Annex 2.
 - 1.8 The Adjudicator shall issue his decision in writing to both Parties within 28 calendar days of referral of the Dispute to him or such longer period after referral as is agreed in writing by the Parties.
 - 1.9 Notwithstanding paragraph 1.8 of this Annex, with the consent of the Party referring the Dispute, the Adjudicator may extend the period of 28 calendar days referred to in paragraph 1.8 of this Annex 2 by up to 14 calendar days and may subsequently extend the period with the written consent of both Parties. The Adjudicator shall be permitted to correct his decision so as to remove a clerical or typographical error arising by accident or omission within five days of the date of his decision.
 - 1.10 The Adjudicator's decision shall be binding until the Dispute is finally determined by legal proceedings, by agreement or by arbitration as provided in paragraph 3 (Arbitration) of this Annex 2.
 - 1.11 The Adjudicator shall act impartially and may take the initiative in ascertaining the facts and the law necessary to determine the Dispute.
 - 1.12 The Adjudicator shall not be liable for anything done or omitted in the discharge of his functions as Adjudicator unless the act of omission is in bad faith and any employee or agent of the Adjudicator shall similarly not be liable.
 - 1.13 The costs of and incidental to retaining the Adjudicator, and any referral in terms of this procedure and the appointment of the Adjudicator shall be within his award and failing which shall be borne equally between the Parties but each Party shall bear the costs of providing all data, information and submissions given by him and the costs and expenses of witnesses and persons retained by him. The Adjudicator shall not in any event have power to make a decision in respect of the legal or other costs incurred by either Party in preparing and presenting its case to the Adjudicator.
 - 1.14 Unless both Parties otherwise agree in writing, any representations or concessions made by either Party in, or in connection with the proceedings before the Adjudicator shall be without prejudice to such Party's rights and shall not be raised by either Party in any subsequent reference to arbitration pursuant paragraph 3 (Arbitration) of this Annex 2 or other legal proceedings.
 - 1.15 Unless otherwise ordered by the Adjudicator, or agreed in writing between the Parties, all notices required for the adjudication procedure shall be in writing. A notice under paragraph 1 of this Annex 2 shall be served by first class post or delivered by hand. All other notices and written communications shall be sent by first class post, facsimile or delivered by hand.
 - 1.16 Unless the intended recipient proves otherwise:
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- (i) documents sent by first class post shall be deemed to have been received two working days after posting;
 - (ii) faxes or deliveries shall be deemed to have been received at the time transmission ceases;
 - (iii) by hand deliveries shall be deemed to have been received at the time of delivery to the address stated on their face.

References in the adjudication procedure to receipt of documents shall be construed accordingly.

- 1.17 Notices shall be effective from the time of receipt. Periods of time measured with reference to the giving, sending, or serving of a document shall be measured with reference to the time that the document is received.
- 1.18 Unless otherwise ordered by the Adjudicator or agreed in writing between the Parties, all notices and other documents received on a day which is not a working day or after 17:00 hours on any working day shall be deemed to have been received on the following working day. (Working days exclude Saturdays and Sundays and National or local public holidays.)
- 1.19 Unless otherwise agreed in writing by both Parties any meetings called by the Adjudicator at which both the Employer and the Contractor shall be in attendance shall be held in Glasgow or Edinburgh.

2. AMICABLE SETTLEMENT

- 2.1 In the event that either Party wishes to contest a decision of the Adjudicator pursuant to paragraph 1 of this Annex 2 to Conditions of Contract or in the event that the Adjudicator shall have failed to make a decision in accordance with the procedure set out in paragraph 1 of this Annex 2 to Conditions of Contract the Dispute shall be referred by notice in writing to the chief executive officer of the Contractor and the official nominated for that purpose by the Employer who shall meet and endeavour to resolve the issues between them. The joint and unanimous decision of the chief executive officer of the Contractor and the nominated official of the Employer shall be binding upon the Employer and the Contractor but if they fail to agree within 28 days of the said reference to them either Party may require the Dispute to be referred to arbitration.
- 2.2 Nothing in paragraph 2.1 above shall limit the Parties' ability to refer a Dispute to adjudication at any time.

3. ARBITRATION

- 3.1 Where the Adjudicator's decision pursuant to paragraph 1 of this Annex 2 to Conditions of Contract is not accepted by either Party, or where the Adjudicator has failed to make a decision in accordance with the procedure and timescales set out in paragraph 1 of this Annex 2 to Conditions of Contract or where the chief executive officer of the Contractor and the nominated official of the Employer have failed to reach agreement pursuant to paragraph 2 of this Annex 2 in accordance with the procedure provided in paragraph 2 of this Annex 2 either Party may serve a notice in writing on the other to refer the Dispute to the arbitration of a single arbitrator. The arbitrator shall be agreed in writing between the Parties, or (failing such agreement by the Parties within 30 days of either Party serving on the other a written notice to concur in the appointment of an arbitrator), a person to be appointed on the application of either Party by the President for the time being of the Institution of Civil Engineers. If an arbitrator declines the appointment or after appointment is removed by order of a competent court or is incapable of acting or dies and the Parties do not within 30 days of the vacancy arising fill the vacancy then the President of the Institution of Civil
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Engineers may on the application in writing of either Party appoint an arbitrator to fill the vacancy.

- 3.2 Any such reference to arbitration shall be deemed to be a submission to arbitration within the meaning of the Arbitration (Scotland) Act 2010 as the case may be or any statutory re-enactment or amendment thereof of the time being in force. Any such reference to arbitration shall be conducted in accordance with the Institution of Civil Engineers' Arbitration 2006 or any amendment or modification thereof being in force at the time of the appointment of the arbitrator and in cases where the President of the Institution of Civil Engineers is requested to appoint the arbitrator he shall direct that the arbitration is conducted in accordance with the aforementioned Procedure or any amendment or modifications thereof. Such arbitrator shall have full power to open up review and revise any decision opinion instruction direction certificate or valuation of the Engineer and neither Party shall be limited in the proceedings before such arbitrator to the evidence or arguments put before the Engineer for the purpose of obtaining his decision above referred to. The award of the arbitrator shall be final and binding on the Parties. Save as provided in paragraph 2 of this Annex 2 no steps shall be taken in the reference to the arbitrator until after completion or alleged completion of the Works unless with the written consent of the Parties. Provided always:
- (a) that the giving of a Certificate of Completion under Clause 48 shall not be a condition precedent to the taking of any step in such reference;
 - (b) that no decision given by the Engineer in accordance with the foregoing provisions shall disqualify him from being called as a witness and giving evidence before the arbitrator on any matter whatsoever relevant to the Dispute or difference so referred to the arbitrator as aforesaid.
- 3.3 In the case of any Dispute or difference as to any matter arising under Clause 12 or the withholding by the Engineer of any certificate or the withholding of any portion of the retention money under Clause 60 to which the Contractor claims to be entitled or as to the exercise of the Engineer's power to give a certificate under Clause 63.1 the reference to the arbitrator may proceed notwithstanding that the design and or construction of the Works shall not then be or alleged to be complete.
- 3.4 In any case where the President for the time being of the Institution of Civil Engineers is not able to exercise the functions conferred on him by this Clause the said functions may be exercised on his behalf by a Vice-President for the time being of the said Institution.
- 3.5 The Adjudicator shall not be eligible for appointment as an arbitrator unless the Parties otherwise agree in writing.
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2.4 Annex 3 to Conditions of Contract

INSURANCE

INSURANCE

1. GENERAL

- 1.1 Subject to the other provisions of the Contract this Annex 3 identifies the:
- (i) indemnities that shall be provided by the Contractor to the Employer;
 - (ii) minimum amount of insurance that the Contractor shall be required to effect and maintain in force throughout the entirety of the Contract;
 - (iii) maximum deductibles or excesses (that being the portion of each claim for which the Insurer(s) shall not be liable to the Contractor or which the Contractor shall pay to insurers in respect of a legal liability claim) in respect of the insurance that shall be provided by the Contractor under the other provisions of the Contract;
 - (iv) Insurance policy endorsements required by the Engineer; and
 - (v) identities of the entities to be included as a minimum in each policy of insurance.

2. INDEMNITY REQUIREMENTS

In respect of each and every claim or series of claims arising out of any one incident and other than the insurance required by items 3 and 5 specified in Table 3.1 of this Annex 3, unlimited during the period of the Contract an amount equal to the total costs and expenses of any and every kind arising out of an event that falls to be indemnified as a result of any indemnity that shall be required to be given by the Contractor within the Contract including but not limited to any indemnities identified in Clauses 20 to 25 inclusive.

3. INSURANCE REQUIREMENTS

Notwithstanding the other provisions of the Contract prior to the commencement of any part of the construction completion and maintenance of the Works the Contractor shall be required to provide evidence (such evidence including but not limited to that specified in Clause 23.1.3) to the Engineer and the Employer that the insurance identified in Tables 3.1 and 4.1 of this Annex 3 shall be in full force and effect.

Table 3.1

Reference Number	Description of Required Insurance
1.	<p>Contractor's all risks insurance shall be provided by the Contractor (including terrorism cover) to the full replacement or reinstatement value of:</p> <ul style="list-style-type: none">(i) all Works;(ii) all Constructional Plant used in connection with the Works;(iii) any materials that shall be or are intended to be incorporated into the Works whether on Site, off Site, or in transit to or from Site, anywhere in continental Europe, including roll on roll off ferries, and(iv) any plant required for the Works whether on Site, off Site, or in transit to or from Site, anywhere in continental Europe, including roll on roll off ferries;

Reference Number	Description of Required Insurance
	<p>for the period of the Contract including any Period of Maintenance.</p> <p>The insurance that shall be provided by the Contractor shall be written in the names including but not limited to those of the Employer and the Contractor and shall include sub-contractors of any tier of the Contractor.</p> <p>The insurance shall include the endorsements identified in paragraph 5 of this Annex 3.</p>
2.	<p>Public Liability insurance in respect of loss or damage to any property, including that of the Employer or death or injury to any person.</p> <p>The minimum limit of indemnity provided by the Contractor shall be £75,000,000 (seventy five million pounds sterling) in respect of each and every occurrence and unlimited in the period of insurance.</p> <p>The insurance shall be written in the names including but not limited to those of the Employer and the Contractor and shall include the endorsements referred to in paragraph 5 of this Annex 3.</p>
3.	<p>Professional Indemnity insurance for all Contractor's activities in respect of the Works (including any Works carried out during any Period of Maintenance) including but not limited to:</p> <ul style="list-style-type: none"> (i) any Temporary Works Design and construction completion and maintenance of the Works executed by the Contractor; and (ii) for the Contractor's business in general. <p>The minimum limit of indemnity provided by the Contractor shall be £10,000,000 (ten million pounds sterling) in respect of each and every occurrence and unlimited in the period of insurance but shall be limited to £10,000,000 in the aggregate in respect of Pollution losses including gradual pollution.</p> <p>The insurance that shall be provided by the Contractor shall cover the acts of the Contractor and the Contractor's liability for the acts of any of its contractors and sub-contractors of any tier in accordance with any other provision of the Contract.</p> <p>The insurance that shall be provided by the Contractor shall include the endorsements referred to in paragraph 5 of this Annex 3.</p>
4.	<p>Employers' Liability insurance with a limit of indemnity adequate to satisfy the requirements of the Employers' Liability (Compulsory Insurance) Act 1969 and any subsequent Legislation.</p> <p>The insurance that shall be provided by the Contractor shall include the endorsements referred to in paragraph 5 of this Annex 3.</p>
5.	<p>Contractor's Pollution Legal Liability insurance including consequential clean-up of any part of the Site.</p>

Reference Number	Description of Required Insurance
	Such insurance shall be for a minimum limit of indemnity of £10,000,000 (ten million pounds sterling) in respect of any one loss and in the aggregate in the period of insurance. The insurance shall be written in the names including but not limited to those of the Employer and the Contractor and shall include the endorsements referred to in paragraph 5 of this Annex 3.
6.	Any other Insurance required by the Contract or by Legislation with a Sum Insured / limit of indemnity adequate to satisfy the contract or legal requirement and shall include the endorsements referred to in paragraph 5 of this Annex 3.
7	Comprehensive motor insurance in respect of all vehicles used by the Contractor and its sub-contractors of any tier in the performance of this Contract. The insurance shall include the endorsements referred to in paragraph 5 of this Annex 3

4. EXCESSES

Table 4.1

In respect of each insurance that shall be provided by the Contractor as required by this Contract the amount that the insurer for such insurance shall not be liable for in respect of each and every claim or series of claims arising out of one event shall not exceed the excess sums set out in Table 4.1-maximum excesses

Reference Number	Type of Insurance	Excess
1.	Contractors All Risks	£50,000 in respect of each and every loss other than: (i) Defective Temporary Works Design Materials and Workmanship where the amount shall be £150,000 in respect of each and every loss; and (ii) Contractor's Plant where the amount shall be 10 percent of each and every loss (with a minimum in respect of each and every loss of £50,000).
2.	Public Liability (i) Personal Injury Claims (ii) Property Damage Claims	Nil £25,000 in respect of each and every loss or series of losses arising out of one event.

Reference Number	Type of Insurance	Excess
3	Professional Indemnity	£250,000 in respect of each and every loss or series of losses arising out of one event.
4.	Employers Liability	Nil.
5.	Contractors Pollution Legal Liability	£50,000 in respect of each and every loss or series of losses arising out of one event.
6.	Any other Insurance required by Legislation or the Contract	Not more than the maximum excess specified by law or consented to in writing by the Engineer.
7.	Comprehensive Motor	£1,000

5. INSURANCE POLICY REQUIREMENTS

5.1 All the insurance referred to in Table 3.1 of this Annex 3 shall be endorsed by the insurers to the effect that:

- (i) such insurance shall be subject to Scots Law and the jurisdiction of the Scottish Courts; and
- (ii) the insurers for such insurance shall provide not less than 30 days written notice to the Employer prior to any cancellation non-renewal or modification to any such policy for any such insurance.

5.2 The insurance identified in reference numbers 2 and 5 of Table 3.1 of this Annex 3 shall be endorsed to the effect that actions between the Insured parties shall be treated as though a separate insurance had been issued to each of them.

5.3 The insurance identified in reference numbers 1, 2 and 5 of Table 3.1 of this Annex 3 shall be endorsed such that insurers for any such insurance have accepted the following provisions:

The insurers agree:

- (i) Waiver of Duty of Disclosure
 - (a) to waive their rights to receive from the Employer disclosure of material circumstances or information;
 - (b) to avoid the insurance for any non-disclosure of material circumstances or information by the Employer or his servants or agents; and
 - (c) to avoid the insurance or claim damages against the Employer for any misrepresentation made by or on behalf of the Employer.
- (ii) Waiver of Rights of Subrogation to waive all rights of subrogation or claims for contributory negligence against the Employer.
- (iii) Joint Insured Clause that all the provisions of the insurance (except the sums/insured limits of liability) shall operate as if there was a separate insurance policy with and covering each named insured without right of contribution from any other insurance which shall be carried by an insured.

Without limitation to the foregoing this shall be on the basis that including but not limited to the non-compliance with any insurance term condition or warranty or the non-disclosure or misrepresentation of material

circumstances or information by the Contractor or any other co-insured under any such insurance shall not affect the rights or interests of the Employer under the insurance.

- (iv) Non-Vitiation Clause that a vitiating act committed by one under any insurance shall not prejudice the right to indemnity of any other Insured who has an insurable interest in such insurance and who has not committed a vitiating act.

VERSION ISSUE: Rev 1

NAME OF TENDERER: _____

**TERM CONTRACT
FOR MANAGEMENT AND MAINTENANCE OF
THE SCOTTISH TRUNK ROAD NETWORK
- NORTH WEST UNIT -**

A83 Strone Point Improvement Scheme

VOLUME 2

SPECIFICATION



**TRANSPORT
SCOTLAND**

An agency of  **The Scottish Government**



EMPLOYER

Transport Scotland,
Network Maintenance,
Trunk Road and Bus Operation,
Buchanan House,
58 Port Dundas Road,
Glasgow G4 0HF

ENGINEER FOR THE WORKS

BEAR Scotland
BEAR House,
Inveralmond Industrial Estate,
Inveralmond Road,
Perth PH1 3TW

A83 Strone Point Improvement Scheme

Volume 2

Specification

	Name	Signature	Date
Prepared By	████████	████████████████████	████████
Checked By	████████	████████████████	████████
Reviewed By	████████	████████████████	████████
Approved By	██████	████████████████	████████
Issue Status	Rev 1		
Purpose of Issue	For Tender		
Authorised for issue by	████████	████████	████████
Doc Ref:	13/NW/0901/052/Vol 2		



VOLUME 2: SPECIFICATION APPENDICES
REGISTER OF AMENDMENTS

AMEND. No.	STATUS	DESCRIPTION OF ISSUE / AMENDMENTS	ORIGINATOR	CHECKER	APPROVED	DATE

PAGE NO	PARAGRAPH	DESCRIPTION

Tender Description





This Tender is for Works to be carried out on;

- (i) A83 Strone Point Improvement Scheme

The Tender Documents Consist of:

Volume 0:	Instructions for Tendering
Volume 1:	Form of Tender + Conditions of Contract
Volume 2:	Specification
Volume 3:	Preamble to the Bill of Quantities + Amendments to the Method of Measurement + Bill of Quantities
Volume 4:	Health and Safety Pre-Construction Information
Volume 5:	Drawings





PREAMBLE TO THE SPECIFICATION

1. The Specification referred to in the Tender shall be the 'Specification for Highway Works', published by The Stationery Office (formerly HMSO) as Volume 1 of the Manual of Contract Documents for Highway Works, as modified and extended by the following:
 - (i) Appendix 0/1: Contract-specific Additional, Substitute and Cancelled Clauses, Tables and Figures;
 - (ii) Appendix 0/2: Contract-specific minor alterations to existing Clauses, Tables and Figures;
 - (iii) The Numbered Appendices listed in Appendix 0/3;
 - (iv) Appendix 0/5: Special national alterations of the Overseeing Organisation of Scotland, Wales or Northern Ireland.

Appendix 0/4 contains a list of the Drawings.

2. The relevant publication date of each page of the Specification for Highway works is given in the Schedule of Pages and Relevant Publication Dates.
3. An Additional Clause as indicated by a suffix 'A' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. An Additional Clause as indicated by a suffix 'AR' in Appendix 0/1 is a Contract-specific alteration.
4. A Substitute Clause as indicated by a suffix 'S' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. A Substitute Clause as indicated by a suffix 'SR' in Appendix 0/1 is a Contract-specific alteration.
5. A Cancelled Clause as indicated by a suffix 'C' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. A Cancelled Clause as indicated by a suffix 'CR' in Appendix 0/1 is a Contract-specific alteration.
6. Insofar as any of the Numbered Appendices may conflict or be inconsistent with any provision of the specification for Highway Works the Numbered Appendices shall always prevail. Additionally, Numbered Appendices 0/1 and 0/2 shall take precedence over Numbered Appendix 0/5.
7. Any reference in the Contract to a Clause number or Appendix shall be deemed to refer to the corresponding Substitute Clause number or Appendix listed in Appendix 0/1, 0/2 or 0/5.
8. Where a Clause is altered any original Table/Figure referred to in the Clause shall apply unless the Table/Figure is also altered. Where a Table/Figure is altered any reference in a Clause to the original Table/Figure shall apply to the altered Table/Figure.
9. Where a Clause in the Specification relates to work goods or materials which are not required for the Works it shall be deemed not to apply.
10. Any Appendix referred to in the Specification which is not used shall be deemed not to apply.
11. Where a Clause in the Specification is prefixed by an # this indicates that this particular Clause has a substitute National Alteration for one or more of the Overseeing Organisations of Scotland, Wales or Northern Ireland. Substitute or additional National Clauses shall be used within countries to which they specifically apply and they are deemed to replace corresponding Clauses in the main text of the Specification as appropriate. The substitute National Clauses are located at the end of the relevant Series together with the additional National Clauses of the Overseeing Organisations.



12. Other than where references to the Overseeing Organisation are made in the context of the Overseeing Organisation granting statutory or type approvals, the roles and functions of the Overseeing Organisation shall be undertaken by the Engineer.

Where the Specification requires the provision of documentation to the Overseeing Organisation for statutory or type approval such documentation shall be provided to the Engineer.

13. If the Specification is used in conjunction with a Contract under which the Contractor is responsible for the design of any part of the Permanent Works, the delegation of the roles and functions of the Overseeing Organisation as stated in paragraph 12 above shall be amended as follows:
- (i) If any agreement, consent or approval required to be obtained from the Overseeing Organisation impacts on the health and safety of the general public, the environment or any property or equipment not owned or operated by the Contractor, such agreement, consent, approval shall be obtained from the Employer.
 - (ii) Where the Specification provides for the Overseeing Organisation to require a test, waive the requirement for a test or alter testing frequency, the party to whom the Overseeing Organisation's roles and functions have been ascribed by paragraph 12 above shall exercise such decisions in accordance with the Scottish Ministers' requirements stated in the Contract.
14. The Contractor shall attend a construction pre-start meeting not later than 10 days after the Contract award date.
15. Due to the restricted space available for site establishment, the Contractor shall prepare a method statement, for the approval of the Engineer, outlining how he shall bring and remove the following safely from site:
- (i) People;
 - (ii) Plant;
 - (iii) Materials;
 - (iv) Waste; and
 - (v) Any other items related to the Works.



Schedule of Pages and Relevant Publication Dates

Series/Appendix	Page Number	Publication Date
000	1 to 3	May 2014
	4 to 7F	February 201
100	1 to 2, 4 to 9, 12 to 29F, WF1, N2 to N11F	May 2014
	3, 10 to 11, N1	December 2014
200	1, 3F	February 2016
300	1	May 2001
	4	November 2002
	2 to 3, 5 to 6F	May 2008
400	1 to 6, 8, 10 to 13F	November 2007
	7, 9	November 2008
500	23 to 24, 26	November 2004
	28F	May 2005
	3, 22, N1F	May 2006
	2, 5, 27	November 2006
	6, 25	November 2007
	1, 4, 7 to 21	November 2009
	600	1 to 77F, S1 to S4F, W1 to W4F, N1 to N5F
700	1 to 36F, N1 to N6F	February 2016
800	1 to 31F	February 2016
900	2 to 5, 9 to 22, 24 to 26, 28 to 67F	August 2008
	1, 6 to 8, S1F	November 2008
	23, 27	May 2009
1000	1 to 45F	February 2016
1100	1, 4F	November 2004
	2, N1F	November 2006
	3	August 2008
1200	5	May 2001
	2 to 3, W1F	August 2003
	1, 14 to 16F	May 2004
	4, 9 to 11, 13	May 2005
	12	November 2006
	6 to 7, N1 to N4F	November 2007
	8	May 2008





Schedule of Pages and Relevant Publication Dates (concluded)

Series/Appendix	Page Number	Publication Date
1300	N2F 3 to 4 1, 5 to 10, 12F 2, 11 and N1	November 2003 November 2004 November 2005 May 2006
1400	2, N1F 1, 3 to 9F	May 2001 May 2006
1500	7 2 3 to 4, 8 to 11, 13 1, 5 to 6, 12, 14 to 17F	May 2001 February 2003 November 2004 November 2006
1600	1, 4 to 5, 9, 15, 17 to 18, 24 to 26, 29 to 31, 35, 38, 49F 2, 6 to 8, 10 to 14, 16, 19, 27 to 28, 32 to 34, 36 to 37, 39 to 42, 44 to 48 3, 20 to 23, 43	March 1998 November 2003 November 2005
1700	1 to 27F	December 2014
1800	1 to 35F	August 2014
1900	1 to 35F, S1 to S2F	August 2014
2000	1, 3 to 4F 2	May 2001 November 2004
2100	1 to 2F	February 2016
2300	1 2 to 3F	March 1998 May 2001
2400	1, 4, 7F 2 3, 5 to 6	May 2005 May 2006 May 2008
2500	1 2, 8, 11F 10 6 to 7, 9 5 3 to 4	May 2001 November 2003 November 2004 May 2005 May 2006 November 2006
2600	1 2 to 4 5 6 7F	March 1998 November 2003 November 2004 May 2005 November 2006
3000	4 to 7, 10, 12 to 17, 19, 22 to 27F 20 2 to 3 8 to 9, 11, 18, 21	May 2001 November 2004 May 2006 May 2008





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Series/Appendix	Page Number	Publication Date
5000	1, 4 to 19F, S1F	May 2005
5000	2 to 3	November 2008
Appendix A	1 to 4F	May 2014
Appendix B	1 to 3F	May 2014
Appendix C	1 to 2F	May 2014
#Appendix D	1F	May 2014
Appendix D (NI)	N1F	May 2014
Appendix E	1F	May 2014
Appendix F	1 to 52F	December 2014
Appendix G	Not used	
Appendix H	1	May 2004
Appendix H	2	November 2005
Appendix H	3	November 2006
Appendix H	4 to 9F	November 2008





APPENDIX 0/1: CONTRACT - SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT

Part A: Volume 1 Specification

List of Additional Clauses, Tables and Figures

Clause No. (etc.)	Title
170AR	Abatement of Nuisance
171AR	Quality Assurance
172AR	Preparation and Supply of Health and Safety File
173AR*	In-situ Testing to determine the Equilibrium CBR (California Bearing Ratio) at Formation / Sub-grade Level
570AR*	Replacing, Raising or Lowering Stop Valve Covers, Chamber Covers, Gully Gratings and Frames and the Like
571AR*	Cleaning of Drainage Systems
572AR*	High Pressure Water Jetting
573AR*	High Pressure Water Jetting and Suction
893AR*	CBR Strength Measurements
894AR*	Density Measurement
895AR*	Surface Modulus Measurement
896AR*	Wheelpath Deformation Measurement (Interim Advice)
901.1AR*	Appendix A Quality Management Scheme 14 (Scottish Executive Interim Note 12)
930AR*	EME2 Base and Binder Course Asphalt Concrete Additional Requirements
942AR*	Thin Surface Course System
971AR*	Measurement of Texture Depth using the TRL Mini Meter
1770AR*	Structural Concrete – General Requirements
1771AR*	Removal of Concrete in Areas to be Repaired
1772AR*	Surface Preparation
1773AR*	Concrete Repairs
	Sub-Clause 1–3 General
	Sub-Clause 4 Repairs Using Normal Flow Concrete
	Sub-Clause 5-8 Repairs Using Proprietary Mortar
	Sub-Clause 9-15 Repairs Using High-Flow Repair Concrete
	Sub-Clause 16-29 Repairs Using Proprietary Spray Concrete
	Sub-Clause 30-35 Resin Injection Repair





APPENDIX 0/1: CONTRACT - SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT (CONTINUED...)

Part A: Volume 1 Specification

List of Substitute Clauses, Tables and Figures

CLAUSE No. (etc.)	Title
113SR*	Programme of Work
117SR*	Traffic Safety and Management





APPENDIX 0/1: CONTRACT - SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT (CONTINUED...)

Part A: Volume 1 Specification

List of Cancelled Clauses, Tables and Figures

Clause No. (etc.)	Title
None	





APPENDIX 0/1: CONTRACT - SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT (CONTINUED...)

Part A: Volume 1 Specification

Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written Text
170AR	<p><u>Abatement of Nuisance</u></p> <p>Notwithstanding his obligations under the Conditions of Contract the Contractor shall carry out the Works so as to cause the minimum of nuisance and inconvenience to the general public and to the owners and occupiers of property. In particular the Contractor shall comply with the following requirements:-</p> <p style="padding-left: 40px;">(a) Mud Nuisance - The Contractor shall take effective measures to prevent mud or other material being deposited on highways by traffic from the site or from other land in use for the purposes of the works.</p> <p>The Contractor shall remove without delay from highways any mud, dirt or debris which may have arisen from or be due to the construction of the works and shall employ sufficient labour and suitable plant for this purpose.</p> <p>Dust Prevention - Precautions shall be taken to prevent dust nuisance arising from the Works and shall include watering, surface dressing haul roads, or any other necessary measures which may be required from time to time. Abrasive disc saws must have dust suppression devices (e.g. water) fitted and working at all times saws is in use.</p> <p><u>Sustainability Management</u></p> <p>The Contractor shall undertake weekly recording of data using the Carbon Management System road infrastructure projects tool, Site Waste Management Plan & Works Contract data recording template provided by the Engineer. A sample of the prescribed Excel data templates is outlined in Appendix 1/72. Data recording shall be undertaken by the Contractor's Nominated Person. The Contractor's Nominated Person shall be suitably qualified, and experienced to collate the range of materials, plant, transport and waste data required. The Contractor shall submit the CV of the proposed Nominated Person for approval. A copy of the completed weekly Excel data templates, and supporting evidence, shall be submitted electronically to Craig Thom, Sustainability Advisor at CThom@bearsotland.co.uk. The first submission shall be made seven days from commencement of works and on a weekly basis thereafter. During the mobilisation period an inventory of plant items shall be submitted to the Engineer. The Contractor's Nominated Person shall be responsible for recording resources and times spent on Carbon Management System data collation activities and for submitting this information, on a weekly basis, to Craig Thom, Sustainability Advisor at CThom@bearsotland.co.uk.</p> <p><u>Carbon Management System road infrastructure projects tool – refer to Appendix 1/72</u></p> <p>The Contractor shall collate data from delivery notes and/or invoices. The source of data shall be referenced and electronic copies shall accompany the data submission. For each material type/ bill item delivered to site, the following shall be recorded:</p> <ol style="list-style-type: none"> 1. Bill Items & Material Specification and Quantity; 2. Transport Data of Materials; 3. Replacement Frequency i.e. item/material design life; 4. Notes

Clause No. (etc.)	Title and written Text
	<p>All material evidence shall be clearly referenced. Additional notes shall be included, stating any assumptions made, e.g.:</p> <ul style="list-style-type: none"> • If innovations have been employed, a note shall be detailed here to capture best practice, for example, recycled content in materials. • If a specified material is ordered via a UK local supplier; however, the production source is known to be international, then this information, including the country of origin, shall be recorded. <p>Details of the monthly total fuel consumption measured in litres will also be provided by the Contractor. For each item of Plant using fuel on site, the following shall be recorded:</p> <ol style="list-style-type: none"> 1. Plant Type including a generic description and model number or name, e.g. Paver, Dynapac F12; 2. Fuel Type for each plant item and Quantity in litres; 3. Notes <p>This section shall be used to record the evidence base for the plant data and to clearly state any assumptions made.</p> <p><u>Site Waste Management Plan– refer to Appendix 1/72</u></p> <p>The Contractor shall complete the waste carrier disposal site and actual waste movement section of the Site Waste Management Plan by collating data from waste transfer notes. The source of data shall be referenced in the notes column and electronic copies shall accompany the data submission. For each waste carrier and disposal site, the following shall be recorded:</p> <ol style="list-style-type: none"> 1. Registration number, SEPA check date and expiry date of the Waste Carrier’s license; 2. Name and Address of disposal sites; 3. License/Exemption Type; 4. Waste Material Type; 5. Details of Exempt Activity; 6. SEPA License check and Exemption expiry date <p>For each waste type, the following shall be recorded:</p> <ol style="list-style-type: none"> 1. Type of Waste, Number of Loads and Total Quantity The type of waste shall be described, e.g. inert, road planings, mixed, etc. The number of loads required to remove the waste from site shall be recorded. The total quantity of each waste type shall be stated in tonnes. 2. Waste Management The management, or fate, of the waste produced shall be recorded, for example, sent to landfill, re-used on site, stored for re-use, passed to recycling plant, etc. 3. Waste Carrier & Destination Details of the waste carrier shall be provided. The management, or fate, of the waste produced shall be recorded, for example, sent to landfill, re-used on site, stored for re-use, passed to recycling plant, etc. The address or postcode of the waste destination or transfer site shall be provided. This information will inform a desk-based audit of waste transport impacts. 4. Notes Waste Transfer Notes shall be referenced in this section. Electronic copies of transfer notes shall accompany data returns. Any assumptions made shall be clearly stated. <p><u>Works Contract data recording template– refer to Appendix 1/72</u></p> <p>The Contractor shall collate data from delivery notes and/or invoices. The source of data shall be referenced and electronic copies shall accompany the</p>





Clause No. (etc.)	Title and written Text
	<p>data submission.</p> <p>The Contractor shall complete the Works Contract data recording template and will:</p> <ul style="list-style-type: none"> (i) provide details of the total amount of material resources consumed in undertaking the Works measured in tonnes per £100k of construction value; (ii) provide details of the proportion of total material resources consumed in undertaking the Works which are sourced from recycled, secondary or re-used sources; (iii) provide details of the proportion of total material resources consumed in undertaking the Works which are sourced from renewable or certified sources; (iv) provide details of the total amount of controlled waste produced during the Works measured in tonnes per £100k of construction value, including a breakdown of individual waste types produced; (v) provide details of the total amount measured in tonnes per £100k of construction value and the proportion of the total amount of controlled waste produced during the Works that is re-used, recycled and sent for disposal to landfill; (vi) provide details of the total amount measured in tonnes per £100k of construction value and the proportion of construction and demolition waste produced during the Works which is re-used, recycled and sent for disposal to landfill; (vii) provide details of the total volume of water consumed in the Works Contract. <p>APPENDIX 1/72 – Sustainability Management</p> <p>Carbon Management System:</p> <ul style="list-style-type: none"> 5. To aid Transport Scotland Carbon Management system the Contractor shall: <ul style="list-style-type: none"> (i) complete the Director's Carbon Management System road infrastructure projects tool, Site Waste Management Plan & Works Contract data recording template (ii) submit a completed Works Contract data recording template to Craig Thom, Sustainability Advisor at CThom@bearsotland.co.uk on a weekly basis during the Works Contract, (iii) submit to the Engineer the completed Carbon Management System road infrastructure projects tool, Site Waste Management Plan & Works Contract data recording template within five Working Days of the completion of the Works
171AR	<p><u>Quality Assurance</u></p> <p>The following activities shall be undertaken by organisations certified under the Sector Scheme listed in Appendix A of the Specification for Highway Works</p> <ul style="list-style-type: none"> 1) Manufacture of Fencing Components 2A) Design and/or Supply, Installation and Repair of Fences 2B) Vehicle Restraint Systems 3) Manufacture of Industrial fasteners and Associated Items 4) Preservative Treatment of Timber 5) Fabrication and Installation of Bridge Parapets and Cradle Anchorage 6) The Manufacture Supply and Verification of Light Columns and Bracket Arms 7) Application of Road Markings and Road Studs 8) Installation and Maintenance of Traffic Signals





Clause No. (etc.)	Title and written Text
171AR (cont...)	<p>9) Traffic Sign Manufacture</p> <p>10) Installation and Maintenance of Electrical Apparatus and Cabling for Highway Lighting and Traffic Signs</p> <p>11) Supply and Instillation of Post Tensioning Systems in Concrete Structures</p> <p>12A) Static Temporary Traffic Management on Motorways and High Speed Dual Carriageways for Schemes Incorporating Contraflow Operations and/or temporary road markings.</p> <p>12B) Static Temporary Traffic Management on Motorways and High Speed Dual Carriageways for Schemes not Incorporating Contraflow Operations and/or temporary road markings</p> <p>12C) Mobile Lane Closures Temporary Traffic Management on Motorways and Dual Carriageways.</p> <p>13) Supply and Application of Surface Dressing To Road Surfaces</p> <p>14) Production of Asphalt Mixes</p> <p>15) Supply of Paving Grade Bitumen.</p>
172AR	<p><u>Preparation and Supply of Health and Safety File</u></p> <p>1) The Contractor shall supply to the CDM Coordinator within 4 weeks of the date of substantial completion a completed Health & Safety File for the Works. The Health and Safety File shall be compiled in accordance with the requirements of the Construction (Design and Management) Regulations 2015 and the Approved Code of Practice. As a minimum the File shall include the following items –</p> <ul style="list-style-type: none"> a) as built dwg file (AutoCAD) drawings; b) general details of construction methods including details of residual hazards and how they have been dealt with; c) details of materials, including proprietary products, used and hazards associated with their removal; d) maintenance procedures and requirements; e) manuals produced by specialist Contractors and suppliers which outline operating and maintenance procedures for plant and equipment; f) information regarding the removal or dismantling of installed plant or equipment; g) plans showing the nature and position of utilities and services. <p>The information shall be bound in an A4 size lever arch file.</p>
173AR	<p>IN-SITU TESTING TO DETERMINE THE EQUILIBRIUM CBR (CALIFORNIA BEARING RATIO) AT FORMATION / SUB-GRADE LEVEL.</p> <p>1. The Contractor shall undertake in-situ testing to determine the equilibrium CBR (California Bearing Ratio) at formation/ sub-grade level. Testing shall be undertaken by a UKAS accredited laboratories. This testing is required to confirm the depth of the new road pavement construction.</p>





Clause No. (etc.)	Title and written Text
	<ol style="list-style-type: none"><li>2. Where the existing materials permit, in-situ testing of the formation / sub-grade shall be undertaken after removal of bituminous and/or cement bound materials and ahead of the excavation of the lower layers of the existing road pavement construction (i.e. sub-base and formation) using a Dynamic Cone Penetrometer or, in the case of course materials using a Portable Dynamic Plate Bearing Test.<li>3. Testing shall be undertaken in accordance with HD 24/96 and/or HD 30/99 and/or HA44/91 and in the case of the Portable Dynamic Plate Bearing Test, BS 5930. Testing shall be undertaken to give a representative equilibrium CBR value across the width of the carriageway. Points where tests are undertaken shall not exceed 45 metre centres.<li>4. A copy of the in-situ CBR results shall be given to the Engineer to confirm the thickness of the road pavement construction before the excavation of the remaining lower layers of existing road pavement for the new construction.





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Part A: Volume 1 Specification

Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written Text
570AR	<p>REPLACING, RAISING OR LOWERING STOP VALVE COVERS, CHAMBER COVERS, GULLY GRATINGS AND FRAMES AND THE LIKE.</p> <ol style="list-style-type: none"> 1. The Contractor shall report to the Engineer at the earliest opportunity details of any stop valve covers, chamber covers, gully gratings and frames and the like that are either loose, broken or cannot be opened. 2. All stop valve covers, chamber covers, gully gratings and frames and the like shall be adjusted to the new levels before laying the surface course. 3. Where instructed by the Engineer or shown on the drawings, the Contractor shall carefully excavate and remove the existing stop valve covers, chamber covers, gully gratings and frames and the like where required for re-use. These shall be carefully cleaned to remove all adhering material. Hinges and other moving parts, faces of seals, etc., shall be greased. After removal the existing bed shall be examined and any loose or defective material, broken bricks, shims or concrete sections, etc., shall be removed and replaced. 4. The underlying concrete or mortar in the bedding, brickwork, and where shown on the drawings chamber or shaft walls, shall be broken down to the required level and the surface prepared to receive the new construction. Also, where shown on the drawings, reinforced concrete cover slabs shall be broken out or precast concrete cover slabs lifted off and cleaned ready for re-use or replacement as directed by the Engineer. 5. New construction in brickwork or precast concrete or reinforced concrete, where shown, shall be built on the existing chamber or shaft or substructure and where applicable shall conform to the relevant Statutory Undertakers' requirements. 6. Stop valve covers, chamber covers, gully gratings and frames and the like that have been cleaned for reuse shall be bedded on mortar to designation (i) to SHW Series 2400 or epoxy mortar as shown on the drawings, with shims or Class A engineering brickwork as appropriate for the height of the required build-up. The frame will be haunched with mortar to designation (i) to SHW Series 2400 or epoxy mortar as shown on the drawings to within 40mm of its top. The remaining 40mm shall be painted with bitumen.

APPENDIX 0/1: CONTRACT - SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT (CONTINUED...)

Part A: Volume 1 Specification

Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written Text
570AR (cont...)	<p>REPLACING, RAISING OR LOWERING STOP VALVE COVERS, CHAMBER COVERS, GULLY GRATINGS AND FRAMES AND THE LIKE (Continued).</p> <p>7. New stop valve covers, chamber covers, gully gratings and frames and the like shall be bedded on mortar to designation (i) to SHW Series 2400 or epoxy mortar as shown on the drawings, with shims or Class A engineering bricks as appropriate for the height of the required build-up. The frame will be haunched with mortar to designation (i) to SHW Series 2400 or epoxy mortar as shown on the drawings to within 40mm of its top.</p> <p>8. Where directed by the Engineer, stop valve covers, chamber covers, gully gratings and frames and the like shall be broken-out, adjusted, reinstated and be able to be trafficked in the course of one working day. The Contractor shall not break-out more stop valve covers, chamber covers, gully gratings and frames and the like than he can fully reinstate by the end of the working day. An epoxy resin based or other approved high early strength mortar or epoxy mortar shall be used for bedding and also for any alteration to the brickwork.</p> <p>9. On structures, care shall be taken not to damage the waterproofing when replacing any frames and the like. Frames and like, shall be bedded on an epoxy mortar on polymer modified cementitious mortar with "channels" 25mm wide formed in the bedding on all sides to allow any standing water on the waterproofing to drain from the structure. The Contractor shall obtain confirmation from manufacturers of the bedding materials that these will not affect or react with the waterproofing membrane on the structure.</p> <p>10. Where the carriageway is open to traffic, a temporary ramp in bituminous material to a gradient not steeper than 1:20 shall be provided where stop valve covers, chamber covers, gully gratings and frames and the like are above the existing carriageway level or the reduced carriageway level in the case of 'inlay' surfacing work. The Contractor shall also provide warning signs as per requirements of the Contract.</p> <p>11. Unless otherwise instructed by the Engineer the Contractor shall adjust covers and frames to their final levels as follows:</p> <ul style="list-style-type: none"> i) Stop valve covers, chamber covers, hydrant covers and the like shall be adjusted to the same level as the proposed surface level. ii) Gully gratings and frames shall be adjusted to a level 5mm below the proposed surface level. iii) All stop valve covers, chamber covers, hydrant covers and the like in unmade ground or in verge shall be adjusted to the same level as the proposed ground level. iv) The depth from the hydrant cover to the hydrant outlet flange must never exceed 450mm or be less than 300mm. Alterations to the cover level resulting in depths outside these dimensions shall require extension pieces to be fitted to the hydrant tee or the lowering of the hydrant.





APPENDIX 0/1: CONTRACT - SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT (CONTINUED...)

Part A: Volume 1 Specification

Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written Text
570AR (cont...)	<p>REPLACING, RAISING OR LOWERING STOP VALVE COVERS, CHAMBER COVERS, GULLY GRATINGS AND FRAMES AND THE LIKE. <u>(Continued)</u></p> <p>12. The Contractor shall ensure that no material is allowed to fall into the stop valve shaft, chamber, gully pot and the like during the course of the work.</p> <p>13. The Contractor shall take precautions to avoid damage to the stop valve, hydrant or any other apparatus within a chamber or to the chamber or shaft or gully pot itself.</p>
571AR	<p>CLEANING OF DRAINAGE SYSTEMS</p> <p>1. Cleaning of drainage systems shall be carried out by one or more of the following methods as directed by the Engineer:</p> <p style="padding-left: 40px;">a) High pressure water jetting (see Clause 572AR);</p> <p style="padding-left: 40px;">b) High pressure water jetting and suction (see Clause 573AR);</p> <p>2. All arisings from the cleaning operations shall be taken to tips provided by the Contractor.</p> <p>3. The Contractor shall immediately report to the Engineer any damage or defects to the drainage system.</p> <p>4. The Contractor shall take into account all Special Requirements in Relation to the Scottish Environment Protection Agency during cleaning operations.</p>
572AR	<p>HIGH PRESSURE WATER JETTING</p> <p>1. High pressure water jetting shall be carried out with equipment capable of producing a minimum of 14N/mm² at 200 litres per minute. Minimum clean water capacity shall be 4.5 cubic metres. Jetting hose shall be 25mm diameter minimum.</p>
573AR	<p>HIGH PRESSURE WATER JETTING AND SUCTION</p> <p>1. In addition to the jetting requirements, which shall be as Clause 572AR, the suction facility shall be provided by a liquid ring exhauster capable of displacing a minimum of 70 cu m per minute of air.</p>

APPENDIX 0/1: CONTRACT - SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT (CONTINUED...)

Part A: Volume 1 Specification

Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written Text
893AR	<p>CBR STRENGTH MEASUREMENT</p> <ol style="list-style-type: none"> 1 CBR strength measurements of the prepared subgrade must be carried out using a Dynamic Cone Penetrometer (DCP) unless the type of soil is inappropriate for such testing when Dynamic Plate testing must be used. The DCP equipment must incorporate an 8kg steel drop weight that falls vertically through 575mm and makes contact with a steel anvil. This anvil must be rigidly attached, via steel rods (less than 20mm diameter), to a 20mm diameter 60° steel cone, which is driven vertically into the ground. Also see HD29 (DMRB 7.3.2). 2 The result for each test must be expressed as a 50th percentile penetration rate in millimetres per blow between 50mm and 550mm of penetration from top of subgrade level. If the penetration rate is less than 2mm per blow, then the test shall be aborted with one further test attempted nearby. 3 Soil strength expressed as mm/blow must be converted to a CBR value using the following relationship: <p style="text-align: center;">$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$</p> where CBR is given as a percentage value and the penetration rate of the cone is given in units of mm/blow.
894AR	<p>DENSITY MEASUREMENT</p> <ol style="list-style-type: none"> 1 Each stage of foundation construction must be tested for in-situ density by a nuclear density gauge in transmission mode, calibrated for the material being tested, in accordance with BS1377: Part 9 for unbound materials or Clause 870 for cement and other hydraulically bound mixtures. 2 The unbound material used in each compacted foundation layer must achieve a minimum in-situ dry density, when tested in accordance with BS1377: Part 9, of 95% of the maximum dry density, as determined from the method in BS EN 13286-4. Cement and other hydraulically bound mixtures must attain a minimum in-situ wet density, when tested in accordance with Clause 870, of 95% of the average wet density of at least five cubes manufactured to BS EN 13286-51. 3 Maximum dry density (for unbound materials) or maximum wet density (for cement and other hydraulic bound mixtures) must be determined for every 1000 tonnes of material unless otherwise stated in Appendix 7/1. 4 Other non-nuclear density gauges will be permitted with approval if they can be calibrated to the nuclear density gauge on the material being tested and can be shown to measure density over the thickness of the layer being tested.





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Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written Text
895AR	<p>SURFACE MODULUS MEASUREMENT</p> <ol style="list-style-type: none"> 1 Surface Modulus testing must be carried out using Dynamic Plate Test device, which has been calibrated to the manufacture’s specification. Regular checking and calibration of the load cell and deflection sensors must be carried out as recommended by the manufacturer. The equipment must be capable of producing a peak stress of 100kPa with a pulse rise time of between 8 to 12 milliseconds, applied to a rigid circular plate of 300mm diameter. Both the applied load and the transient deflection, measured directly on the tested surface, must be recorded. The deflection measurement transducer must be capable of measuring deflections in the range 40-1500 microns. The accuracy of the readings shall be ±0.1kN for the load and ± 2 microns for deflection. 2 The peak stress applied during each test shall be selected to produce as high a deflection as possible within the measurement range of the deflection sensor. 3 The following procedure is to be adopted for dynamic plate testing. Each test site shall be stable and flat and free from water, ice and snow. The temperature down to 100mm below the surface shall be at least 4°C. For a lightweight test device, at least 10 drops are necessary at the beginning of each test session to warm up the rubber buffers. At each test point, 3 initial ‘seating’ drops shall be carried out to bed the plate into the surface. Three further drops shall then be carried out. The results from the last set of three drops shall be averaged to given the Surface Modulus applicable to that test point. 4 The stiffness modulus shall be computed at each point tested, using the following formula: $E = \frac{2(1-\nu^2) \times R \times P}{D}$ <p>where: E = Foundation Surface Modulus (in MN/m² or MPa) ν = Poisson’s Ratio (ν, by default, = 0.35) R = Load Plate Radius (R, by default, = 150mm) P = Contact Pressure (in kPa) D = Deflection under the centre of the plate (in microns)</p>






APPENDIX 0/1: CONTRACT - SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT (CONTINUED...)

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Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written Text
895AR (cont...)	<p>SURFACE MODULUS MEASUREMENT (Continued)</p> <p>5 If a lightweight test device is used, it must be correlated to an FWD which will remain the reference test method. The following procedure must to be used to correlate a lightweight device: The FWD and the lightweight devices are to both to be used on the same material and at adjacent test positions in the Demonstration Area for the 25 measurement points. The Surface Modulus values obtained from the two devices are to be compared and the square of the correlation coefficient (r^2) is to be calculated, if this value is more than 0.45 then there is considered to be sufficient correlation between the two devices. An adjustment factor shall then be calculated as the mean of the ratios of each FWD value to lightweight value. The lightweight device readings are to be adjusted by this factor for all further readings on that material for that scheme.</p>
896AR	<p>WHEELPATH DEFORMATION MEASUREMENT</p> <p>1 Ruts that develop under construction traffic, measured in accordance with this Clause, shall nowhere exceed the following limits:</p> <ul style="list-style-type: none"> • All stabilised/bound surfaces - 10mm • < 250mm thick granular material - 30mm • ≥ 250mm thick granular material - 40mm <p>2 At each point, the cumulative rut, calculated by summing the deformations from each trafficked foundation layer shall not exceed 50mm.</p> <p>3 Wheelpath deformation measurement shall be carried out using a straight edge with a length of at least 2m. The straight edge shall be placed transverse to the rut and raised clear from the rut by two identical blocks. The blocks shall be placed on undisturbed material outside of the wheel path. The amount of deformation shall be the difference between the deepest vertical measurement from the straight edge to the surface of the foundation (A) and the height of the blocks (B)</p> <div style="text-align: center;">  <p>Deformation = A - B.</p> </div>





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Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written Text
<p>901.1AR</p> <p>Appendix A Quality Management Scheme 14</p>	<p>APPENDIX A QUALITY MANAGEMENT SCHEME 14 (SCOTTISH EXECUTIVE INTERIM ADVICE NOTE 12)</p> <p>In accordance with Scottish Executive Interim Advice Note 12 – Bituminous pavement courses shall be made using the materials described in Appendix 7/1 and shall be in compliance with the Sector Scheme Document for the laying of Asphalt Mixes described in Appendix A</p> <p>Insert Note 2 as follows:</p> <p>‘ Note 2 in addition to the list of British Standards, the TRL Project Report 65 is to be included for use in the production of the Stone Mastic Asphalt (SMA) mix design for the Works’</p>
<p>930AR</p>	<p>EME2 BASE AND BINDER COURSE ASPHALT CONCRETE ADDITIONAL REQUIREMENTS</p> <ol style="list-style-type: none"> 1. EME2 shall be delivered to site at a temperature which enables laying with a minimum paver-out temperature of 140 °C. 2. EME2 shall be laid with uniform compaction over the whole lane width by a paver fitted with a, high density, pre-compaction screed 3. EME2 mixtures shall be compacted with either: <ul style="list-style-type: none"> (i) steel rollers exceeding 8 tonnes, provided compaction is speedily undertaken. Any vibration shall be switched off when traversing compacted material to avoid micro-cracking the cooling surface; (ii) pneumatic tyred rollers (PTR’s) weighted at a minimum of 1.0 tonne per wheel, finishing with wide steel non-vibrating rollers and 3-point rollers. 4. Compaction shall be substantially completed before the temperature falls below 125 °C. Limited rolling without vibration may be carried out below this temperature to improve the finish. 5. If the EME2 starts to shove or tear during compaction, compaction must be stopped. Compaction can recommence if material temperature drops and no material movement is observed 6. Compaction Control for the Permanent Works Compaction shall be controlled and monitored in accordance with the general requirements of BS 594987 Clause 9.5.1 and the specific requirements of this Additional Requirement 7. Compaction shall be continuously assessed using an indirect density gauge in accordance with BS 594987 Clause 9.4.2 with readings taken at 20 m intervals in alternate wheel-tracks. Gauge readings shall also be taken at each core location specified in Sub-clauses 13 and 14. Each gauge shall be individually calibrated on each mixture from each mixing plant and the calibrations shall be continually checked and updated based on correlations between gauge readings and core densities at the same locations. 8. For each location, determine the in situ void content in accordance with BS EN 12697-8 using the bulk density from the gauge reading and a maximum density taken from the mixture type testing data and updated with values from testing in accordance with sub-Clauses 13 and 14.





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Clause No. (etc.)	Title and written Text
930AR (cont...)	<p>EME2 BASE AND BINDER COURSE ASPHALT CONCRETE ADDITIONAL REQUIREMENTS (Continued)</p> <p>9. The average in situ void content calculated from any six consecutive indirect gauge readings shall not exceed 6%.</p> <p>10. In the event of a failure to meet the requirements in sub-Clause 9, cores shall be taken and void contents determined in accordance with BS 594987, Clause 9.5.1.3 and the evaluation of the extent of any non-conformity shall be based on these. If it is necessary to remove and replace any material to restore conformity this shall be in lengths not less than 15 metres unless otherwise agreed by the Engineer.</p> <p>11. For the material from each mixing plant a pair of cores shall be taken from the wheel-tracks every 250 metres laid, or part thereof, per paver, and the void content shall be determined in accordance with BS 594987, Clause 9.5.1.3.</p> <p>12. The average in situ air voids for each core pair shall not exceed 6%.</p> <p>13. For the material from each mixing plant a pair of cores shall be taken every 250 metres laid, or part there, centered 100mm from the final joint position or at any open longitudinal joint and the air void shall be determined in accordance with BS 594987, Clause 9.5.1.3.</p> <p>14. The average in situ void content for each of these pairs shall not exceed 8%</p> <p>15. In the event of non-conformity with sub-Clauses 12 or 15 then density readings with indirect gauges and, if necessary, further cores shall be taken to establish the extent. If it is necessary to remove and replace any material to restore conformity, this shall be in lengths not less than 15 m unless otherwise agreed by the Engineer.</p> <p>16. Each core extracted shall be photographed and examined for evidence of excessive voids below the depth to which the indirect density gauge penetrates. If excessive voids are observed, further cores shall be taken to determine its extent.</p> <p>17. Two copies of the final indirect density test results obtained and their correlation with in situ air void contents shall be passed to the Engineer within 72 hours of the material being laid. Two copies of the final in situ core air void results shall be passed to the Engineer within 7 days.</p> <p>18. Joints Joints in EME2 shall be preferably formed “hot to hot” with two pavers in echelon with the paver on the low side leading. Alternatively, if site layout and traffic management does not allow this, “Hot to cold”, only as described in Clause 20 with the low side laid first wherever possible.</p> <p>19. “Hot to hot” joints shall be formed by two staggered pavers. The distance between the pavers shall be as short as possible to ensure the open joint between the two pavers is kept hot. The screed of the second paver shall overlap the first by a minimum of 20mm.</p>





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Clause No. (etc.)	Title and written Text
<p>930AR (cont...)</p>	<p>EME2 BASE AND BINDER COURSE ASPHALT CONCRETE ADDITIONAL REQUIREMENTS (Continued)</p> <p>20. "Hot to Cold" joints shall be, well compacted, free from cracks and slightly angled at a minimum ratio of 1:2. This shall be produced by a joint former on the paver screed and a compaction pinch wheel on the roller. – see Figure 1</p> <div> </div> <p>Figure 1- Roller with Compaction Pinch Wheel</p> <p>21. Only articulated rollers, connected by a double joint that enables the crab-steering shall be used. During the pass of the roller, along the longitudinal joint, the edge shall be compacted and shaped by the compaction pinch wheel. The compaction pinch wheel shall be mounted on the front wheel of a tandem roller. The rear roller shall be offset by up to 160mm, so as to slightly overhang and compact the open joint.</p> <p>22. Joint Preparation If the paver does not form the joint correctly, the defective area must be removed in a straight line.</p> <p>23. The new joint shall be cut in hot material only and checked with a suitable straightedge and marked to the full extent of the defective area as in Figure 2.</p> <div> </div> <p>Figure 2 - Joint Preparation</p>





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930AR (cont...)	<p>EME2 BASE AND BINDER COURSE ASPHALT CONCRETE ADDITIONAL REQUIREMENTS (Continued)</p> <p>24. Open joints can be cut and shaped using the following methods:</p> <ul style="list-style-type: none"> • Cut while hot with a cutting disk on the roller • Milling off with a planer • By hand shaping with a shovel or rake (Small areas only) • Saw cutting <p>Saw cutting of EME2 is not recommended as this method leaves a vertical face. Vertical joints with cut faces are inferior and create poor bonds. The dust from the saw can also contaminate the surface of lower layers.</p> <p>25. To protect the joint, the cut-away waste material shall be left in place, until the new EME2 is to be laid. After removal of the cut-away material, the joint must be cleaned and prepared as in Clause 26</p> <p>26. The joint must be first cleaned of all deleterious material and an adequate layer of bitumen must be applied to all inclined faces of EME2. It shall be hot sprayed over the entire surface area of the joint at a rate of 0.2 litres /m per 40mm depth and the runoff will collect on the existing base / binder (See Figure 3). Adjustments to spread rate shall be made for deeper layers on a pro-rata basis.</p> <div style="text-align: center;"> </div> <p>Figure 3 - Painting of Joint and underlying layer</p> <p>27. The bitumen shall be specialized hot polymer modified bitumen and shall comply with BS EN 14188-1:2004 Grade N2. Bituminous emulsion is not permitted.</p>






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<p>930AR (cont...)</p>	<p>EME2 BASE AND BINDER COURSE ASPHALT CONCRETE ADDITIONAL REQUIREMENTS (Continued)</p> <p>28. In some cases, where there is a joint between existing and new materials that have different characteristics, hot applied joint materials, comply with BS EN 14188-1:2004 Grade N1 may be used. Alternatively, polymer modified bitumen sealing strips may be used and shall be applied in accordance with the manufacturer’s instruction (see Figure 4).</p>  <p style="text-align: center;">Figure 4 – Specialist bituminous joint tape</p> <p>29. Transverse day joints shall be kept to a minimum and constructed in the same way as longitudinal “Hot to Cold” joints</p>
<p>942AR</p>	<p>THIN SURFACE COURSE SYSTEM</p> <p>1. The Tenderer shall provide with his tender full details of the proposed Thin Surface Course Systems to be used in the works.</p> <p>2. Tenderers must consult with [REDACTED], Materials and QA Advisor TRIPS 5, Transport Scotland, 58 Port Dundas Road, Glasgow G4 0HF, , regarding the details of the proposed product. Tenderers shall be advised that Thin Surface Course System(s) will not be accepted unless details of the Thin Surface Course System(s) proposals have been discussed with and approved in advance by Transport Scotland.</p>

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Clause No. (etc.)	Title and written Text																																																																						
960AR	<p>POLYMERE MODIFIED STRESS ABSORBING MEMBRANE (SAMI)</p> <p>1. This item shall consist of a bituminous surface Stress Absorbing Membrane (SAM) or Stress Absorbing Membrane Interlayer (SAMI) composed of a single application of Polymer Modified binder material and aggregate in accordance with these specifications.</p> <p>2. The polymer modified binder shall comply with requirements in Table 1.</p> <table border="1"> <thead> <tr> <th>Penetration</th> <th colspan="2">Softening point</th> <th>Fraass</th> <th colspan="2">Viscosity</th> <th colspan="2">Force-ductility</th> <th colspan="2">Elastic recovery</th> </tr> <tr> <td>BS EN 1426</td> <td colspan="2">BS EN 1427</td> <td>BS EN 12593</td> <td colspan="2">BS EN 13702-2</td> <td colspan="2">BS EN 13589</td> <td colspan="2">BS EN 13398</td> </tr> <tr> <td></td> <td>Min</td> <td>Max</td> <td></td> <td>SR = 5 1/s</td> <td>SR = 50 1/s</td> <td colspan="2">Displacement Force</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="2">(Indication)</td> <td>till break</td> <td>till break</td> <td></td> <td></td> </tr> <tr> <td>25 °C</td> <td></td> <td></td> <td></td> <td>135 °C</td> <td>185 °C</td> <td>5 °C</td> <td>5 °C</td> <td>5 °C</td> <td>25 °C</td> </tr> <tr> <td>[mm x 0,1]</td> <td>[°C]</td> <td>[°C]</td> <td>[°C]</td> <td>[mPa·s]</td> <td>[mPa·s]</td> <td>[cm]</td> <td>[J/cm²]</td> <td>[%]</td> <td>[%]</td> </tr> <tr> <td>90-130</td> <td>80</td> <td>-</td> <td>≤ -20</td> <td>1000- 3000</td> <td>150- 250</td> <td>≥ 45</td> <td>≥ 8</td> <td>≥ 70</td> <td>≥ 90</td> </tr> </thead></table> <p>Table 1</p> <p>3. The contractor shall provide:</p> <ol style="list-style-type: none"> A Binder Data sheet giving details of properties of the proposed binder. Rheological product identification data for modified binders in accordance with Clause 956. Health and Safety information and safe handling guide from the manufacturer along with details of any weather restrictions placed on use of binder. <p>POLYMERE MODIFIED STRESS ABSORBING MEMBRANE – EQUIPMENT</p> <p>4. The binder sprayer shall be capable of uniform application at the designed rate of spread over a variable or fixed width sufficient to allow full lane width to be produced in a single pass.</p> <p>5. Before spraying begins the contractor shall provide the Engineer with a test certificate showing test results for rate of spread and accuracy of spread of binder carried out in accordance with the test methods in BS EN 12272-1 issued by, an appropriate organisation, accredited in accordance with sub-clauses 105.3 and 105.4 for those tests, or tests under his own Quality Assurance Scheme, demonstrating that the binder sprayer has been tested, using binder to be used in contract.</p>	Penetration	Softening point		Fraass	Viscosity		Force-ductility		Elastic recovery		BS EN 1426	BS EN 1427		BS EN 12593	BS EN 13702-2		BS EN 13589		BS EN 13398			Min	Max		SR = 5 1/s	SR = 50 1/s	Displacement Force								(Indication)		till break	till break			25 °C				135 °C	185 °C	5 °C	5 °C	5 °C	25 °C	[mm x 0,1]	[°C]	[°C]	[°C]	[mPa·s]	[mPa·s]	[cm]	[J/cm ²]	[%]	[%]	90-130	80	-	≤ -20	1000- 3000	150- 250	≥ 45	≥ 8	≥ 70	≥ 90
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960AR (cont...)	<p>POLYMERE MODIFIED STRESS ABSORBING MEMBRANE - EQUIPMENT (Continued)</p> <p>6. The chipping spreader shall have controlled metering and be capable of variable or fixed width application to match the binder sprayer. Before a spreader is used, the contractor shall provide to the Engineer a test certificate showing test results for rate of spread and accuracy of spread of chippings in accordance with the test methods in BS EN 12272-1 issued by an appropriate organisation, accredited in accordance with sub clauses 105.3 and 105.4 for those tests, or tests under his own Quality Assurance Scheme, demonstrating that the chipping spreader has been tested, using chippings similar to those to be used in the contract.</p> <p>7. Surfaces shall be mechanically cleaned by a sweeper with full width suction nozzle and wide sweep brush and be free of oil, vegetation, sand, dirt, water, gravel and other contaminants prior to binder spraying.</p> <p>8. Prior to application of binder all street furniture and iron work shall be masked using self-adhesive masking material.</p> <p>POLYMERE MODIFIED STRESS ABSORBING MEMBRANE – APPLICATION</p> <p>9. For Polymer Modified SAMI applications on cement bound materials, a primer coat shall be applied and left to break for 4 hours before placement of the polymer modified SAMI.</p> <p>10. The primer coat shall not be applied when the surface is wet or when there is threat of rain. The ambient temperature shall be a minimum of 6 °C. Emulsion shall be grade K140 or K170 or similar polymer modified equivalent. The rate of spread shall be in accordance with BS 594987:2007 Cl5.5. The emulsion shall be allowed to break (turn from brown to black) prior to laying of the SAMI.</p> <p>11. The Polymer Modified SAMI Binder shall be applied to the road surface at the rate of 2.0 kg / m².</p> <p>12. Transverse joints shall be formed with spraying starting and finishing on a protective strip not less than 1 metre wide at each end of the lane length being treated.</p> <p>13. Transverse joints shall be of binder overlap only and not wider than 100 mm. There shall be no ridges or bare strips.</p> <p>14. A length of 10 metres should be left between the start and end of application of Polymer Modified SAMI binder and the transverse pavement joint.</p> <p>15. Longitudinal joints shall coincide with lane markings. Longitudinal joints shall be of binder overlap only while ensuring that the proposed rate of spread is achieved across the joint.</p> <p>16. For quartering (using a part of the spraybar) the overlap may be extended to a maximum of 300 mm. There shall be no ridges or bare strips.</p>





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960AR (cont...)	<p>POLYMERE MODIFIED STRESS ABSORBING MEMBRANE - APPLICATION (Continued)</p> <p>17. Aggregate cover material shall be applied, at a distance of not less than 250m from the sprayer, onto the Polymer Modified membrane, or after full application if less than 250m is to be sprayed, to achieve 50% coverage at 7 to 9 kg/m². The actual amount selected within this range will be determined in the field based on the appearance of the SAMI after spraying and chipping. At all times the application rate shall be kept to a minimum.</p> <p>18. The chippings shall be crushed rock, slag or gravel complying with BS EN 13043, and be 10mm size. In his proposals, the Contractor shall state the source and characteristics of chippings to be used and the coating, if any. The shape of the chipping shall comply with category FI₂₀ as defined in BS EN 13043, clause 4.1.6 tested at frequency specified in Appendix 1/5.</p> <p>19. The Contractor shall carry out the tests for rates of spread and accuracy of application of binder and chippings in accordance with the test methods in BS EN 12272-1 at the frequency specified in Appendix 1/5 and report the results verbally to the Engineer within 24 hours of carrying out the test and confirm in writing within 7 days. The Contractor shall facilitate duplicate testing by the Engineer if required.</p> <p>20. Except when it is necessary that hauling equipment must not travel on the newly applied Polymer Modified SAMI, Traffic of all types shall be kept off the membrane until it has had time to set properly. The speed of the hauling equipment shall not exceed 5 miles per hour when travelling over a membrane that has not had sufficient time to properly set.</p> <p>To avoid sticking in very hot weather, spray anti-adhesive agent or water on the tracks and / or tyres of the paving and transport equipment.</p>





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971AR	<p>MEASUREMENT OF TEXTURE DEPTH USING THE TRL MINI METER</p> <ol style="list-style-type: none"> 1. Texture depth may be measured by TRL Mini Meter (TMM) manufactured or modified to and calibrated to the 1985 TRL specification by a licensed manufacturer. 2. The TMM will be operated and maintained in accordance with the manufacturer's instructions and recommendations as contained in their operating maintenance manual (1986). A Certificate showing the Calibration Factor certified by the manufacturer and dated less than 12 months prior to use will be kept available for reference. This calibration factor must agree with that shown on the recording tape output by the TMM. 3. Texture depth will be measured as soon as possible after surfacing has been laid and before the surfacing has been open to traffic. The road shall be clean, free from loose material and dry or barely damp. 4. The TMM will be operated at a speed between 3 and 6 kph on the "Texture HRA" program. 5. The sensitivity of the TMM will be checked daily on the check provided. The drop out percentage (DO%) of five consecutive tests averaged to the nearest whole number shall be 40 +/-3%. 6. Surface texture will be measured over one or more sections of carriageway lane 1000m in length or the complete carriageway lane if less than 1000m. Measurements will be made on successive 50m lane lengths along the whole of the section tested, on a diagonal line across the carriageway lane width from left to right in the direction of traffic flow. No measurements will be taken closer than 300mm to the edge of the carriageway. 7. The report will be made in accordance with this Clause and include the following: - <ol style="list-style-type: none"> (a) The serial number and calibration factor of the meter used. (b) The location of each lane tested. (c) The individual Sensor Measured Texture Depth (SMTD) for each 50m lane length comprising each section together with their average value. (d) Affirmation that the surface course was dry, clean and untrafficked. Any departure from this must be reported. (e) A copy of the printed output for any 50m lane length where the message "DO% HIGH" or "DO% LOW" has been printed in place of the 10m results, together with clear identification of location. 8. The TRL Mini Meter may be used on all surfacing contracts where texture depth is a requirement. However for comparative purposes the sand patch test, in accordance with BS 598: Part 105, is to be used in addition to the Mini Meter. One set of tests will be required for each 10,000m² of surfacing or part thereof laid under any contract. The Sand Patch Tests shall be carried out in a linear manner along the same track as the Mini Meter. This supersedes the particular requirement of BS 598: Part 5 concerning the alignment of the sand patch test locations. The Contractor shall record the location of the Sand Patch Tests and submit details to the Engineer in order that a direct comparison can be made between results.





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1770AR	<p>STRUCTURAL CONCRETE – GENERAL REQUIREMENTS</p> <p>Storage of Materials</p> <ol style="list-style-type: none">1. Cement and aggregates shall be stored in accordance with Clause 1706.2. All proprietary materials shall be stored in a dry weatherproof lock up store free from extremes of cold or heat in accordance with the manufacturer’s written instructions.3. The materials shall not be removed from the store for use until immediately prior to mixing. <p>Records</p> <ol style="list-style-type: none">4. As repair work proceeds the Contractor shall keep records including date stamped photographs of the Site Operations. Records shall be held in accordance with the procedures in the Quality Plan and be available for inspection by the Engineer at any time. <p>High Pressure Water Jetting</p> <ol style="list-style-type: none">5. High pressure water jetting shall use clean and fresh potable water that complies with sub-Clause 1702.3. The Contractor shall not add antifreeze agents or any other chemicals.





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1771AR	<p>REMOVAL OF CONCRETE IN AREAS TO BE REPAIRED</p> <p>Requirements for the Removal of Concrete</p> <ol style="list-style-type: none"> 1. The Contractor shall cut out and remove concrete from areas specifically identified following inspection and testing. 2. Concrete shall be removed from the area until sound concrete is reached. Where reinforcement becomes exposed concrete shall be removed for a minimum distance of 25mm beyond the rear face of the reinforcement. Where corroded reinforcement is identified the area of concrete removed shall be extended to expose 100mm of uncorroded reinforcement. 3. Before cutting out the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth not less than 15mm or to within 10mm of the reinforcement whichever is the lesser. 4. At the upper limits of repairs to be made using repair concrete sloping cuts may be used to avoid the entrapment of air when the concrete is poured. 5. The saw cut edges shall be abraded by grit blasting or equivalent methods. 6. The concrete shall be removed by the use of suitable hand or mechanical tools or high pressure water jetting. Removal of concrete by water jetting shall be carried out by firms who are registered members of the Association of High Pressure Water Jetting Contractors. 7. Where concrete is removed by high pressure water jetting a lightweight electric or pneumatic chipping hammer may be used for final trimming of the area broken out. 8. Overbreak of concrete shall be made good using a concrete repair system selected from Clause 1773AR 9. Reinforcement damaged during concrete removal shall be made good. Existing reinforcement which has corroded or is otherwise damaged shall be removed and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All such welding shall be in accordance with Clause 1717. All loose reinforcement shall be securely tied with stainless steel tying wire. 10. The Site of the Operations shall be kept free of debris or standing water arising from the high pressure water jetting activities. 11. On completion of removal of concrete all concrete surfaces and exposed reinforcement which shall be in contact with repair materials shall be prepared in accordance with Clause 1772AR.

