

SCHEDULE 5
QUALITY ASSURANCE

1. General Requirements

1.1 Quality System and Quality Plan

1.1.1 The Company shall institute, maintain and operate a Quality System. In the event that the Company shall be a consortium partnership or joint venture the Company shall make a condition that each member of the consortium partnership or joint venture and all Sub-Contractors shall institute, maintain and operate for the term of the Agreement, as appropriate, the Quality System.

1.1.2 The Company shall develop the Quality Plan, the form of which (as at the Date of this Agreement) is set out in Schedule 3 (Company's Design). The fully developed Quality Plan shall comprise the parts identified in, and meet but not be limited to the requirements set out in, this Schedule 5. The Company shall operate in accordance with the fully developed Quality Plan.

1.1.3 Notwithstanding any other provisions of the Agreement the Quality Plan shall include or make reference to the location of documents describing organisational structure, management arrangements, responsibilities/authorities and documented procedures for the processing of Orders, the execution measuring and valuing of the Operations, and the preparation distribution and storage of quality and other records specified by the Agreement and relevant standards.

1.1.4 The Quality System shall comply with the requirements of this Schedule 5 for the purpose of ensuring and demonstrating that all aspects of the Operations and all other matters for which the Company is responsible under this Agreement are carried out fully in conformity with the relevant provisions of this Agreement. The Quality System shall also comply with the requirements of:

- (a) BS EN ISO 9001:2008;
- (b) BS EN ISO 14001:2004;
- (c) BS OHSAS 18001:2007; and
- (d) this Agreement,

for the purpose of ensuring and demonstrating that the services or goods provided conform with the relevant provisions of this Agreement.

1.1.5 A condition shall also be made within each and every sub-contract to provide access for the Contracting Authority to all parts of the Site and facilities of a standard

sufficient to enable the Contracting Authority to take such actions as it may consider necessary under this Schedule 5.

Where a Quality Plan relies on or incorporates a quality plan and/or a quality manual from any member of the consortium partnership or joint venture or sub-contractors then the Company shall identify within the Quality Plan the specific responsibilities assigned to these organisations so as to ensure that the requirements of the Quality Plan as described in this Schedule are fully satisfied by the individual quality plans and quality manuals.

- 1.1.6 The Company shall not commence or permit the commencement of any aspect of the Operations or any other matters for which the Company is responsible under this Agreement before those parts of the Quality Plan which concern such aspect of the Operations or such other matters have been completed.

A part of the Quality Plan is complete if it has received the Consents of the Contracting Authority or, if Consents have been initially withheld, any material comments have been resolved (whether by agreement between the Parties or by determination by the Disputes Resolution Procedure). Any such comments as so resolved shall be deemed to be incorporated in the appropriate part of the Quality Plan.

- 1.1.7 The part of the Quality Plan concerning the management of the O&M Works and/or the part of the Quality Plan concerning carrying out the O&M Works in respect of any part of the Project Roads shall be completed in all material respects at least 4 weeks (or such shorter period as the Parties may agree) prior to the date on which the O&M Works in respect of such part of the Project Roads are to commence.

- 1.1.8 The Company shall notify the Contracting Authority in advance of any changes to the Quality Plan required for the Quality Plan to continue to comply with the requirements set out in this Agreement.

The Contracting Authority reserves the right to object to any change and to withhold Consents for the implementation of any such change.

- 1.1.9 If the Company fails to propose any change required pursuant to paragraph 1.1.7, then the Contracting Authority may propose such change and it shall be dealt with as though it had been proposed by the Company.

- 1.1.10 If there is, or there is deemed to be, no objection to a change proposed pursuant to paragraph 1.1.7 or 1.1.8 of this Schedule 5, the Quality Plan shall be amended to incorporate such part or change.

1.2 **Quality Manuals and Procedures**

1.2.1 If any part of the Quality Plan refers to, relies on or incorporates any quality manual or procedure, then such quality manual or procedure or the relevant parts thereof shall be submitted to the Contracting Authority at the time that the relevant part of the Quality Plan or change to the Quality Plan is submitted for the Consents of the Contracting Authority, and the contents of such quality manual or procedure shall be taken into account in the consideration of the relevant part of the Quality Plan or change to the Quality Plan.

The Contracting Authority may require the amendment of any such quality manual or procedure to the extent necessary to enable the relevant part of the Quality Plan to satisfy the requirements set out in this Schedule 5.

1.3 **Project Quality Director**

1.3.1 The Company shall appoint, from Financial Close, a project quality director (the **Project Quality Director**), who shall be independent of the project management team.

1.3.2 The identity of the Project Quality Director and the terms and conditions of his engagement shall be subject to the Consents of the Contracting Authority (such Consents not to be unreasonably withheld or delayed). Without limitation to the foregoing, the terms and conditions of engagement of the Project Quality Director shall require him to:

- (a) ensure the effective operation of the Quality System;
- (b) audit the Quality System at regular intervals and report the findings of such audit to the Contracting Authority;
- (c) review the Quality System at intervals reasonably required by the Contracting Authority to ensure its continued suitability and effectiveness; and
- (d) consult with the Contracting Authority on all matters relating to quality management.

1.4 **Quality Monitoring**

1.4.1 Without limitation to any other provision of this Agreement, the Contracting Authority, or any agent so authorised by the Contracting Authority, may carry out audits of the Quality System (including without limitation the Quality Plan and any quality manuals and procedures) at intervals of 3 months and may carry out other periodic monitoring, spot checks and auditing of the Quality System.

1.5 **Materials and Workmanship, Samples and Testing**

- 1.5.1 All materials and workmanship shall be of the respective kinds described in this Agreement and shall be subjected to the samples and tests required or reasonably implied by the terms of this Agreement.
- 1.5.2 Except as otherwise provided in this Agreement, every such sample and test shall be undertaken by a laboratory holding accreditation granted in respect of such sampling and testing by the United Kingdom Accreditation Service (**UKAS**) against BS EN ISO/IEC 17025:2005.
- 1.5.3 A schedule of tests and inspections for each part of the Operations shall be provided by the Company to the Contracting Authority prior to carrying out each such part of the Operations.
- 1.5.4 If required by the Contracting Authority the Company shall:
- (a) provide to the Contracting Authority such assistance, instruments, machines, labour, samples and materials as required for examining, measuring and testing any work and the quality of any materials used in any part of the Operations; and
 - (b) supply to the Contracting Authority samples of material for testing before incorporation in the New Works or the O&M Works, such testing to be at the Contracting Authority's expense (except where such examination, measurement or testing discloses that such work or materials do not comply with the requirements of this Agreement in which case testing shall be at the Company's expense).

1.6 **Additional Information**

- 1.6.1 Notwithstanding any other provision of this Schedule 5, the Company shall provide to the Contracting Authority such information as the Contracting Authority may reasonably require to demonstrate the Company's compliance with this Schedule 5.

2. **Principal Requirements of the Quality Plan**

2.1 **Principal Requirements**

- 2.1.1 The principal (but not to be construed as exhaustive) requirements and principles which shall apply to the Quality Plan to be submitted by the Company within 4 weeks of the Effective Date to the Contracting Authority shall be as specified in paragraphs 4 to 13 of this Schedule 5.
- 2.1.2 The Quality Plan shall clearly define the sub-division of the New Works and O&M Works into elements for Design and Certification proposed by the Company.

- 2.1.3 The Quality Plan shall list and define all Design documents, Certificates and other documentation which is required to be submitted by the Company to the Contracting Authority.
- 2.1.4 The Quality Plan shall show points where no further works or activity shall proceed without the written approval of the designated person identified in the related quality procedure or works instruction (Quality Hold Points) and points where no further works or activity shall proceed without visual inspection by the designated person identified in the related quality procedure or works instruction (Quality Witness Points).
- 2.1.5 The Quality Plan shall contain or incorporate by reference documents which contain requirements and processes to produce quality records which shall include, but shall not be limited to, documents that demonstrate the achievement by the Company of the required standard or requirement such as office and site logs and registers, records of visits to any location or party in connection with the site test results, records of verification, records of all witnessing (with results) carried out by the Company, invoice preparation records with back-up data, and all certificates required by the Agreement in respect of the Operations.

Such records shall identify all changes to products and specifications and shall provide verification and traceability of all processes and products in connection with the Operations.

- 2.2 The Quality Plan shall ensure that internal audits of each part of the Quality Plan are carried out by the Company at intervals not exceeding 3 months.
- 2.3 Audits need not cover all associated activities, but each activity shall be audited at intervals not exceeding twelve (12) months.

3. The Contracting Authority's Monitoring of the Company's Quality System

- 3.1 Subject to the other provisions of this Agreement, the Contracting Authority shall appoint an Auditor, and shall have in place during the period of this Agreement, procedures for monitoring and auditing the Company's Quality System.
- 3.2 These shall result in written reports (incorporating where appropriate non-conformance reports and corrective action requests) that shall be notified to the Company.
- 3.3 Within a timescale acceptable to the Contracting Authority the Company shall take due cognisance of such reports, investigate the cause(s) of the non-conformities, take all corrective action, initiate action required to prevent recurrence and integrate same into its Quality System and in particular into its documented control management and working procedures including method statements.

4. **Overall Management of the Operations**

4.1 The part of the Quality Plan and Quality System for the overall management of the Operations shall include, but shall not be limited to

4.1.1 the names, roles, responsibilities and authority of the key personnel that shall be employed in the administration of the Operations including the line of command and communication links between all parties involved in the delivery of the Operations by the Company under the Agreement in the form of annotated charts. Such key personnel shall include the Project Quality Director and the Project Quality Director's supporting staff;

4.1.2 a description of the procedures which shall apply to secure the following:

(a) the effective overall management and co-ordination of the Project by means of quality systems complying with BS EN ISO 9001:2008, BS EN ISO 14001:2004 for Environmental Management Systems and BS OHSAS 18001:2007;

(b) procurement of all services required for the Operations;

(c) achievement of the Handback Requirements at the Expiry Date; and

(d) comprehensive records of the Operations;

4.1.3 identification of the Company staff responsible for overseeing each activity in respect of the Operations;

4.1.4 documented procedures for the control of sub-contracts (including sub-consultants) which shall include the assessment of the sub-contractor's or sub-consultant's quality system and quality control capabilities and the identification and implementation of additional controls needed on each such sub-contractor or sub-consultant to enable the Company to fulfil its obligations under this Agreement;

4.1.5 documented procedures for regular reviews and recording thereof by the Company to assess its own performance in fulfilling its obligations under the Agreement and the introduction of any remedial action;

4.1.6 documented procedures for management reviews and audits to monitor and demonstrate control over the implementation of the Quality Plan;

4.1.7 documented procedures for the control of all documentation including all documentation and information to be provided by the Company to the Contracting Authority or to be kept available at the Company's offices or depots for inspection or audit by or on behalf of the Contracting Authority;

- 4.1.8 a programme for submission of procedures and method statements in sufficient time to allow the relevant activity under the Operations to be commenced where such procedures or method statements have not been incorporated in the initial Quality Plan;
- 4.1.9 documented procedures including method statements that shall apply to secure the following:
- (a) the effective administration of the Operations;
 - (b) procurement of all activities required for the Operations in respect of the administration of the Operations including but not limited to:
 - (i) arrangements for liaison and meeting with the Company with sub-contractors, with sub-consultants, with the Contracting Authority (including the Auditor) and with all third parties;
 - (ii) arrangements for the control of personnel selection which shall be based on consideration of skill care qualifications training and experience;
 - (iii) the identification of the person(s) responsible for the initiation and updating of the Quality Plan during the New Works and Service Period including:
 - (A) the person(s) responsible for monitoring compliance with the Quality Plan in respect of the Operations;
 - (B) the person(s) responsible for the adequacy of the quality records produced; and
 - (C) the person(s) responsible for document control which shall be secured by method statements and documented procedures showing the identification and traceability of documents and document issues and status and shall also include the control of documents recording the verification review approval consent to and releases in respect of the Operations;
- 4.1.10 provision to the Contracting Authority at the various times required by this Agreement of all information and records in respect of the administration of the Operations that shall require to be provided by the Company (including procurement of such information from others by the Company) and specified in this Agreement; and

4.1.11 the provision of any other item to the Contracting Authority by the Company which may be brought to the attention of the Company by the Contracting Authority and which as a result shall be incorporated into the Quality Plan.

5. Technical Studies and Advice in connection with the Operations

5.1 The part of the Quality Plan for the provision of technical studies and advice in connection with the Operations shall include but shall not be limited to:

5.1.1 the names, roles, responsibilities and authority of the key personnel that shall in the provision of technical studies and advice in connection with the work Operations, including the line of command and communication links between all parties involved in the delivery by the Company of technical studies and advice in connection with the Operations;

5.1.2 a description of the arrangements for the liaison with Contracting Authority personnel associated with this Agreement;

5.1.3 a description of the arrangements for the liaison with the Auditor's personnel associated with the Agreement;

5.1.4 the documented procedures including method statements which shall apply to secure the following

(a) the effective provision of technical studies and advice in connection with the Operations; and

(b) procurement of all services and works required for technical studies and advice in connection with the Operations, including:

(i) arrangements for liaison and meetings with the Company with sub-contractors with sub-consultants with the Contracting Authority (including the Auditor) and with all third parties;

(ii) arrangements for the control of personnel selection which shall be based on consideration of skill, care, qualifications, training and experience; and

(iii) the identification of the person(s) responsible for the initiation and updating of the Quality Plan throughout the Operations including:

(A) the person(s) responsible for monitoring compliance with the Quality Plan in respect of the Operations;

(B) the person(s) responsible for the adequacy of the quality records produced; and

(C) the person(s) responsible for document control which shall be secured by method statements and documented procedures showing the identification and traceability of documents and document issues and status and shall also include the control of document recording the verification review approval consent to and releases in respect of the Operations.

5.1.5 provision to the Contracting Authority at the various times required by the Agreement of all information and records in respect of technical studies and advice in connection with the Operations that shall be required to be provided by the Company (including procurement of such information and records from others by the Company) and specified in the Agreement; and

5.1.6 the provision of any other item which may be brought to the attention of the Company by the Contracting Authority and which as a result shall be incorporated into the Quality Plan.

6. Environmental Management of the Operations

6.1 The part of the Quality Plan for the environmental management of the Operations shall include but shall not be limited to the provision of:

6.1.1 the names, roles, responsibilities and authority of the key personnel that shall be employed in the environmental management of the Operations including the line of command and communication links between all parties involved in the delivery of Operations by the Company under the Agreement in the form of annotated charts;

6.1.2 a description of the arrangements for the liaison with Contracting Authority personnel associated with the Agreement;

6.1.3 a description of the arrangements for the liaison with the Auditor's personnel associated with the Agreement;

6.1.4 a description of the arrangements for consultation with affected communities in advance of Operations commencing, detailing how the effects of activities will be mitigated, with reference to community liaison procedures; and

6.1.5 documented procedures including method statements which shall apply to secure the following;

(a) the effective environmental management of Operations in accordance with this Agreement and BS EN ISO 14001:2004 including but not limited to:

(i) the development of an environmental policy;

- (ii) site specific method statements which shall be provided for all elements of the Operations where there is a risk of environmental damage.
 - (iii) The method statements referred to at paragraph 6.1.4(a)(ii) above shall show how the proposed methods of construction shall restrict impacts by the best practicable environmental option, and how contingency plans and emergency procedures shall limit damage caused by accidents, spillages or other unforeseen events. The method statements shall include notification procedures to the Relevant Authorities and third parties;
 - (iv) the identification of environmental aspects objectives targets programmes training and communication requirements;
 - (v) the production of method statements to address operational control and emergency response;
 - (vi) the development of procedures relating to environmental checking and corrective action;
 - (vii) the establishment of a register of relevant legal requirements;
 - (viii) producing and maintaining during the construction of the New Works, a Waste Management Plan in accordance with "Waste Management – A Duty of Care – A Code of Practice" – HMSO 1991 and Site Waste Management Plan Regulations 2008; and
 - (ix) procedures to address any other requirements of BS EN ISO 14001:2004 that shall not be addressed in other parts of the Quality Plan;
- (b) procurement of all activities that shall be required in respect of the environmental management of the Operations including but not limited to:
- (i) arrangements for liaison and meetings with sub-contractors, sub-consultants, the Contracting Authority and all third parties;
 - (ii) arrangements for the control of personnel selection which shall be based on consideration of skill, care, qualification, training and experience;
 - (iii) the identification of the person responsible for the initiation and updating of the Quality Plan during the Service Period including:

- (A) the person responsible for monitoring compliance with the Quality Plan in respect of the environmental management of the Operations;
 - (B) the person responsible for the adequacy of the quality records produced; and
 - (C) the person responsible for document control which shall be ensured by method statements and documented procedures showing the identification and traceability of documents and on document issues and status and shall also include the control of documents recording the verification review approval consent to and releases in respect of the operation;
- 6.1.6 provision to the Contracting Authority at the various times required by the Agreement of all information and records in respect of the environmental management of the Operations that shall be required to be provided by the Company (including procurement of such information from others by the Company) and specified in the Agreement; and
- 6.1.7 the provision of any other item that may be brought to the attention of the Company by the Contracting Authority and which as a result shall be incorporated into the Quality Plan.

7. Design of the New Works

- 7.1 The part of the Quality Plan for the Design of the New Works shall include, but shall not be limited to:
- 7.1.1 the names and curricula vitae of the key personnel who will carry out the Design;
 - 7.1.2 a description of arrangements for the interface with procedures within the Quality Plan for the Design Check of the New Works and liaison with the Design Checker;
 - 7.1.3 a description of arrangements for the interface with procedures within the Quality Plan for carrying out Road Safety Audits of the Design of the New Works and liaison with the Road Safety Auditor;
 - 7.1.4 a description of the arrangements for the interface with the procedures within the Quality Plan for the supervision of the New Works; and
 - 7.1.5 compliance with the model requirements for Designers' Quality Plans in Appendix B to GD 02/08 of the DMRB, "Quality Management Systems for Highway Works".

8. Checking the Design of the New Works and Road Safety Auditing

- 8.1 The part of the Quality Plan for checking the Design of the New Works shall include but not be limited to:
- 8.1.1 the names and curricula vitae of the key personnel who will carry out the Design Check of the Design;
 - 8.1.2 the names and curricula vitae of the key personnel who will carry out Road Safety Audits;
 - 8.1.3 for both the Design Checker and the Road Safety Auditor, a description of arrangements for the interface with procedures within the Quality Plan for the Design of the New Works and liaison with the Designer;
 - 8.1.4 for both the Design Checker and the Road Safety Auditor, a description of the arrangements for the interface with the procedures within the Quality Plan for the supervision of the New Works; and
 - 8.1.5 compliance with the model requirements for Designers' Quality Plans in Appendix B to GD 02/08 of the DMRB, "Quality Management Systems for Highway Works".

9. Supervision of the New Works

- 9.1 The Company's and Designer's duty to supervise the New Works includes the duty to supervise the construction, completion, and testing of the New Works and is additional to the inspection and testing of the New Works which the New Works Contractor is required to carry out.
- 9.2 The part of the Quality Plan for supervision of the New Works shall include but shall not be limited to:
- 9.2.1 the names and curricula vitae of all the personnel to be employed in the supervision of the New Works;
 - 9.2.2 a description of arrangements for the interface with procedures within the Quality Plan in respect of construction of the New Works;
 - 9.2.3 a description of arrangements for the interface with the procedures within the Quality Plan for the Design of the New Works and liaison with the Designer;
 - 9.2.4 a description of the arrangement for the interface with the procedures within the Quality Plan for the Design Check of the Design of the New Works;
 - 9.2.5 a description of the arrangement for the interface with the procedures within the Quality Plan for Road Safety Audits of the New Works;

- 9.2.6 organisation chart of the Designer's site organisation which shows links between the Company, the New Works Contractor, the Designer and the Design Checker;
- 9.2.7 details of all arrangements for liaison with the Contracting Authority;
- 9.2.8 procedures for the following:
 - (a) carrying out the supervision of the New Works;
 - (b) the reviewing of the supervision and the issuing of Certificates;
 - (c) efficient and effective document control, which shall include procedures for the receipt, control and retention of all documents. These procedures shall detail the stage of work at the time that the supervision shall be carried out, the identity of the persons carrying out the supervision, the frequency of supervision and the procedure which shall be followed when dealing with non-conforming works and notification of non-conforming work to the Contracting Authority; and
 - (d) the witnessing of testing and reporting of the results of tests to the Contracting Authority;
- 9.2.9 reporting progress and the identification of problems; and
- 9.2.10 the collation and archiving of:
 - (a) the New Works Contractor's own 'receiving' and 'final' inspection and test records substantiating the Contractor's completion of each part of the New Works in conformity with the provisions of this Agreement.

(The extent of compliance testing shall be submitted to the Contracting Authority for review in the form of Appendix 1/5 to Part 4 of Schedule 2 and Appendix 1/5 to Part 5 of Schedule 4; and
 - (b) those supervision records which record the Designer's acceptance of each element of the New Works.

10. **Management of Construction of the New Works**

- 10.1 The part of the Quality Plan for the management of construction of the New Works shall include, but shall not be limited to:
 - 10.1.1 the names and curricula vitae of the key personnel to be engaged in the management of construction of the New Works; and
 - 10.1.2 a description of the procedures which shall apply to secure the following:
 - (a) the effective management of the construction by means of the quality systems complying with BS EN ISO 9001:2008

- (b) the auditing and verification of the Quality System;
- (c) the continued suitability and effectiveness of the Quality System;
- (d) interfaces with the Designer and Design Checker;
- (e) liaison with the Contracting Authority and interface with the Contracting Authority's procedures for monitoring; and
- (f) compliance with the requirements of BS EN ISO 14001:2004 for Environmental Management Systems.

11. **Construction of the New Works**

11.1 The part of the Quality Plan for the construction of the New Works shall include but shall not be limited to:

11.1.1 the names, roles, responsibilities and authority of the key personnel that shall be employed in the construction of the New Works carried out by the Company the lines of command and communication links between all parties involved in the delivery by the Company of the construction of the New Works;

11.1.2 a list of the sub-contractors to be employed and a description of the liaison arrangements with the Company;

11.1.3 a list of the quality procedures and method statements to be provided covering liaison with all Relevant Authorities / third parties with particular attention to the procedures and method statements required to comply with the requirements of the following:

- (a) Aberdeen City Council;
- (b) Aberdeenshire Council;
- (c) Traffic Scotland;
- (d) Network Rail;
- (e) Police Scotland;
- (f) Historic Scotland;
- (g) SNH;
- (h) SEPA; and
- (i) Undertakers, including the Pipeline Owners.

11.1.4 a list of the quality procedures and method statements to be provided, paying particular attention to the control of sub-contracted work;

11.1.5 identification of specialist activities and personnel;

- 11.1.6 arrangements for quality control of purchased products and materials;
- 11.1.7 arrangements for quality control of workmanship;
- 11.1.8 identification of checklists with Quality Hold Points; and
- 11.1.9 identification of Quality Witness Points.

11.2 This part of the Quality Plan concerning construction of the New Works shall be further subdivided and shall include the information specified in respect of each further sub-division as follows:

11.2.1 **Part A: New Works Contractor's Organisation and Management**

Details shall be provided in regard to the New Works Contractor's organisation and management shall include but shall not be limited to the following:

- (a) details of the organisation of the New Works contract, including the line of command;
- (b) details of the names, roles, responsibilities and authority of principals and key personnel under the New Works contract including the roles commonly attributed to the New Works Contractor's manager, site agent, project manager, management representative for quality, sub-agents, general foreman, foreman, chief and senior engineers and contract quantity surveyor;
- (c) identity of the New Works Contractor's staff who are responsible for overseeing each major activity with particular reference being made to those who are responsible for sub-contracted activities, including procedures for the assessment of the sub-contractors' quality assurance and quality control capabilities, the identification and implementation of any additional control needed to fulfil the New Works Contractor's obligations in respect of quality assurance, monitoring and the review and acceptance of deliverables;
- (d) the New Works Contractor's procedures for controlling sub-contracts;
- (e) a programme for submission of method statements, procedures, construction drawings and checklists in sufficient time for the Contracting Authority to examine them prior to commencement of the relevant activity;
- (f) Quality Plans for suppliers of works, goods and materials. Suppliers' quality plans are required for schemes listed in Appendix A of MCHW Volume 1 and shall conform with the requirements set out in Part D of this section;
- (g) procedures for the following:

- (i) the preparation, review and adjustment of programmes for the effective progression of the New Works and recording of the same;
 - (ii) the control and approval of purchases of materials;
 - (iii) the control of off-site activities;
 - (iv) the regular review and recording by the New Works Contractor of the quality of the New Works;
 - (v) administration and document control; and
 - (vi) management reviews and audits to monitor and exercise adequate control over the implementation of the Quality Plans;
- (h) arrangements for liaison and meetings with third parties and the Contracting Authority; and
 - (i) arrangements for the control of personnel selection, which shall be based on considerations of care, skill and experience.

11.2.2 **Part B: Method Statements and Construction Procedures**

The requirements for method statements and construction procedures shall include but shall not be limited to the following:

- (a) detailed method statements for each major activity whether directly controlled or sub-contracted;
- (b) details of the relevant construction procedures in the New Works Contractor's own Quality System, copies of which Quality System shall be provided to the Contracting Authority;
- (c) method statements/procedures shall be required for the principal activities. These shall include, but shall not be limited to, the following:
 - (i) demolition and site clearance;
 - (ii) road restraint systems;
 - (iii) drainage;
 - (iv) earthworks, sub-divided as appropriate;
 - (v) landscaping including, but not limited to, the stripping, preservation and re-use of top soil;
 - (vi) pavement construction, for each layer for flexible construction or each operation for rigid construction;
 - (vii) each Structure, by main elements;

- (viii) lighting;
 - (ix) Traffic Scotland equipment;
 - (x) environmental management; dealing with any special habitat areas and all operations where there is a risk of environmental damage;
 - (xi) archaeological survey/investigation work;
 - (xii) each traffic management operation;
 - (xiii) sensitive/complex Accommodation Works;
 - (xiv) major service diversions and;
 - (xv) special activities (for example, treatment of contaminated land, major temporary works, items of concern to public interest); and
- (d) method statements shall include, but shall not be limited to, a description of each stage of the construction, identification of Constructional Plant and materials to be used, temporary works safety measures, working space considerations and, where appropriate, the requirements for skilled labour and/or special supervision.

11.3 They shall show how the proposed operations ensure that impacts are restricted to the best possible environmental option and shall include contingency plans and environmental procedures to minimise damage caused by accidents, spillages or other unforeseen events.

11.4 The method statements shall include procedures for notifying the Relevant Authorities;

- (a) works subject to environmental control such as temperature, noise control, vibration control, working hours and traffic conditions shall be referred to in the method statements;
- (b) method statements shall identify checklists with Quality Hold Points and invoke adequate work instructions, quality control procedures, compliance testing/inspection arrangements, and work acceptance procedures, in each case for all activities which might affect the quality of the New Works, including temporary works; and
- (c) the authority for release of the Quality Hold Point and Quality Witness Points shall also be identified.

11.4.2 **Part C: New Works Contractor's Construction Quality Control**

Details to be provided in regard to the New Works Contractor's construction quality control system shall include, but shall not be limited to, the following:

- (a) a statement of the New Works Contractor's appointment of a Quality Engineer's confirming the responsibilities of the Quality Engineer including:
 - (i) the responsibility for the initiation and updating of this part of the Quality Plan;
 - (ii) the responsibility to the management representative for monitoring compliance with it; and
 - (iii) the responsibility for the adequacy of the quality records produced;
- (b) arrangements for "receiving" and "in-process" testing;
- (c) procedures for the following:
 - (i) the control of test laboratories;
 - (ii) the control of test, measuring and inspection equipment;
 - (iii) document control, which shall include controls on the identification and traceability of documents and on document issues and status, and shall also include the control of documents recording the verification, review, approval, releases and amendment of the New Works;
 - (iv) monitoring and recording the inspection, test and approval status of the constructed/installed work;
 - (v) tests and inspection for the purpose of enabling the Designer to certify that each part of the New Works is complete and conforms to the New Works Agreement, and which shall identify the pro forma and/or database which shall be used for recording the certification of compliance of all items of the New Works by authorised key personnel. Each submission shall be separately identified;
 - (vi) the review of works submitted for review but not accepted as conforming to the New Works Agreement and which shall include options for identification of non-conforming work and proposals for reworking and remedial work; and
 - (vii) collation of quality records as identified in BS EN ISO 9001:2008 or equivalent and their submission to the Contracting Authority.

11.4.3 **Part D: Suppliers' Quality Plans**

The suppliers' Quality Plans shall include, but shall not be limited to, the following:

- (a) a definition of the product or service to be provided;
- (b) details of the organisation of the supplier, which should include a description of the line of command and should state the name of the senior manager responsible for the contracted work and the name of the supplier's on-site management representative. Contact addresses and telephone numbers shall also be provided;
- (c) details of the parts of the supplier's Quality Manual relevant to the product or service being provided, copies to be provided to the Contracting Authority;
- (d) procedures for the control of personnel selection at works and on-site. Supplier shall provide evidence that the training and experience requirements given in the appropriate quality assessment schedule are being met; and
- (e) specific procedures for the following:
 - (i) receipt and examination of certificates of conformity and test results for purchased products;
 - (ii) product identification and traceability.
 - (iii) each piece or bundle of delivered product shall be indelibly marked and where appropriate the lot identification shall be included on each package;
 - (iv) handling, storage, packaging and delivery to the site and storage and handling on site; and
 - (v) quality records, which shall include documents to demonstrate the achievement of the required standard such as site logs, records of visits, site test results, records of verification, review and release, certificates of conformity and records of all design modifications to products and specifications.

12. **Supervision of the O&M Works**

- 12.1 The Company's duty to supervise the O&M Works includes the duty to supervise the implementation of the O&M Works and is additional to the inspection and testing of the O&M Works which the O&M Works Contractor is required to carry out.

- 12.2 The part of the Quality Plan for supervision of the O&M Works shall include but shall not be limited to:
- 12.2.1 the names and curricula vitae of all the personnel to be employed in the supervision of the O&M Works;
 - 12.2.2 a description of arrangements for the interface with procedures within the Quality Plan in respect of implementation of the O&M Works;
 - 12.2.3 a description of arrangements for the interface with the procedures within the Quality Plan for the Design of the O&M Works, where required by the Agreement, and liaison with the Designer;
 - 12.2.4 a description of the arrangement for the interface with the procedures within the Quality Plan for the Design Check of the Design of the O&M Works, where required by the Agreement;
 - 12.2.5 details of all arrangements for liaison with the Contracting Authority;
 - 12.2.6 procedures for the following:
 - (a) carrying out the supervision of the O&M Works;
 - (b) the reviewing of the supervision and the issuing of Certificates;
 - (c) efficient and effective document control, which shall include procedures for the receipt, control and retention of all documents. These procedures shall detail the stage of work at the time that the supervision shall be carried out, the identity of the persons carrying out the supervision, the frequency of supervision and the procedure which shall be followed when dealing with non-conforming works and notification of non-conforming work to the Contracting Authority; and
 - (d) the witnessing of testing and reporting of the results of tests to the Contracting Authority;
 - 12.2.7 reporting progress and the identification of problems; and
 - 12.2.8 the collation and archiving of:
 - (a) the O&M Works Contractor's own 'receiving' and 'final' inspection and test records substantiating the completion of each part of the O&M Works in conformity with the provisions of this Agreement. The extent of compliance testing shall be submitted to the Contracting Authority for review in the form of Appendix 1/5 to Part 5 of Schedule 4; and
 - (b) those supervision records which record the Designer's acceptance of the O&M Works.

13. Management of the O&M Works

13.1 The part of the Quality Plan for the management of the O&M Works shall include but shall not be limited to:

13.1.1 the name and curriculum vitae of the Project Quality Manager responsible for operational aspects of the O&M Works;

13.1.2 the names, roles, responsibilities and authority of the key personnel that shall be employed in the management of the O&M Works including the line of command and communication links between all parties involved in the delivery of the O&M Works by the Company in the form of annotated charts.

13.2 Where an activity in question is not due to commence for some time, the Quality Plan shall provide a specification of the type of person and experience necessary to be able to perform the identified task.

13.3 This specification shall also form the basis of any replacement appointment during the Contract Period:

13.3.1 a description of the management structure proposed to cover each activity listed in Schedule 4 and showing responsibilities and chain of command for all the operational aspects of the O&M Works;

13.3.2 the identification of the key activities that shall be the subject of written quality procedures and work instructions;

13.3.3 provision to the Contracting Authority at the various times required by this Agreement of all information and records in respect of the management of the O&M Works required to be provided by the Company (including procurement of such information from others by the Company) as specified in this Agreement;

13.3.4 identification of the O&M Works Contractor's work instructions and procedures for all activities;

13.3.5 details of performance indicators;

13.3.6 documented procedures including method statements which shall apply to secure the following:

(a) the effective management of the O&M Works;

(b) procurement of all activities that shall be required in respect of the management of the O&M Works including, but not limited to:

(i) arrangements for liaison and meetings with sub-contractors, sub-consultants, the Contracting Authority and all third parties;

- (ii) arrangements for the control of personnel selection which shall be based on consideration of skill care qualifications training and experience;
- (iii) the identification of the person responsible for the initiation and updating of the Quality Plan during the Services Period including:
 - (A) the person responsible for monitoring compliance with the Quality Plan in respect of the management of the Operations;
 - (B) the person responsible for the adequacy of the quality records produced; and
 - (C) the person responsible for document control which shall be secured by method statements and documented procedures showing the identification and traceability of documents and on document issues and status and shall also include the control of documents recording the verification review approval consent to and releases in respect of the O&M Works;

13.3.7 procedures for complying with the requirements of BS EN ISO:14001:2004 for Environmental Management Systems; and

13.3.8 the provision of any other item which may be brought to the attention of the Company by the Contracting Authority and which as a result shall be incorporated into the Quality Plan.

14. Execution of the O&M Works

14.1 The part of the Quality Plan for the execution of the O&M Works shall include but shall not be limited to:

14.1.1 a statement of the scope of the O&M Works;

14.1.2 procedures for ensuring compliance with the O&M Works;

14.1.3 the names, roles, responsibilities and authority of the key personnel to be employed in the execution of the O&M Works including the line of command and communication links between all parties involved in the delivery of management of the O&M Works by the Company in the form of annotated charts;

14.1.4 a description of the arrangements for the liaison with Contracting Authority personnel associated with the Agreement;

- 14.1.5 a description of the arrangements for the liaison with the Auditor's personnel associated with the Agreement;
- 14.1.6 documented procedures including method statements which shall apply to secure the following:
- (a) the effective provision and execution of the O&M Works;
 - (b) procurement of all services and works required in respect of the provision and execution of the O&M Works including, but not limited to:
 - (i) arrangements for liaison and meetings with the sub-contractors, the sub-consultants, the Contracting Authority and all third parties;
 - (ii) arrangements for the control of personnel selection which shall be based on consideration of skill care qualifications training and experience;
 - (iii) purchasing procedures for all materials and Constructional Plant which shall be used;
 - (iv) the identification of the person responsible for the initiation and updating of the Quality Plan during the Service Period including:
 - (A) the person responsible for monitoring compliance with the Quality Plan in respect of the execution of the O&M Works;
 - (B) the person responsible for the adequacy of the quality records produced; and
 - (C) the person responsible for document control which shall be ensured by method statements and documented procedures showing the identification traceability of documents and on document issues and status and shall also include the control of documents recording the verification, review approval consent to and releases in respect of the O&M Works;
 - (v) provision to the Contracting Authority at the various times required by the Agreement of all information and records in respect of the management of the O&M Works that shall be required to be provided by the Company (including procurement of such information from others by the Company) and specified in the Agreement including, but not limited to, such information and records as particularised in Part 5 of Schedule 4;

- (vi) the provision of any other item which may be brought to the attention of the Company by the Contracting Authority and which as a result shall be incorporated in the Quality Plan;
- (vii) procedures for the following:
 - (A) the recruitment and training of personnel;
 - (B) administration, document control and internal audits;
 - (C) procedures for the carrying out of compliance tests and inspections;
 - (D) the provision of correspondence to the individual, personnel or organisation responsible for carrying out audits on behalf of the Contracting Authority;
 - (E) dealing with comments/complaints received;
 - (F) purchasing materials and plant to be used; and
 - (G) any other operational procedures to be followed.
- (viii) detailed method statements for each major activity whether directly controlled or sub-contracted.

14.2 The following controlled items:

14.2.1 the O&M Manual;

14.2.2 the Maintenance Management Plan, including:

- (a) the asset management strategy;
- (b) the maintenance forward plan; and
- (c) the annual maintenance plan;

14.2.3 the Winter Service Plan;

14.2.4 the Emergency Response Plan;

14.2.5 the Incident Support Service Plan; and

14.2.6 the Landscape Development Plan including:

- (a) the 5-Year Landscape Maintenance Review; and
- (b) the Pesticide Reduction Plan.

The plans referred to in this Paragraph 14.2 shall have the meaning given to them in Schedule 4.

15. **Particular Requirements in Relation to Schedule 6 (Payment Mechanism)**

- 15.1 Schedule 6 makes provision for deductions in relation to non-performance.
- 15.2 One of the categories identified as being subject to these provisions is the O&M Works management activities which comprise all management activities, procedures and processes which require to be undertaken to satisfy the requirements of Schedule 4 (collectively the **O&M Management Activities**).
- 15.3 The assessment of performance in relation to these activities shall be based primarily on the Quality Assurance audit reports, which shall include first-party, second-party and third-party audits, as defined in BS EN ISO 9000:2005.
- 15.4 Deductions shall be applied if a non-conformity and/or a corrective action request is not closed out by the specified date.
- 15.5 Corrective action requests raised for any other reason i.e. outwith the audit procedures, shall also be subject to the deduction mechanism described in Schedule 6.
- 15.6 The Company shall ensure that audits are carried out in relation to the O&M Works Management Activities, and reports prepared, at intervals not exceeding three (3) months.
- 15.7 Each audit need not cover all associated activities, but each activity shall be audited at intervals not exceeding twelve (12) months.
- 15.8 The Company shall ensure that copies of all relevant audit reports are submitted to the Contracting Authority at intervals not exceeding three (3) months.
- 15.9 The Company shall also submit a summary sheet showing the ongoing status of existing non-conformities (including close out dates), non-conformities which have been rectified, and new non-conformities.
- 15.10 Non-conformities identified by the Contracting Authority in respect of the associated application of the Quality Plan requirements in relation to O&M Works Management Activities shall also be subject to the deduction mechanism described in Schedule 6.
- 15.11 The Quality Plan shall include provision for the detailed recording of all instances of Unavailability, as defined in Schedule 6 (Payment Mechanism).
- 15.12 Monthly Reports identifying all such instances shall be submitted monthly by the Company to the Contracting Authority.