

Part C5: Annexures

Document reference	Title	No of pages
C5	This cover page	1
	Annexure 5.1 – Project Specification	2- 72
	Annexure 5.2 - ACSA Generic Occupational Health and Safety Specification	73-96
	Annexure 5.3 ACSA Baseline HIRA	97-104
	Annexure 5.4 Occupational Health and Safety Agreement	105-115
	Annexure 5.5 Environmental Terms & Conditions	116-117
	Annexure 5.6 ACSA Construction Environmental Management Plan	118-130
	Annexure 5.7 Contractor's Installation Conditions & House Rules	131-133
	Annexure 5.8 POPIA Agreement	134-136
	Annexure 5.9 Government's Programme for Broad-Based Black Economic Empowerment	137-139
	Total number of pages	139

ANNEXURE 5.1: PROJECT SPECIFICATION

REFURBISHMENT OF ACSA AIRSIDE OFFICES SIDE OFFICE BUILDING HEATING, VENTILATION AND AIRCONDITIONING (HVAC) INSTALLATION

PART A: GENERAL TECHNICAL SPECIFICATION

1.1. GENERAL REQUIREMENTS

This installation shall be suitable in all respects for operation under the atmospheric conditions and electricity supply as outlined in the schedules. The onus is on the tenderer to ascertain any other local conditions or peculiarities which might affect the working of the plant, and no allowance in price or standards of materials or workmanship will be made for any ignorance on the part of the tenderer in this respect. This applies to the nature and construction of the building, details of which can be obtained from the Architects.

All materials and workmanship supplied under this contract shall be of the highest quality. Installation work shall be done in accordance with the best modern engineering practice, and where installations are required for medical and/or advanced research proposes, reliability and accuracy in operation are the major requirements. The Engineer shall have the right to reject and demand satisfactory replacement at the Contractor's cost, or any part of it, which is his opinion, does not conform to the highest standards of material and workmanship. The installation shall be required to run for long continuous periods, and it is essential that all installations shall be capable of operating continuously and satisfactorily over such periods.

1.2. VISIT TO SITE

Tenderers must acquaint themselves with local site conditions such as access area available on site, type of ground, space available for on-site fabrication, storage, transport, loading and unloading facilities, scaffolding, tackles, and tools needed, as no claims by the Contractor, which may arise from ignorance of the site conditions, will be considered.

Tenderers must be aware that ACSA works will continue on planned dates, which will be in line with the project programme.

1.3. MATERIAL AND WORKMANSHIP

- 1.3.1 The contract works shall be executed in accordance with the specified standards and level of workmanship, to the satisfaction of the Engineer.
- 1.3.2 All materials shall be of the quality specified, and the Contractor shall, upon request of the Engineer, furnish him with proof to his satisfaction that the materials are of the specified quality. In this regard, the Contractor shall submit documentary evidence and details of the plant, equipment, and diagrams to the Consulting Engineer prior to ordering the equipment.
- 1.3.3 All materials and equipment used for the installations shall be new and undamaged.
- 1.3.4 The Contractor shall, if requested by the engineer, provide samples of material and equipment for approval. If judged necessary by the Engineer, such samples may only be returned after the completion of the installation, in order to ensure that the quality of the installed product is the same as that of the approved sample.
- 1.3.5 As far as possible only material of South African origin shall be used.

1.4. PART OF THE SPECIFICATION

The General Technical Specification covers the general technical requirements of the mechanical installation. This specification shall be read in conjunction with the document in its entirety. If the conditions and/or specifications contained herein are at variance with anything contained in the Detailed Technical Specification, the latter shall take preference; otherwise, these Standard Technical Specifications shall apply as if duly included.

1.5. MINIMUM REQUIREMENT

The conditions and/or specifications in this section shall be regarded as the absolute minimum requirement. More stringent similar conditions and/or specifications stated in the Detailed Mechanical Specification shall take preference to those in these General Mechanical Specification.

1.6. PROPRIETARY MATERIALS

The Tenderer's attention is drawn to the Detailed Technical Specification and Bills of Quantities which form an integral part of the specification, specifically to the following clauses:

Where the term “or other approved” is used in connection with proprietary materials or articles, it is to be understood that approval shall be at the discretion of the Employer.

Where brand or trade names are referred to in the Detailed Specification and Bills of Quantities, these shall indicate the quality and type of material or fitting required and no substitution of materials so specified will be permitted unless the authority of the Employer has been obtained in writing before tender close.

1.7. APPROVAL OF EQUIPMENT

The Contractor shall, prior to ordering or manufacturing of equipment and materials, submit details of the intended materials and equipment for approval by the Consulting Engineer. These details shall include engineering data sheets, drawings, and any other documentation that the Engineer asks for to enable the Engineer to assess that equipment offered meets the requirement of the specification.

Once installation has commenced with the appropriate approvals for using any type and make of article or equipment, the same type and make of article or equipment shall be used throughout the project for that specific application unless otherwise specified.

1.8. REFERENCE SPECIFICATIONS AND STANDARDS

- 1.8.2. The latest revision of any Specification referred to in this specification, will be applicable.
- 1.8.3. Where a specification or standard is not specifically referred to, it will be assumed that the relevant SANS, ISO, BSS, DIN, or equivalent American standard, listed in order of preference will apply.
- 1.8.4. The SI (“Le Systeme International d’ Unites”) – Metric System of Units will apply.
- 1.8.5. All applicable standards and codes of practice are listed in Section 1.5 of the Standard Quality Specification for Air Conditioning Installations (GP/M6/Rev 0).

1.9. DRAWINGS

- 1.9.1. **Engineer’s Drawings**
- 1.9.2. Unless otherwise specified, the Engineer’s Tender drawings are not manufacturing drawings and the dimensions given are only sufficient for tendering purposes or to enable the contractor to complete manufacturing drawings. It is the responsibility of the contractor to verify all dimensions.
- 1.9.3. The Engineer shall make available to, at the request of the contractor, any available record drawings of the present installation.

1.10. CONTRACTOR'S DRAWINGS

1.10.1. The contractor will be furnished, on request, with the Engineer's drawings and a complete set of "as built" drawings identified as available in this document.

1.10.2. The contractor shall supply two (2) copies of each detail design drawing for approval. The contractor shall allow the Engineer one (1) week for drawing approval. After a marked-up copy with all the Engineer's comments has been returned, the contractor shall update the original, which shall then be submitted to the Engineer for signature. This will ensure that all prints used for construction will be certified as approved.

1.10.3. Two (2) copies of the certified drawing shall be issued to the Engineer for distribution.

1.10.4. The contractor will be required to produce the following detail design drawings:

- (a) Builder's Work Drawings.
- (b) Mechanical Drawings

These are all Workshop and Equipment Layout Drawings required for the manufacture and erection of the installations.

- (c) Instrumentation Drawings, such as:
 - Schematic Control Diagrams.
 - General Arrangement Drawing of Control Board
- (d) Electrical Panel Construction Drawings

Workshop drawings indicating the following shall be approved by the *Engineer* before manufacture commences:

Boards – General

Front, side and back elevations of the boards

Typical sections through the boards

Construction details

Dimensions and construction details of board

Colour of board sections

Placing of switchgear on boards

Detail and position of legend card holder

Details and position of schematic drawing holder

Wording, position, size and colours of name strips and notices

Assembly and holding down details of each board

Full schematic wiring diagrams showing terminal wire and component numbers and circuit designations.

Busbars

Current rating

Fault current rating

Positions and spacing's of busbars and access to busbars

Dimensions of busbars

Details, positions and spacing of supports

Type of material of busbars and supports

Busbar identification

Switchgear

Minimum fault capacity of switchgear

Type and manufacture of switchgear used

Current and voltage transformer ratio and V A-ratings

Meters

Maximum capacity of meter in A, V, kWh, etc.

Type and manufacture of meter

Full scale of meter

Multiplication factor, if applicable.

All wiring diagrams and symbols used shall be in accordance with DIN or other approved and nationally or internationally acceptable Standards.

1.10.5. Unless otherwise specified, cable routes shall be superimposed on the Mechanical Layout Drawings, showing the runs and fixing details.

1.10.6. Any work done by the contractor without an approved signed drawing, will be at the risk of the contractor.

1.10.7. The Contractor shall update all drawings ("record drawings") once the installation has been completed. One (1) set of paper prints and one (1) set in an acceptable electronic format shall be supplied to the Engineer as part of the O & M Manual.

1.11. CONSTRUCTION AND SITE ISSUES

1.11.1. CONSTRUCTION, PLANT, ETC.

Tenderers shall include an amount for the supply of all scaffolding, ladders, trestles, dust sheets and everything necessary for the proper performance of the contract, for clearing and removal of all rubbish due to the work, for the protection of the work from damage due to the building operations, other contracts, and the weather. In existing buildings contractors shall in particular take adequate precautions to the satisfaction of the engineer to prevent damage to existing apparatus during erection operation.

1.11.2. MATERIAL, OFF-LOADING AND STORAGE

Tenderers must take due allowance in their tenders for the off-loading of materials and the storage and safe custody thereof according to manufacturer's specifications on or off site until such can be accommodated or is required on site.

1.11.3. INSPECTION OF LOCALLY MANUFACTURED SUPPLIES

Where locally manufactured plant or materials are offered, the Employer reserves the right to inspect such plant or goods during manufacture and to reject items that do not conform to the owner's requirements. Where a number of units are ordered by the owner the contractor shall notify the representative of the Employer when one unit has been completed so that the representative of the Employer may inspect and approve it.

1.11.4. ORDERING MATERIALS

The contractor is warned to place all orders for materials or special articles as early as possible as he will be held solely responsible for any delay in the delivery of such goods.

1.11.5. PACKING

The contractor will be held responsible for packing all plant and other goods in such a manner as to ensure freedom from any loss or damage in transit. Unless otherwise specifically agreed upon, receptacles will not be returned or paid for, and no additional charges will be allowed for packing or packing materials.

1.11.6. SAMPLES FOR TEST

The contractor shall furnish, without delay, such samples for testing, or other purposes, as called for, or may be called for, by the Engineer, who may reject all materials or workmanship not corresponding with the approved sample.

Notwithstanding that samples and approved brands of materials, etc. are exhibited or included in classified lists at the offices of the owner, the Engineer may retest any samples, brands of materials, etc. included in the contract and reject articles and materials, etc. that do not strictly comply with the specification.

1.11.7. DAMAGE TO BUILDINGS AND THE MISUSE OF FACILITIES

Any damage done to the buildings, roads and landscaped areas by the contractor, or his workmen, shall be made good by the contractor. Should the contractor, or his personnel, be granted leave by the Employer to utilise on-site facilities and such facilities be misused or damaged, the facilities shall be cleaned and/or repaired to the satisfaction of the Employer (It should be understood however, that the provision of facilities (toilets, etc.) in terms of the Preliminary and General costs called for in the tender document, are the responsibility of the contractor). If the contractor fails to attend to such damage, the Employer will take care of remedial work required and shall deduct the cost of such work from the contract monies due to the contractor.

1.11.8. PROTECTION OF OWNER'S EQUIPMENT

The contractor shall ensure that any computers or other valuable equipment of the owner is sufficiently protected against work or dust by means of temporary coverings or sealed-off partitions.

1.11.9. ARRANGEMENTS WITH SUPPLY AUTHORITIES

The contractor shall apply for and complete all the formalities necessary for compliance with any statutory requirements as necessary. He shall also make himself available for all statutory authority inspections in order to complete all the formalities and tests. Inspection fees shall be allowed for in the tender.

1.11.10. TAKING RESPONSIBILITY FOR THE INSTALLATION (FOR NORMAL ELECTRICAL OR ELECTRICAL WITHIN MECHANICAL INSTALLATIONS)

With first delivery, the contractor shall accept in writing the responsibility for the total installation as installed by him by certifying the correctness of the installation in accordance with and on the certificates of compliance of the work as per the Specification.

1.12. INSPECTIONS AND TESTING

1.12.1. INSPECTIONS (PART III, SAACE – 1978)

The Engineer shall have general supervision and direction of the Contract Works. Supervision shall comprise such periodic visits as the Engineer may consider necessary to inspect the Contract Works for conformity with the Contract documentation and to provide clarification and further information as necessary.

The Engineer shall have the power at any time to inspect and examine any part of the Contract Works or any materials intended for use in or on the Contract Works, either on the site or at any factory, workshop or other place where such parts or materials are being constructed or manufactured or at any place where such parts or materials are lying or from where they are being obtained and the Contractor shall give all such facilities as the Engineer may reasonable require to be given for such inspection and examination.

The Contractor shall not be liable for the cost of inspecting materials at the place of manufacture, construction or storage nor be responsible for any travelling or accommodation costs arising out of the execution of such inspection, etc.

1.12.2. TESTING

The Contractor shall supply all test equipment, test facilities and everything necessary, at his cost, to perform tests. The following testing and commissioning equipment as applicable shall be required:

1. Pitot tube and manometer.
2. Hot wire anemometer.
3. Crane type manometer for balancing valves.
4. Thermometer for insertion into pipe and duct pockets alongside temperature detectors.
5. Sling psychrometer.
6. Revolution counters suitable for measuring fan and motor shaft rotation.
7. Megger equipment.
8. Clamp on ammeter.
9. Voltmeter.
10. Power factor meter.
11. Ohmmeter suitable for continuity testing.
12. Neon type ON/OFF test lamp.
13. Maximum indicating ammeter suitable for measuring peak motor starting currents.

- 11.2.2 The contractor shall record all measurements taken during testing and shall do the necessary adjustments until the Engineer is satisfied with the results.
- 11.2.3 The Engineer shall be notified one (1) week in advance of any tests so that he may witness such tests.
- 11.2.4 Unless otherwise specified, the contractor will be required to perform the following tests:

Electrical Switchboards

Each board and its components shall be subjected at the Manufacturer's works to the routine tests, called for in the appropriate SANS and BS Specifications and this Specification.

The following tests shall be performed on all circuits:

- (a) Full operational tests of opening and closing each circuit breaker and the contactor from their respective protection relays and control devices inclusive of sequence controls where required.
- (b) Pressure tests between phases and between phases and earth.
- (c) Primary injection test of all protective relays.
- (d) Secondary injection test of motor overload devices.
- (e) Pressure test of all secondary wiring at 2kV for one minute.
- (f) Polarity tests of current.

Ducting.

Pressure test medium and high-pressure ducting in terms of SANS 10173-2003: Code of Practice for the Installation, Testing and Balancing of the Air Conditioning Ductwork.

Pressure Vessels

Refer to the requirements set out in the Occupational Health and Safety Act of 1993.

Refrigerant Piping

Factory charged systems shall first be pressure tested and thereafter be vacuum tested. Field charged systems shall only be pressure tested.

Refrigerant pipes and equipment shall be tested under vacuum at a pressure of 0,68 kPa absolute, maintained for a period of one hour with the vacuum pump uncoupled. Any leaks under these conditions are not acceptable.

Refrigerant pipes and equipment shall be tested in terms of SANS 10147 – 2002: Code of Practice for Refrigeration and Air Conditioning Installations. All connections shall be inspected for leaks by means of a sensitive leak detector and soap bubble test.

1.13. COMMISSIONING AND HANDING OVER

1.13.1. PROCEDURE

Physical Completion

After physical completion of the erection phase of the installations, the Engineer will issue a Snags List certifying that commissioning can proceed. Items which would not influence the commissioning process could, at the discretion of the Engineer, be attended to during commissioning stage.

Commissioning Stage

After commissioning the Engineer will issue a second Snags List (the Commissioning Snags List). Any outstanding work will be recorded on this list.

Engineer's Certificate

After completion of all outstanding items and receipt of all manuals and drawings as recorded on the Commissioning Snags List the Engineer will issue a First Delivery Certificate. This certificate will accompany a certificate of acceptance by the Client's representative.

The one-year maintenance and guarantee period will commence on the date of the First Delivery Certificate.

Commissioning

The Commissioning of the entire installation shall be carried out timeously. The workshop drawings, to be produced by the Contractor, are to be perused and approved, in principle, by the Contractor's Commissioning Engineer who is to confirm that the installation as indicated can be commissioned.

The commissioning of the installation shall be in terms of the following codes, or any other code approved by the Engineer:

(a) Air Distribution Systems:

SANS 10173 – 2003: Code of Practice for the Installation, Testing and Balancing of Air Conditioning Ductwork.

(b) Refrigeration Systems:

CIBS: Commissioning Code: Series R: Refrigeration Systems.

(c) Control System:

CIBS: Commissioning Code: Series C: Automatic Controls.

(d) Water Distribution Systems:

CIBS: Commissioning Code: Series W: Water Distribution Systems.

The Contractor shall submit the Commissioning program to the Engineer, at least four (4) weeks prior to the commencement of commissioning.

The power connections to the various installed equipment must be energized to facilitate commissioning of the installation.

To enable this switch-on to take place the installation must be substantially complete.

The Contractor shall inform the Engineer within (4) weeks of his appointment, what time allocation has been allowed for commissioning purposes. This must be reflected on the Critical Path Schedule to be submitted by the Contractor.

Training and Maintenance

The Contractor shall provide a suitably qualified and trained person to train the Employer's staff in the correct operation and maintenance of the installation. The Contractor shall allow for this person to be full time on site as called for in the maintenance contract conditions.

OPERATING AND MAINTENANCE MANUALS

- 1 The contractor shall, at his cost, prepare and supply manuals for the successful operation and maintenance of the installation.
- 2 Six weeks prior to the commencement of commissioning, the contractor shall supply a draft of the manual to the Engineer for approval. Two weeks after commissioning, the Contractor shall supply three (3) additional manuals, which have been updated and included all commissioning data and "record" drawings.
- 1 These manuals shall contain the following information (In the format indicated below):

INDEX OF CONTENTS

SECTION 1: SYSTEM DESCRIPTION

- 1.1 A comprehensive description of the installation.

SECTION 2: OPERATING INSTRUCTIONS

- 2.1 Starting and stopping instructions.

2.2 Pre-start checks.

2.3 Equipment running checks.

SECTION 3: MECHANICAL EQUIPMENT

The following information shall be provided in full for each item of equipment:

3.1 General information

Description, Make, Model Number, Name and Address of Supplier, Manufacturer etc.

3.2 Design information

Design Data Sheet containing all design and selection parameters, calculations, selection curves, etc.

3.3 Settings and values recorded during commissioning.

3.4 Manufacturer's Brochures and Pamphlets.

3.5 Maintenance Data and Schedules

The lapse of time between services and the description of the service required of each part, lubrication requirements, etc.

3.6 Schedule of Spares.

SECTION 4: WORKSHOP AND CONSTRUCTION DRAWINGS

One hard copy of each drawing, as well as all drawings in the appropriate electronic format.

1.14. COMPLIANCE WITH REGULATIONS

The entire installation shall be carried out in accordance with the latest revision and amendments of the following:

- (a) The Code of Practice for the Wiring of Premises issued by the South African Bureau of Standards, SANS 10142-1:2003.
- (b) The Occupational Health and Safety Act, Act 85 of 1993, including the Construction Regulations of 2003.
- (c) The municipal by-laws and any special requirements of the supply authorities of the area and district concerned.
- (d) The applicable SANS specifications, or the ASHRAE specifications where no SANS specifications exist.

- (e) PW 379: Department of Public Works, Standard conditions in respect of the supply-, delivery and installation of electrical-, mechanical-, pneumatic- and vacuum operated equipment, control systems, plant, and materials.
- (f) PW 327: Department of public works, Standard specification for air conditioning and ventilation installations, STS 1, Issue XII of 1998.
- (g) PW 328: Department of public works, Standard specification for refrigeration services, STS 2, Issue VIII of 1998.
- (h) Department of public works, Standard specification for electrical installations and electrical equipment pertaining to mechanical services, Issue 1XA of 1999.

No claims for extras in respect of failure by the mechanical contractor to comply with any of the above regulations will be considered.

Where conflict exists between any of the above regulations and the specification, the said conflict must be referred to the Engineer in writing for his ruling.

The contractor shall be responsible for serving all notices and paying all fees due in terms of the laws and regulations mentioned.

1.15. DESIGN PARAMETERS

Indoor Conditions

Summer Inside

DB : $22^{\circ}\text{C} \pm 1^{\circ}\text{C}$

Winter Inside

WB : $22^{\circ}\text{C} \pm 1^{\circ}\text{C}$

1.16. AVAILABLE SERVICES

Details of available services on site:

- Existing chilled water HVAC system as per as-built drawings.
- Electrical Supply: 380/ 220Volt, 50Hz

1.17. NOISE AND VIBRATION CONTROL

The Contractor shall be responsible for maintaining noise and vibration transmission from his equipment to the building structure and adjacent rooms within the limits suggested in the SANS "Code of Practice

for the Rating of Noise for Speech Communication and with the respect to Annoyance, Code Number 10103 - 2020.

In order to attain the noise levels specified, the Contractor shall provide the necessary spring type vibration mountings under all rotating equipment, flexible pump piping connections, etc.

All noise and vibration control equipment must be clearly shown on the Contractor's drawings which are to be submitted for approval.

Noise levels specified above may be amended in the supplementary specification if a specific part of the contract works so requires. This shall not however relieve the Contractor of the responsibility of meeting the requirements of the above clauses as far as the remainder of the contract work is concerned.

Noise generating equipment such as fans, compressors, pumps, motors etc. shall be selected to operate as close to the point of maximum efficiency as possible. It is the responsibility of the Tenderer to check operating noise levels of the equipment before tendering. Tenderers offering equipment with low noise ratings may receive preference.

Tenderers are advised to calculate sound levels on the system offered before tendering. Where it is not possible to meet the specified sound levels due to the noise generated by the equipment, or due to inadequacies in the building structure, or the design of the plant, such deficiencies shall be stated in the tender together with the Tenderer's recommendations and cost implications.

The Contractor shall submit noise estimating sheets for all systems as well the insertion loss ratings of sound attenuators for approval before ordering. Failure to do so may result in additional costs to the Contractor if noise levels in any area should exceed the specified limits.

If the noise levels exceed the values specified above, the Contractor shall be responsible to carry out all the necessary rectifications at his own expense.

1.18. CODING, LABELLING AND NOTICES

1.18.1. GENERAL

The Contractor shall supply and install all coding, labelling and notices as required under this Clause. The wording shall be in English.

To reduce the possibility of incorrect labels and/or notices, the Contractor shall submit a schedule of labels and notices to the Engineer for approval. Costs to rectify inscriptions, resulting from the failure by the Contractor to obtain approval, will be for his account.

1.18.2. CODING

General

Codes and numbers for wiring shall be CRITCHLEY IZ-type, or other approved, Cable Marker interlocking endless expanding markers, as supplied by CABLE ACCESSORIES (PTY) LTD. CRITCHLEY C-type, or other approved, Cable Markers shall only be used with the approval of the Engineer where wires and piping have already been terminated. Lettering shall be marked in black on a white background.

1.18.3. ELECTRICAL

Provide and install the following coding:

- (a) Numbering of both ends of power and control conductors in switchboards.
- (b) Numbering of both ends of field cables.
- (c) Numbering of both ends of individual field conductors within cables of control circuits only, where such conductors are not uniquely identified by means of insulation colour codes.

1.18.4. LABELLING

General

Labelling shall be CRITCHLEY UNILABEL, or other approved, Cable Marker, as supplied by CABLE ACCESSORIES, or engraved "IVORENE" or "TRAFOLITE" labels.

Black letters on a white background shall be used.

Labels shall be fixed with screws or acceptably glued to all equipment.

1.18.5. EQUIPMENT

All mechanical, electrical and instrumentation equipment shall be identified by means of an equipment code.

Minimum height of letters: 10mm.

1.18.6. NOTICES

1.8.6.1 Supply and install all notices required in terms of Statutory Regulations.

1.8.6.2 In terms of the Occupational Health and Safety Act, Act of 1993, the following shall be provided at the entrance of Plantrooms:

- (a) Prohibiting unauthorized persons from entering.
- (b) Prohibiting unauthorized persons from handling or interfering with electrical apparatus.
- (c) Directions as to procedure in case of fire.
- (d) Directions as to restoration of persons suffering from the effects of electrical shock.

(C.73) Manufacturer's Plate on Pressure Vessels:

- (a) Manufacturer's name.
- (b) Country of Origin.
- (c) Maker's Number.
- (d) Year of Construction.
- (e) Maximum permissible working pressure in Pascal.
- (f) Capacity in cubic metres
- (g) Name and Number of Code of Manufacture.

1.19. Electrical Installation

1.19.1. Power Supply

Three phase and single phase, 50 hertz electrical supplies will be provided by others at each fan coil unit. The supply will terminate in an isolator. This tenderer shall include for the cabling, conduits, cable racks, trays, etc., necessary for the satisfactory operation of every part of the installation as well as for the connection of the supply cable into this panel.

1.19.2. Wiring

General

The wiring of the plant shall be carried out by the contractor in surface work in the plantrooms and concealed work in all finished spaces. Wiring shall be done by means of solid drawn or lap-welded screwed tubing and PVC insulated copper conductors, or in multicore PVC/SWA/PVC cable. The main runs of conduit or cable shall preferably be carried out at high level (if possible, in false ceiling spaces). Distribution shall be vertically down to the required points. All electric conduit and conduit fittings must be thoroughly inspected for defects

before installation, and all sharp edges and burrs removed. Bushes and locknuts are to be used where conduit enters switch boxes.

The proposed location of tubing and cables shall be approved by the Consulting Engineer before commencement of work.

Conduit to be installed under plaster finish shall be installed in good time so as not to delay the Building Contractor or cause finished plaster to be chased.

All electrical cables shall be fastened to cable racks or shall be laid in cable ducts. Cables carried in racks shall as far as possible be laid parallel and shall be neatly installed. Descents shall be firmly secured with provision for the swinging of flexible tubing or cables where attached to moving machines and electrical motors.

Sizes of conduit, conductors and cables shall be at least equal to those laid down in the relevant tables of the Code of Practice.

Flexible conduit and cables shall be provided wherever it is necessary to avoid transmission of vibration. No joints in cables or wires will be permitted in a conduit. The ends of cables shall be properly made off. Terminal lugs shall be used wherever special clamp-washers or sleeve terminals are not provided on equipment. Conductor strands may not be cut away or reduced in size, and care must be taken to select switchgear, etc., with terminals of adequate size for looping, etc., where necessary.

No open wiring will be permitted at any point in the system, with the exception of the copper busbars in the switchgear boards. These shall be taped up with PVC tape with the relevant phase colours.

1.19.3. Wiring in Conduit

No joints shall be allowed, and all looping must be done through approved connectors at fitting points.

The live phase shall be connected at the switching point. All wiring in conduit shall conform to the requirements of table 4 of SANS 10142 as amended. Not more than one circuit shall be accommodated in one circuit unless special permission is obtained from the Engineer. Before any wires are drawn into the conduit, a swab is to be drawn through to clear any water, dirt etc.

1.19.4. PVA Insulated Cables

LT cables with PVC insulation must conform to the requirements of SANS 1507 as amended and must be laid according to the requirements of paragraph 1.16 of this Section B of this specification.

1.19.5. Solid Conduit

All conduits shall be of heavy gauge steel, screwed and conform to SANS 1065 as amended. No conduit shall be less than 20 mm in diameter.

All joints shall be screwed, and all outlets fitted with rustproof iron boxes. Conduit must be either screwed or lock-nutted on both sides and bushed on the inside of the box or board to which it is attached.

The whole conduit system shall be electrically and mechanically continuous over all joints by means of screwed couplings, well bonded and efficiently earthed by means of earthing terminals and earth continuity conductors. The contractor must keep in touch with the builder and install all conduit so as not to delay his work and to ensure the closest co-operation. Every effort must be made to avoid running conduit in "U"-form, but where this is unavoidable, provision should be made, if possible, to drain the conduit.

All chasing of brickwork, etc., for conduit shall be carried out by the builder.

1.19.6. Earthing

The whole installation shall be efficiently earthed to the satisfaction of the Engineer, the Inspector of Factories, the Supply Authority, and strictly in accordance with the Code of Practice for the Wiring of premises. Any points proposed as earthing points by the Contractor shall first be approved by the Engineer before connection.

1.19.7. Boxes

Where boxes are used in concrete or masonry, approved removable cover plates shall be supplied. For 100 mm x 100 mm boxes, standard blank metal switch-type cover plates may use, but for larger boxes, removable cover plates of metal or other approved material must be supplied with bevelled edges and must be neatly painted.

Cover plates shall be large enough to overlap and cover any gaps between the draw box and the masonry or concrete and must be finished off to match the surroundings so as not to mar the architectural appearance of the building.

1.19.8. Cable Trays And Ladders

The contractor shall supply and install all cable trays or ladders as specified or as required by the cable routes including the necessary supports, clamps, hangers, fixing materials, bends, angles, junctions, reducers, T-pieces, etc.

Metal cable trays shall be manufactured from perforated rolled steel. Only the following metal cable tray types may be used:

- (a) Less than 250mm wide 1,6mm minimum thickness with 12mm minimum return.
- (b) 250mm and wider equivalent to trays manufactured from 2mm thick steel with folded over returns and a minimum up stand of 50mm.
- (c) 250mm and Wider 2,4mm minimum thickness with 76mm minimum return as alternative to (b) above.

The return of trays shall not be perforated, and the top of the return shall be smooth. The same cable tray type shall be used in long parallel tray runs.

Trays shall be supported at the following maximum intervals:

- (a) 1,6mm thick metal trays with 12mm return 1,22m maximum spacing
- (b) Metal trays with folded over return and 50mm up stand 1,22m spacing
- (c) 2,4mm thick metal trays and 75mm return 1,5m spacing

In addition, trays and ladders shall be supported at each bend, off-set, and T-junction.

Joints shall be smooth without projections or rough edges that may damage the cables. The Specialist Controls Contractor will be required to cover joints with rubber cement or other hardening rubberized or plastic compounds if in the opinion of the Engineer, joints may damage cables. Joints shall as far as possible be arranged to fall on supports. Where joints do not coincide with supports, joints shall in the case of trays with single returns be made by means of wrap-around splices of the same thickness as the tray ends shall butt tightly at the centre of the splice and the splice shall be bolted to each cable tray by means of at least 8 round head bolts, nuts, and washers. Splices shall have the same finish as the rest of the tray. Where joints which do not coincide with supports occur in trays with folded over returns, tight fitting metal guide pieces, at least 450mm long, shall be inserted in the folded returns to provide the necessary support to the two cable tray ends. Splices as described above shall be provided if trays sag.

Trays shall be bolted to supports by at least two round head bolts per support. Bolts shall be securely tightened to avoid cables being damaged during installation.

The supports for cable trays and ladders shall in all cases be securely fixed to the structure by means of heavy duty, expansion type anchor bolts. It is the responsibility of the Specialist Controls Contractor to ensure that adequate fixing is provided since cable trays and ladders that work loose shall be rectified at his expense.

Horizontal and vertical bends, T-junctions, and cross connections shall be supplied by the Specialist Controls Contractor. The dimensions of these connections shall correspond to the dimensions of the linear sections of which they are connected.

The radius of all bends shall be 1000mm minimum. The inside dimensions of all horizontal angles or connections shall be large enough to ensure that the allowable bending radius of the cables is not exceeded. Sharp angles shall have 45° cornices.

Cables shall be installed adjacent and parallel to each other on the trays with spacings as determined by the current ratings. Horizontal trays and ladders shall in general be installed 450mm below slabs, ceilings, etc. to facilitate access during installation.

All metal trays and ladders shall be bonded to the earth bar of the switchboard to which the cables are connected. Additional bare copper stranded conductors or copper tape shall be bolted to the tray or ladder where the electrical continuity cannot be guaranteed.

PART B: DETAILED TECHNICAL SPECIFICATION

1.0 GENERAL

This specification covers the following services, which constitute the Heating, Ventilation and Air-Conditioning (HVAC) installation as part of the upgrade of the ACSA Airside Offices Side Office Building:

- 1.1 Provision of air-conditioning systems consisting of VRF heat recovery system via fresh air-supplied hideaway units complete with pipework, ductwork, duct fittings, diffusers, cabling, and controls.
- 1.2 Provision of extract systems serving the air-conditioned areas and other occupied areas consisting of roof-mounted exhaust fans and axial fans, sound attenuators, exhaust ducting, exhaust grilles, weather louvres and controls.
- 1.3 Commissioning, testing and 12 month's guarantee of all systems as installed.

2.0 TENDER DEVIATIONS

The specification, whilst intended to indicate the extent of the contract works involved, does not necessarily describe every detail of the works, such details are left to the discretion of the Sub-Contractor provided the complete equipment is in accordance with the relevant clauses and true intention of the specification.

The requirements given in this detailed part of the Specification take precedence over those given in the attached Standard Specifications.

Any discrepancies, conflicting statements, or queries regarding the specification, and/or drawings, or the Standard Specifications, must, however, be brought to the attention of the Engineer for clarification.

The Sub-Contractor must check the latest dimensions of the equipment offered with all suppliers and ensure that in the event of any alteration of dimensions, the installation would still be acceptable.

3.0 STANDARDS, REGULATIONS, AND BY-LAWS

See Standard Specification.

This Technical Specification must be read in conjunction with the latest revisions of the following Standard Specifications, issued by the Provincial Government's Department of Works:

Standard Specification for Air-conditioning and Ventilation Installations

Where clauses are identified as AC in this specification, it refers to the Air-conditioning Standard Specifications.

All equipment offered shall, where such standards exist, comply with the latest SANS Standard Specifications and Codes of Practice.

The installation shall also comply with SANS 10400: The Application of the National Building Regulations, as well as all applicable local municipal by-laws.

Any variation from the above shall be brought to the Engineer's attention immediately.

The specification must also be read in conjunction with the Project Drawings listed hereunder. Where the Standard Specification, the Technical Specification and/or the drawings contradict each other, the tender must be prepared in accordance with the following sequence of preference:

1. Drawings
2. Technical Specification
3. Standard Specification

4.0 GUARANTEE OF EQUIPMENT

The successful Tenderer shall guarantee all materials and workmanship as set out in The Conditions of Contract for a period of 12 months.

This period of 12 months shall also apply to all items of plant of capital nature or otherwise irrespective of when it was supplied or delivered to site. Tenderers are advised to clarify this item with their suppliers prior to tendering as no claims relating to suppliers or other warranties will be considered during this period.

5.0 DESIGN CONDITIONS

Design conditions shall be as follows:

5.1 External Conditions

Altitude	:	Approximately 31 m
Outside design temperatures	:	Summer 35°C db, 26°C wb
		Winter 0°C db, 1°C wb

5.2 Internal Conditions

Internal design temperatures : 22.5°C DB $\pm$ 1.5°C, 50% RH
(Other air-conditioned areas)

5.3 Noise Levels

The installation shall be capable of meeting the following noise levels: -

Table 11 of ASHRAE 2001, Fundamentals, Chapter 7 refers.

Noise levels in areas served by the HVAC system shall be as follows:

Toilet areas	:	NC 45
Office Areas	:	NC 30
External noise level 15 meters away from any		
HVAC equipment	:	NC 40

All noise levels will apply 1,5m above floor level.

External noise levels at ground level 3 meters from the building must not exceed NC 50.

Should the equipment offered not be capable of achieving the specified noise levels, sound attenuation measures must be implemented by the sub-contractor at his own cost.

6.0 PROGRAMME

The HVAC Installation must be undertaken in conjunction with the building works and must be completed within the proposed time as agreed with the client

7.0 DRAWINGS

The following drawings relate to the project and shall be read in conjunction with this specification:

Drawing No.	Description
JD-2302-M-MA-101	HVAC - Ground Floor Layout
JD-2302-M-MA-102	HVAC – First Floor Layout
JD-2302-M-MA-101-A	HVAC – Ground Floor Ventilation Layout
JD-2302-M-MA-102-A	HVAC – First Floor Ventilation Layout

These drawings will be made available in electronic format to the sub-contractor, at his own risk, for preparation of shop drawings, should he so require.

8.0 SERVICES BY OTHERS

The following services will be provided by others:

8.1 By the Main Contractor

8.1.1 Provision of all openings in the structure, roof and ceilings for duct, pipe, and other equipment penetrations, including waterproofing enclosures, where applicable. The opening positions and dimensions shall be to drawings provided by the Sub-Contractor. If timber frames are required these shall also be detailed.

8.1.2 Equipment support plinths to details provided by the Sub-Contractor.

8.1.3 Building in of door grilles or weather louvres, to be supplied by this sub-contractor, to doors or walls were shown on the layouts.

8.1.4 Provision of plant areas, and plant enclosures.

8.1.5 Flashing around duct penetrations through roof slabs and roof sheeting.

8.1.6 Provision of undercuts under doors for air flow.

8.1.7 Provision of openings in glazing to enable the installation of window mounted extract fans. Full details are to be provided by this subcontractor.

8.1.8 Sealing of openings through the building, where applicable for gas and fire protection purposes.

8.2 By the Electrical Contractor

8.2.1 Suitably rated isolators within 1 meter of each continuous operation air extract fan and fresh air supply fan, to exact details supplied by the HVAC Sub-Contractor. Connections to fans fall under this contract.

8.2.2 Suitably rated isolators within 1 meter of each fan coil unit, to the detailed requirements of the HVAC Sub-Contractor.

8.2.3 Power supply cables of sufficient free length to each HVAC equipment, suitably rated for the required load. Connection of the cables to the control panels, as well as all further electrical and control elements to the systems fall under this sub-contract.

8.2.4 Conduit links between fan coil unit remote control stations, HVAC system remote control points, remote sensors, and the ceiling spaces directly above them. Remote control stations, as well as all wiring between them and the relevant equipment via the ceiling spaces, fall under this sub-contract.

8.2.5 5A socket outlets in roof spaces to feed ceiling mounted extract fans.

8.2.6 A 13A fused plugtop at each Variable Volume diffuser outlet.

8.2.7 Power supply cable of sufficient free length to the HVAC VRV outdoor plant enclosures, suitably rated for the required load. Connection of the cables to the control panels, as well as all further electrical and control elements to the systems and particularly to the evaporating units, fall under this sub-contract.

8.2.8 A suitable isolator within 1 meter of each hideaway unit. Connections between the isolators and the units fall under this contract.

8.2.9 Power supply cables of sufficient free length to each steam non-storage calorifier plant area, suitably rated for the required load. Connection of the cables to the control panels, as well as all further electrical and control elements to the systems fall under this sub-contract.

8.2.10 Power supply cables, of sufficient free length to each hideaway unit, suitably rated for the required load. Connection of the cables to the control panels, as well as all further electrical and control elements to the systems fall under this sub-contract.

9.0 SITE VISIT

It is a specific requirement of this contract that Tenderers visit the site prior to submitting a tender to familiarize themselves with the exact nature and scope of the work to be done.

No claims stemming from the non-compliance with this requirement will be entertained.

10.0 HIDEAWAY UNITS

Ducted hideaway units are required to provide conditioned air to the building. Heating shall be via reverse cycle refrigeration. Each hideaway unit shall be connected to a BS unit that will be responsible for heat recovery and simultaneous heating and cooling. The units shall be sufficiently silent when operational to ensure that the sound levels specified earlier are met.

Condensate drains shall be run in 50mm diameter galvanized steel piping to a drain point in the plant areas as shown on the drawings and shall incorporate the necessary drain traps.

Supply air fans shall be directly driven via speed-controlled motors, capable of delivering the specified air flow at the required external static pressure. General construction shall comply with SANS and ASHRAE standards. Fan speed control shall be via a pressure sensor in the supply air reticulation.

The outdoor unit shall be provided with service access and air movement clearances in strict accordance with the equipment manufacturer's specifications and, where located above a waterproofed surface a minimum clearance of 200mm shall be provided between the supporting brackets or frameworks and the waterproofed surface. The position of the outdoor unit must be such that the shortest possible pipe runs are achieved between the indoor and outdoor sections.

Suction lines shall be insulated as specified. Suction and liquid lines may not be insulated grouped together as for a single line. Vapor barrier integrity will be critical to prevent dripping. On reverse cycle unit the two refrigerant pipes shall be insulated separately.

Particular care shall be exercised to ensure that pipe work and cabling is run in straight lines and is sized and trapped in strict accordance with equipment manufacturer's requirements.

Refrigeration piping within the units must conform to SANS 10252-1.

Design of hideaway units were based on LG Manufacturing and equipment offered must be similar or equal approved.

Equipment shall in all instances be installed according to the manufacturer's requirements.

Unit capacities shall be as follows:

	Sensible Cooling kW	Total Heating kW	Design Air Flow m³/s	Air On Coil °CDB/CWB Cooling	Air Off Coil °CDB Cooling	Fan static Pressure Pa
HD-45	4.5	4.5	120	35/26	15	100
HD-56	5.6	5.6	270	35/26	15	100
HD-71	7.1	7.1	305	35/26	15	100
HD-112	11.2	11.2	450	35/26	15	100
HD-140	14	14	460	35/26	15	100
HD-160	16	16	545	35/26	15	100

HD-225	22.5	22.5	1128	35/26	15	100
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11 DUCTING AND DUCT FITTINGS

11.1 Rigid Ductwork

Supply and return air ducting shall be double skin insulated in the ceiling void, and where exposed to the weather and externally insulated in roof and ceiling spaces. The installation shall conform to SANS and ASHRAE standards.

Ducting shall be externally lined with 25mm Sonic Liner or equal. The duct dimensions given on the drawings are sheet metal dimensions and take internal insulation into account.

Exhaust and fresh air ducting shall be uninsulated and shall conform to the relevant SANS and ASHRAE standards.

Ducting will in all instances be left unpainted.

Where necessary, in order to balance air flows, duct mounted flow control dampers shall be provided, whether shown on the drawings or not. Balancing of air flows in branch ducts by means of throttling Opposed Blade Dampers on supply grilles will not be accepted. Air flow dampers may be of the opposed blade type (rectangular ducts) or butterfly type (round ducts).

11.2 Flexible Ducting

Flexible ducting to outlets served by the air-conditioning systems shall be insulated and of the attenuating type similar or equal to Europair Sonodec Type 25 A, with aluminium inner and outer skin, to achieve the necessary fire rating in terms of SANS 10400 with both inside and outside membranes must be fire-rated aluminium skin.

Flexible extract air ductwork on all extraction systems must be sound-attenuating and both inside and outside membranes must be fire-rated aluminium skin.

In order to achieve sound attenuation, these connections must be at least 2 meters long.

11.3 Supply Air Diffusers

Supply air diffusers to constant air volume systems shall be of the constant volume type suited in installation within a drop-in or plasterboard ceiling.

Supply air diffusers must be of the radial round adjustable type with a concentric reducer, flow damper and elbow and must be suited to installation a drop-in ceiling. Diffusers must be capable of distributing air in triple volume areas with throws between 8 and 10 meters. Diffusers must be similar or equal to Krantz Radial Outlets. General ceiling diffusers grilles shall have white baked enamel finish.

11.4 Weather Louvres

Provide weather louvers of the dimensions as shown on the drawings.

Louvres must be manufactured from steel, with epoxy powder coated finish as per the Architect's requirement.

All louvers must be provided with wire mesh screens.

11.5 Return Air Grilles

Return air grilles to the areas served by ducted central air conditioning systems must be of the fixed ceiling mounted aluminium return air grille type, suited to installation in a drop-in or plasterboard ceiling.

Return air grilles shall comprise return air plenums with grilles of the single deflection type, of dimensions such that they can be installed in a drop-in ceiling. Return air grilles must be fitted with sheet metal plenum boxes with spigot connections for flexible ducting as indicated on the drawings.

Return air grilles serving hideaway unit evaporators shall comprise return air plenums with grille/filter combinations of the egg crate type, of dimensions such that they can be installed in a plasterboard ceiling. Filter media shall be as specified earlier for slide-in filters to hide-away air-conditioning units. The filter must be housed in a hinged section of the grille with unobstructive fastenings, suited to easy removal of the filter for cleaning purposes. Return air plenums shall connect to the return of the hideaway units via flexible ducting as specified elsewhere.

Return air grilles shall have white baked enamel finish unless otherwise specified by the architect.

11.6 Fire Dampers

Fire dampers must be provided where indicated on the drawings.

Actuation must be via fusible link.

711 Exhaust Grilles

Exhaust air grilles to the areas served by ducted extraction systems must be of the fixed ceiling mounted aluminium eggcrate type, suited to installation in a drop-in or plasterboard ceiling.

Exhaust grilles shall be of the type suitable to installation within double brick walls shall include connection to extract ducting. Exhaust grilles shall have a powder coated finish in a colour to suit the architect.

11.8 Circular Sound Attenuators

Circular sound attenuators must be suited to outdoor installation and must match the dimensions of the ducting that they reside in.

Sound attenuators must meet the noise levels specified earlier and must be of proprietary make.

11.9 Door Grilles

- a) Supply and install as indicated, door grilles transferring the air quantities stated as shown on the drawings.
- b) The door grille shall be a fully catalogued.
- c) Special care shall be taken in transport, delivery, and storage on site to ensure that the door grilles are installed and maintained in "as new" condition at start-up of the installation.
- d) The door grille shall be aluminium and of the "no sight core" type and shall be finished in an epoxy powder coating to an approved colour (colour – if required by Architect).

12 FANS

12.1 Wall Exhaust Fans

Where shown, roof extract fans must be of the kerb mounted axial flow type, with horizontal discharge.

Fan duty is shown on the drawings.

Fans must comply with the specified noise levels.

15.2 Axial Flow Fans

These fans are shown on the drawings together with their related sound attenuators.

Fan duty is shown on the drawings.

Fans must comply with the specified noise levels.

16.0 CONTROLS – HIDEAWAY UNITS SYSTEMS

16.1 General

The control of the entire HVAC system must be microprocessor based, from a weatherproof main control panel installed adjacent the plant on the roof over. The control panel shall contain the following as a minimum:

- Main isolator
- Fused switches or circuit breakers for all equipment fed from it. (Includes reheaters in air outlets)
- Voltmeter
- Ammeter for each phase
- All control and electrical equipment to achieve controls as specified hereunder.

It is a requirement of the tender that all the HVAC equipment must restart automatically after a power failure. The control panel must incorporate the necessary contactors in order to receive a 24V DC signal from the Fire Alarm System and switch off the supply air fans to the hideaway units.

The tender must allow for the entire control system complete with all the required interconnecting wiring and wire ways, to be run along the most suitable routes, and taking into account other services.

Although not required at this stage, it must be possible in the future to link the entire control system to a Building Management System (BMS).

The equipment offered may match the manufacturer of existing equipment on site for ease of maintenance.

16.2 Control of Hideaway Ducted Fan Coil Units

General layout and positions of control sensors and set point adjustment points are shown on the project drawings. Controls shall be electronic, and temperature set points adjustable between 20°C and 24°C room temperature, with normal set point being 22.5°C room temperature. Temperature tolerance shall be $\pm 0.5^\circ\text{C}$ dry bulb.

Return air temperature sensors mounted in the conditioned space, where shown on the drawing, shall compare average temperatures measured, with that of the set point, and where the room temperatures are higher than the setpoint, they shall control the compressors and requisite refrigeration circuitry of the hideaway units in order to achieve the setpoint. Where sensed room temperatures are lower than the setpoint, the hideaway unit shall switch over to heating and control the unit in order to achieve setpoint.

Individual temperature sensors shall control variable volume diffuser damper motors. These controllers shall sense duct air temperature as well, and switch to reverse acting during cold periods, thereby increasing hot air supply to the space, if required. Where shown, one controller shall operate a number of diffuser dampers in a zone. Power supply to damper motors and control wiring and sensors to reheaters shall be via suitable circuit breakers and cables fed from the control panel, as part of this contract.

Pressure sensors installed at the ends of the major duct runs must control the fan motor speed. Fan speed must be varied to provide a constant pressure in the supply air network, irrespective of filter condition or variable volume outlet damper position.

The hideaway unit fan speed control units must be built into the main control panel and fitted with all the required alarm and airflow sensing components.

17 CONTROLS – VENTILATION FANS

17.1 Control of Wall Mounted Exhaust Fans

Fans shall be rated to run continuously.

17.2 Control of Axial Flow Fans

Fans shall be rated to run continuously.

18.0 PAINTING

All normally visible ducting and accessories, other than that manufactured from stainless steel, shall be thoroughly degreased and painted with a suitable primer and two finishing coats of gloss enamel to a colour to be selected by the Architect.

19.0 COMMISSIONING

The plant shall be commissioned and tested in the presence of the Engineer. All instruments and materials required for testing shall be provided by the Contractor.

Two copies of the complete test reports giving details of water temperatures attained, flow rate, power consumed, etc., shall be prepared and submitted to the Engineer prior to first delivery of the project.

20.0. GUARANTEE AND MAINTENANCE

The Sub-Contractor shall guarantee the entire installation against faulty materials or workmanship for a period of 12 months from date of acceptance.

The date of acceptance shall be that appearing in the Practical Completion Certificate issued by the Engineer and shall define the start of the guarantee period and free maintenance period.

Individual items of equipment must be covered for the same period, from the same date, irrespective of when they were delivered. Sub-contractors must negotiate these conditions with their suppliers.

The date of acceptance shall be that appearing in the Acceptance Certificate issued by the Engineer and shall define the start of the guarantee period and free maintenance period.

The Sub-Contractor shall be responsible for all maintenance and servicing of the installation for the full 12-month guarantee period. During this period, the Sub-Contractor shall make good any defects due to inferior materials or workmanship and maintain all plant and equipment in perfect operating condition.

The Sub-Contractor shall be entirely responsible for carrying out regular inspections at intervals not greater than 3 months, and for full servicing of all components of the installation in accordance with the manufacturer's instructions.

For this purpose, the Sub-Contractor shall prepare a detailed inspection and service report in the form of a checklist showing all functions to be carried out at each inspection and service. Copies of these service reports shall be regularly submitted to the Client's authorized representative after each service.

The Sub-Contractor shall allow for all expendable materials necessary for servicing, such as lubricating oils, grease, filters, and cleaning materials.

Three sets of Operating and Maintenance Manuals in hard copy format, and one in electronic format must be provided.

REFURBISHMENT OF THE HVAC SYSTEM AT THE ACSA AIRSIDE OFFICES SIDE OFFICE BUILDING

HEATING, VENTILATION AND AIRCONDITIONING (HVAC) INSTALLATION

SCHEDULE OF INFORMATION

To be filled in by Tenderers.

NOTE: All schedules, which accompany the tender notice, form an integral part of it and shall be duly completed in every detail, failing which the tender in question may be rendered ineligible for consideration. Under no circumstances will the following statements be accepted as answers:

"See attached pamphlets."

"Refer to catalogue"

"Data to follow" etc.

SPECIAL NOTE TO TENDERERS

Whenever an alternative or equal make or type of equipment is offered at the tendering stage, the Chief Directorate Works shall on the acceptance of the tender inform the Contractor in writing as to the make and/or type of equipment accepted.

Note, however, that the use of the word "or equal" is to be discouraged and could lead to the disqualification of the tender.

1. HIDEAWAY UNITS

1.1 General Information

Make and Model

Country of origin

Material, finish and construction of casing

Supplier of coils

Manufacturer and model of supply air fan

Method of fan speed control

Manufacturer of control equipment

Installer of control equipment

Primary filter make and model

Size (WxHxD) mm per panel

Filtration Standard

Size (WxHxD) mm per panel

Filtration Standard

1.2 Specific Information

1.2.1 HD-45 Hideaway Ducted Fan Coil Unit

Total cooling capacity (kW)

Sensible cooling capacity (kW)

Cooling Air on/off coil (°C DB/°C WB)

Heating capacity (kW)

Design air flow (m³/s)

Maximum static pressure (Pa)

Maximum Fan Speed (rpm)

Minimum Fan Speed (rpm)

Number of primary filter panels

1.2.2 HD-56 Hideaway Ducted Fan Coil Unit

Total cooling capacity (kW)

Sensible cooling capacity (kW)

Cooling Air on/off coil (°C DB/°C WB)

Heating capacity (kW)

Design air flow (m³/s)

Maximum static pressure (Pa)

Maximum Fan Speed (rpm)

Minimum Fan Speed (rpm)

Number of primary filter panels

1.2.3 HD-71 Hideaway Ducted Fan Coil Unit

Total cooling capacity (kW)

Sensible cooling capacity (kW)

Cooling Air on/off coil (°C DB/°C WB)

Heating capacity (kW)

Design air flow (m³/s)

Maximum static pressure (Pa)

Maximum Fan Speed (rpm)

Minimum Fan Speed (rpm)

Number of primary filter panels

1.2.4 HD-90 Hideaway Ducted Fan Coil Unit

Total cooling capacity (kW)

Sensible cooling capacity (kW)

Cooling Air on/off coil (°C DB/°C WB)

Heating capacity (kW)

Design air flow (m³/s)

Maximum static pressure (Pa)

Maximum Fan Speed (rpm)

Minimum Fan Speed (rpm)

Number of primary filter panels

1.2.5 HD-112 Hideaway Ducted Fan Coil Unit

Total cooling capacity (kW)

Sensible cooling capacity (kW)

Cooling Air on/off coil (°C DB/°C WB)	
Heating capacity (kW)	
Design air flow (m³/s)	
Maximum static pressure (Pa)	
Maximum Fan Speed (rpm)	
Minimum Fan Speed (rpm)	
Number of primary filter panels	

1.2.6 **HD-140 Hideaway Ducted Fan Coil Unit**

Total cooling capacity (kW)	
Sensible cooling capacity (kW)	
Cooling Air on/off coil (°C DB/°C WB)	
Heating capacity (kW)	
Design air flow (m³/s)	
Maximum static pressure (Pa)	
Maximum Fan Speed (rpm)	
Minimum Fan Speed (rpm)	
Number of primary filter panels	

1.2.7 **HD-160 Hideaway Ducted Fan Coil Unit**

Total cooling capacity (kW)	
Sensible cooling capacity (kW)	
Cooling Air on/off coil (°C DB/°C WB)	
Heating capacity (kW)	
Design air flow (m³/s)	
Maximum static pressure (Pa)	
Maximum Fan Speed (rpm)	
Minimum Fan Speed (rpm)	
Number of primary filter panels	

1.2.8 HD-225 Hideaway Ducted Fan Coil Unit

Total cooling capacity (kW)	_____
Sensible cooling capacity (kW)	_____
Cooling Air on/off coil (°C DB/°C WB)	_____
Heating capacity (kW)	_____
Design air flow (m³/s)	_____
Maximum static pressure (Pa)	_____
Maximum Fan Speed (rpm)	_____
Minimum Fan Speed (rpm)	_____
Number of primary filter panels	_____

2.1 OUTDOOR VRF HEAT RECOVERY UNITS**2.1.1 78.5 kW Total Cooling Capacity**

Make	_____
Model	_____
Country of origin	_____
Total cooling capacity (kW)	_____
Total heating capacity (kW)	_____
Method of heating	_____
Dimensions:	_____
Evaporator unit (LxWxH) mm	_____
Condensing unit (LxWxH) mm	_____
Power supply (V)	_____
Power consumption (W)	_____
Make and model of condensate pump	_____
Maximum delivery head (m)	_____

Is pump housed in trunking?	
Method of head pressure control	

2.1.2 **56 kW Total Cooling Capacity**

Make	
Model	
Country of origin	
Total cooling capacity (kW)	
Total heating capacity (kW)	
Method of heating	
Dimensions:	
Evaporator unit (LxWxH) mm	
Condensing unit (LxWxH) mm	
Power supply (V)	
Power consumption (W)	
Make and model of condensate pump	
Maximum delivery head (m)	
Is pump housed in trunking?	
Method of head pressure control	

2.1.3 **101 kW Total Cooling Capacity**

Make	
Model	
Country of origin	
Total cooling capacity (kW)	
Total heating capacity (kW)	
Method of heating	
Dimensions:	

Evaporator unit (LxWxH) mm

Condensing unit (LxWxH) mm

Power supply (V)

Power consumption (W)

Make and model of condensate pump

Maximum delivery head (m)

Is pump housed in trunking?

Method of head pressure control

3.0 AXIAL FLOW FANS**3.1 EF01 Fan**

Make and model

Country of origin

Diameter, mm

Air flow m³/s

Static pressure, Pa:

Power, V/kW:

3.2 EF02 Fan

Make and model

Country of origin

Diameter, mm

Air flow m³/s

Static pressure, Pa:

Power, V/kW:

3.3 EF03 Fan

Make and model

Country of origin

Diameter, mm

Power, V/kW:

Air flow m³/s

Static pressure, Pa:

Power, V/kW:

4.0 WALL-MOUNTED MOUNTED EXHAUST FAN**4.1 WF01 Fan**

Make and model

Type

Country of origin

Diameter

Air flow (m³/s)

Pressure at above air flow (Pa)

Make & model of fan speed controller

5.0 DUCTING AND DUCT FITTINGS**5.1 Rigid Ducting**

Supplier of double skin ducting

Supplier of insulated ducting

Installer of insulation

External insulation make & type

Vapor barrier type

Materials of insulated flexible ducting : (inner skin, insulation, outer skin)

Supplier of uninsulated ducting

Method of support

Manufacturer of Stainless-Steel ducting

5.2 Weather Louvres

Make

Model

Country of origin

Insect mesh?

5.3 Exhaust Grilles

Make

Model

Country of origin

5.4 Round Sound Attenuators

Make

Model

Country of origin

5.5 Controls and Electrical

Controls sub-contractor

Make & model of PLC

Male & model of control valves

Control valve voltage (V)

Supplier of Control panels

Supplier of Temperature sensors

Supplier of Humidity sensors

Supplier of Pressure sensors

Supplier of Variable speed drives

Make of contactors

Make of circuit breakers

Fault level of equipment offered (kA)

6.0 COMPANY PROFILE

Name of Tenderer: _____

Physical address: _____

Tel. No: _____ Fax No: _____ e-mail: _____

Type of Firm: _____

Company registration number: _____

VAT registration number: _____

VAT registration certificate: _____

Number of years firm has been in business: _____

Directors/Partners/Members, etc. _____

Initial	Surname	Sex	% Holding	HDI (Yes/No)

Number of employees: _____ Full time staff: _____ Part time staff: _____

Principal business: _____

Name of Bank: _____

Contact Person: _____

Branch: _____

Account Number: _____

7.0 PREVIOUS OR PAST SIMILAR WORK DONE

<i>Project Name</i>	<i>Contract Value</i>	<i>Completion Date</i>	<i>Reference</i>	<i>Tel No.</i>
1.				
2.				
3.				
4.				

8.0 INSURANCE POLICIES

Name: _____

Broker: _____

Underwriter: _____

Policy No.: _____

Validity Period: _____

Amount of Cover: _____

9.0 NAME AND ADDRESS OF TENDERER

_____	Signature of Tenderer's Authority Signatory	
_____	Name : _____	
_____	Signature : _____	
Tel. No. _____	Fax No. _____	Date : _____

C3.3. PROCUREMENT

C.3.3.1. Preferential Procurement Procedures The Works shall be executed in accordance with the Tender requirements and submitted by the Contractor in his Returnable Schedules.

C.3.3.2. Subcontracting

The Contractor shall provide any necessary facilities to manage any of their subcontractors to ensure that the works allocated to them are carried out in accordance with:

- The programme of works
- The contract requirements and
- In particular, the requirements concerning access to and from the airport facilities at the beginning and end of working shifts. The Contractor shall also ensure that the Sub-Contractor complies with all

the requirements as contained in the Contract Documentation and, in particular, the Safety Plan, Environmental Management Plan and Operational procedure requirements.

C3.5. PROCUREMENT

1. Preamble

In terms of Construction Regulation 5(1) of 2014 of the Occupational Health and Safety Act, (Act 85 of 1993), Airports Company of South Africa, hereinafter referred to as 'ACSA' as the Client, is responsible the Mechanical and Electrical services for the refurbishment of the HVAC in the Airside Side Office Building at Airport Company of South Africa (ACSA) – Cape Town in the Western Cape province.

Every effort has been made to ensure that this specification document is accurate and adequate in all respects. Should it, however, contain any errors or omissions they may not be considered as grounds for claims under the contract for additional reimbursement or extension of time, or relieve the Principal Contractor from his responsibilities and accountability in respect of the project to which this specification document pertains. Any such inaccuracies, inconsistencies and/or inadequacies must immediately be brought to the attention of ACSA.

2. Description of the works

Project Details

The Construction of Mechanical HVAC installation, and associated Electrical Services for the refurbishment of the ACSA Airside Office Building

The major construction activities to execute the above defined scope entails the following:

- Site establishment
- Gate enablement
- Security
- Clearing of site
- Site needs to be properly demarcated/secured as per client's ACSA Hoarding Specification
- Offloading of containers/site office
- Secure / safe storage of material, plant & equipment
- Adequate eating & changing facilities.
- Vehicle access to site and accommodation on airside
- CoC for temporary electrical supply
- Safe access i.e. entry and exit points for all deliveries with adequate control measures is required,

3. Scope of Health and Safety Specification document (Site Specific)

These specifications should be read in conjunction with the South African National Standards (SANS) 2020 and all other regulations and safety standards which are in force or come into force during the effective duration of the project. The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any stipulation of the standards, regulations and safety standards which are promulgated under, or incorporated into the standards.

The Manual of procedure For Working on the Airside, Volume 5, (Appendix D) is a Procedure Manual for the Contractor's establishment and working airside to guarantee and safeguard the continuous operation of the airport at all times. This document is complimentary to the Tender Document (Volume 3) and should be used for easy reference working airside. Information provided in this document will affect the Contractor's programme.

Manual for Working on Airside

The Contractor shall not commence with any establishment or construction work on the airside unless the Contractor:

- Is fully conversant with the contents of this document and it has been signed and implemented by the parties.
- His staff moving on the airside outside demarcated work areas is escorted by a person duly authorised by ACSA to assist and guide the Contractor.
- Comply with the regulations of the Occupational Health and Safety Act and Regulations 85 of 1993 Full Version.

The Contractor shall be subject to various procedures as listed below to guarantee and safeguard the operation of the airport at all times. This document forms part of the contract documentation as listed in the Tender Data. This Volume must be read in conjunction with Volumes 3 and 4.

4. Definitions and Acronyms

The definitions as listed in the SANS documents shall apply. Therefore, all references to the old Construction Regulations will change to the new Construction Regulations.

Health and Safety Specification: means a document that includes information required under the construction regulation and obtained from the clients and designers during the early planning and design stage for a specific project on a specific site for use by the contractors when preparing their tenders or bids to clients;

Health and Safety Plan: means a document which is site specific and includes all identified hazards, safe work procedures to mitigate, reduce and control the hazards identified in a project;

Agent: means any person who acts as a representative for a client;

Competent person: means a person who.

- a) has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the. National Qualification Framework Act, 2008 (Act No.67 of 2008), those qualifications and that training must be regarded as the required qualifications and training and;
- (b) is familiar with the Act and with the applicable regulations made under the Act.

Construction manager: means a competent person responsible for the management of the

physical construction processes and the coordination, administration, and management of resources on a construction site;

Construction Work: is defined as any work in connection with –

- (a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- (b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;
- (c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- (d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

Contractor: means an employer, as defined in Section 1 of the Act, who performs construction work and includes Principal Contractors;

Designer: means

- (a) a competent person who
 - (i) prepares a design;
 - (ii) checks and approves a design;
 - (iii) arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
 - (iv) designs temporary work, including its components;
- (b) an architect or engineer contributing to, or having overall responsibility for a design;
- (c) a building services engineer designing details for fixed plant;
- (d) a surveyor specifying articles or drawing up specifications;
- (e) a contractor carrying out design work as part of a design and building project; or
- (f) an interior designer, shop-fitter or landscape architect;

Accident: means unplanned occurrence that happens due to the unsafe condition and may cause injury to a person, damage to the property, material, plant, equipment and the environment;

Hazard: means anything including work activities and practices with the potential to cause harm;

Risk: means the likelihood that harm will occur and the subsequent consequences.

Risk assessment: means a process to determine any risk associated with any hazard at a construction site in order to identify the steps needed to be taken to mitigate, reduce or control such hazards;

Health and Safety File: means a file, or other record in permanent form, containing the information required a contemplated in the regulations;

Health and safety plan: means a site, activity, or project specific documented plan in accordance with the client's health and safety specification;

Medical certificate of fitness: means a certificate contemplated in Construction Regulation 7(8);

Mobile plant: means any machinery, appliance or other similar device that is able to move independently and is used for the purpose of performing construction work on a construction site.

Principal Contractor: means an employer appointed by the client to perform construction work.

Structure means:

- a) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- b) any falsework, scaffold or other structure designed or used to provide support or means of access during construction work; or
- c) any fixed plant in respect of construction work which includes installation, commissioning, decommissioning, or dismantling and where any construction work involves a risk of a person falling.

Temporary works: means any falsework, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work.

List of abbreviations

AIA	Approved Inspection Authority
ACSA	Airports Company of South Africa
BOQ	Bill of Quantities
BCEA	Basic Conditions of Employment Act
CHS	Construction Health and Safety
CHSA	Construction Health and Safety Agent
CHSM	Construction Health & Safety Manager
CHSO	Construction H&S Officer
CoF	Medical Certificate of Fitness
COIDA	Compensation of Occupational Diseases Act
CM	Construction Manager
CR	Construction Regulations (Gazette 10113 of 7/02/2014)
CWP	Construction Work Permit
DoL	Department of Labour
EMP	Environmental Management Plan
ER	Engineer's Representative
HIRA	Hazard Identification Risk Assessment
H&S	Health and Safety
OHP	Occupational Health Practitioner
OHS	Occupational Health and Safety
OHSA	Occupational Health and Safety Act No. 85 of 1993 (as amended)
OH&S	Occupational health and safety.
PC	Principal Contractor
PCM Act	Project and Construction Management Act
Pr. CHSA	Professional Health & Safety Agent
PPE	Personal Protective Equipment
RE	Resident Engineer
SANS	South African Bureau of Standards (Authority)
SACPCMP	South African Council for the Construction and Project Management Professions
SETA	Sector Education and Training Authority
SWP	Safe Work Procedure

5. Construction Work Permit

ACSA shall ensure that the Construction Work Permit (CWP) is available prior to any Principal Contractor commencing any form of construction work on site. ACSA will provide a copy of the CWP to keep in the health and safety file. All construction health and safety aspects as they relate to the overall requirements will be managed through the ACSA Project Manager. The Project Manager will ensure that all the statutory requirements are adhered to by the Principal Contractors and their Contractors at all times.

A client may appoint a Mechanical Resident Engineer based on the scope and complexity of construction work to represent him/her on technical matters on site. Provided that, where the question arises as to whether a full time on-site Mechanical Resident Engineer is necessary, the decision of an inspector is decisive.

The following minimum documentation will be required during the permit application process:

- Principal Contractor 's Health and Safety Plan CR5(1)(m)
- Baseline Risk Assessment CR5(1)a
- Appointed Principal Contractor's Letter for Good Standing as per CR5(1)(j).
- Issue Register signed by Designer CR 5 (1)(c).
- Issue Register signed by Principal Contractor.
- Declaration signed by Designer CR 5 (1)(d) and CV.
- Principal Contractor made adequate provision for the cost of health and safety measures (Bill of Quantities) CR5 (1) (d) and CV.
- Proof of Principal Contractor's competency and resources to carry out the construction work safely CR 5 (1) (h).
- Appointment Letter for Construction Manager, CV, Certificates and List of projects
- Appointment Letter of Safety Officer & Safety Officer's Registration for SACPCMP
- Principal Contractor's Appointment Letter CR 5(1)(k)

After approval of the Construction Work Permit any Changes to the appointed persons on the annexure 1 must be submitted to Department of Labour for approval before the appointed persons are allowed to commence with their tasks.

6. Duties of the Principal Contractor and Contractor

Assignment of Contractor' s responsible persons to manage Health and Safety on site.

The contractor shall submit management and supervisory appointments as well as any relevant appointments in writing (as stipulated by the Construction Regulations 2014 and the Occupational Safety and Health Act 1993), prior to commencement of work (refer to Annexure C)

Client (Referred to here as: Airports Company of South Africa (ACSA))

- a) ACSA or its appointed Agent on its behalf will appoint each Principal Contractor for this project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations.
- b) ACSA or its appointed Agent on its behalf shall discuss and negotiate with the Principal Contractor the contents of the programme of works of both Principal Contractor and Contractor for approval.
- c) ACSA or its appointed Agent on its behalf will take reasonable steps to ensure that the programme of both the Principal Contractor and Contractor is implemented and maintained. The steps taken will include inspections at intervals of at least once every month.

- d) ACSA or its appointed Agent on its behalf, will prevent the Principal Contractor and/or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:
- have failed to produce a detailed programme of works.

Principal Contractor

- a) The Principal Contractor shall accept the appointment under the terms and Conditions of Contract. The Principal Contractor shall sign and agree to those terms and conditions and shall, before commencing work ensure that they receive a copy of the construction work permit from ACSA or its appointed Agent.
- b) The Principal Contractor shall ensure that he is fully conversant with the requirements of this Specification.
- c) The Principal Contractor will in no manner or means be absolved from the responsibility to comply with all applicable sections of the relevant building standards, the Construction Regulations or any Regulations proclaimed under the Act, or which may perceivable be applicable to this contract;
- d) The Principal Contractor shall provide and demonstrate to ACSA or its appointed Agent a suitable and sufficiently detailed programme based on this specification, the Act and the Construction Regulations 2020, which shall be applied from the date of commencement of and for the duration of execution of the works. This plan shall, as appendices, include the health and safety plans of all sub-contractors for which he has to take responsibility in terms of this contract;
- e) The Principal Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the works;
- f) The potential Principal Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified requirements, the Act and Construction Regulations.
- g) The Principal Contractor shall consistently demonstrate his competence and the adequacy of his resources to perform the duties imposed on the Principal Contractor in terms of this Specification, the Act and the Construction Regulations;
- h) The Principal Contractor shall from time to time evaluate the accuracy of the programme and revise as required, following which revised plan shall be submitted to ACSA for approval;

Contractor

The Contractor must demonstrate to the Principal Contractor that he has the necessary competencies and resources to perform the construction work safely.

7. OHS Mandatory Agreement

A duly signed mandatory form also referred to as 'OHS Act section 37.1' must be obtained from ACSA Safety Department (Refer to Annexure I). It must be signed and returned to ACSA by the Principal Contractor at least 10 days prior to commencement of construction work. The Principal Contractor must ensure that all its contractors have completed a similar document, and a proof of such signed documents is submitted to ACSA For reference purposes.

8. Notification of Intention to Commence Construction Work

Not Applicable to the nature and magnitude of this construction project.

9. Project Directory

1.5 Project Directory		
Project Client Contact Person	ACSA _____	Tel: Cell: Email: TBC
Mechanical Engineer Contact Person	2BLN _____	Tel: Cell: Email: TBC
Electrical Engineer Contact Person	2BLN _____	Tel: Cell: Email:
Safety Department (ACSA) Contact Person		Tel: Cell: Email:
Fire and Rescue Department (ACSA)		
Other Person with a Design Input Contact Person		Tel: Cell: Email:
Safety Agent Contact Person	2BLN _____	Tel: Cell: Email: _____

10. Project Construction Duration

- Anticipated Construction Duration: *TBA*
- Provisional Start Date: *TBA*
- Completion Date: *TBA*
- Construction Work Permit Required for the Project: *YES*

11. Project Health, Safety, and Security Requirements

The following are significant health and safety hazards identified by Safety Agent during the review of the Design stage documentation:

Access and Security Permits: No worker will be allowed to gain access to airside without the proper induction, training or security clearance. Access permits must be visible at all times. Any worker failing to comply will be removed from site. Closures of runways and bus ways must be conducted by ARFFHOD. AVOP licence will be required for driving airside. Note that contractor's personnel may not walk across taxi ways. The available construction window is approximately 4 to 5 hours (excluding setup and cleaning \inspection for each shift). Construction delays as a result of airport operations infringing on the construction window period should be communicated timeously to the Contractor, in order for him to plan accordingly.

Further discussions regarding night-time cargo flight schedules need to be undertaken. During each shift, the contractor will be required to demarcate the construction work area as per the ICAO guidelines. Runway closures will be confirmed by Air Traffic Navigation Services (ATNS) and managed by the contractor. The traffic accommodation routes for the construction personnel will be provided during construction and managed by the appointed traffic safety officer. A contractor must allow and price for his own personnel to be trained and certified for Practical Radio Telephony and Airside Competency (PARTAC), in order to mitigate the risk of available escorts from ACSA to assist with construction shift escorting. The work zones will be closed unless there is an emergency. In the event of an emergency the runway will be cleared. All work on runway and taxi lane is limited to nighttime work only. There will be limited day time work for establishment, any clearing, etc.

Hot Works: Hot works may only be carried out after a permit has been issued by the fire and rescue department of ACSA. No hot works may be carried out in any re-fuelling areas;

General Safety: Please note that all construction works areas MUST Be securely barricaded off against unauthorized access by member of public and airport staff;

Existing live services: There are above ground and underground services present in the works areas. All necessary precautions must be taken to prevent accidental contact with these services, to prevent damage or risk of causing injury during the construction process;

Electrical work: Delivery of materials and the safe movement of construction vehicles will be controlled by means of a traffic management plan to alleviate any congestion or interference with the public delivery roads for entry/exit. Where parking bays are closed airside to facilitate safe working procedures by the contractor, the relevant department at CSA must be contacted to obtain approval for such closure;

Existing Environment: *Hazards particular to this project by virtue of location:*

The site is located in Kimberley Airport (airside). Protection of members of the public and site security are of the utmost importance. All necessary preventative measures must be in place to ensure the safety of members of the public and airport personnel;

Overhead, Above Ground and Underground Services Crossing the Site:

Overhead: scaffolding, cranes, and equipment.

Underground: no underground services will be installed/altered for this project.

Ground level: Decanting, construction vehicles, cranes, and equipment delivery/storage.

Service Drawings available: Yes.

Wayleaves required: Not Applicable

Permits Required: Security Access for airside and hot works permits will be required.

Isolation required: Please refer to OHS Contractor Site Induction training.

Restriction to Access: Access to airside is through the security-controlled access. Only construction vehicles and personnel authorised and having attended ACSA Induction process and having possession of the appropriate permit from ACSA will be allowed to site. AVOP license will be required for driving airside (Medical will be required).

Speed Restrictions: Airport speed limits to be adhered to.

Other construction hazards expected are as follows:

- Cutting off Disc
- Electrical Commissioning
- Electrical Tools and Electrical Installations
- Flammable Liquids / Gas
- Hand tools
- Hazardous Substances
- Hot Works
- Manual Handling of General items
- Noise and Dust
- Plant/Vehicle and Equipment Operation
- Road working- in or next to (Only approved permits holders will be allowed on site
- Underground Services

12.Arrangements for Access, Parking, Deliveries, ETC

Access to site by Construction Vehicles: Only approved drivers with permits will gain access to airside. Contractor's vehicles will be inspected at those points.

Access to site by Construction Workers and Visitors: All visitors to make arrangements prior to visiting site to gain access. All visitors to follow ACSA Airside security procedures. Selected contractors and delivery vehicles with permits will be allowed access to site.

13.Arrangements for Site Camp, Ablutions and Yard

The tender's attention is drawn to the '*Part C3 SCOPE OF WORK: Part 5 - Contractor's camp site and office accommodation for supervisory staff*' section of this project RFP document that further refers to site establishment and logistics for site camp and airside specifics.

Site camp location and set up

- *Restrictions / requirements:*
- *Storage areas:*

- **Security:** The tender's attention is drawn to the 'SITE INFORMATION' pack that further refers to site establishment and logistics for site camp and airside specifics. The site information pack can be obtained from ACSA.

NOTE: Contractor to advise in consultation with Project Client

Ablution and Welfare Arrangements

Contractor to supply ablutions and facilities in line with the Construction Regulations 2014, refer to section 2.31 of this health and safety specification regarding the below. Please note that toilets should be provided with built in facilities for handwashing:

- Toilets
- Washing facilities
- Drinking Water
- Shelter
- Showers

14. Protection of Site Against Unauthorised Access by Public

Excavation Fencing: Note that excavations accessible to public, or adjacent to public roads / thoroughfares, must have (1) barrier/ fence of at least 1m in height, and (2) warning illuminates at night or when visibility is poor, or have other suitable precautionary measures if of both these are not practicable.

General Fencing of Site: Note that construction sites in built up areas adjacent to public way must be fenced off and have controlled access points. All fencing/hoarding must be painted as per ACSA requirements and be FOD approved.

Warning Notices: warning signs must be properly displayed as per requirements. Signs to be FOD approved and properly secured.

15. Personal Protective Equipment (PPE)

The Client requires the Contractor to ensure that employees (and others under his/her control) wear personal protective equipment as defined in the ACSA PPE Policy (refer to B080 001M Airside Personal Protective Equipment, Version No: 14) The following minimum PPE must be worn:

Overalls: Yes, all workers must be clearly identifiable

Safety Harness: Yes, must be worn when working at heights.

Hard hats: Yes, must be always be worn.

Reflective Vests: Yes, all workers must be clearly visible.

Safety Footwear: Yes, must be always be worn.

Goggles / gloves / ear defenders / respiratory protection: Yes, must be worn at all times as activity requires.

Specialist Equipment (e.g.: for Confined Spaces): TBA

16. Interface and Restrictions by Client

Contractor must note that the following activities will continue during construction:

- Terminal and Airport operations will continue during construction works.
- Construction works may not interfere with the safe operation of the airport.
- All necessary permits required by ACSA to be in place must be in place before any works commence.

Please note that it is a strict requirement that ACSA's safety specification requirements are also complied with.

The following Client Rules and / or requirements are to be observed:

- All workers are to receive AIT and VOP induction prior to commencement of works onsite.
- No workers will be allowed onsite without his / her permit. Escorts may be available
- Other safety rules and requirements to be advised at induction.

Please also refer to tender documents.

Please note the following:

- Closed skips to be used for storage of debris and materials,
- Safety signage must be clearly stipulated access routes. PPE signage (hardhats, safety shoes, ear and eye protection, safety harnesses and high visibility vests) must be displayed.
- Clearly display emergency numbers and procedures.
- No material may be in place for the usage of the crane onsite as per AVSEC and CAA requirements.
- Warnings signs to be displayed for all ACSA approved vehicles.
- Restrictions on times, access, or other restrictions by Client.

Because construction work must be conducted with minimal disruption to airport operations, restrictions may be imposed that will determine the times that work impacting conducted and the length of the work shift. Extended Contractor Construction hours for work impacting on operations and passenger comfort will be set in accordance with flight schedules and off-peak periods, Cartage of waste material and deliveries of material will only be allowed during off-peak hours as stipulated. The delivery and erection of unusual loads will be subject to protocols developed to comply with ACSA requirements. Penalties will apply for working outside working hours as deemed appropriate by ACSA.

17. Project Close Out

The Mechanical as-built drawings for the Principal Contractors and all Contractors require closure and handover to the Client at the completion of the project in the form of a consolidated construction file. The following list is an example of what should be included but is not exhaustive. The Client may require further information at the time of completion and the Principal Contractor is to ensure that all instructions are responded to. Documentation would include all equipment information and shop drawings.

Consolidated Mechanical close out file requirements include:

- Method Statements
- Risk Assessments.
- Copies of all Checklists completed.
- As-built drawings.
- Shop drawings.

18.Safety File Return to Client

The consolidated Health and Safety File for the Project is to be handed over by the Principal Contractor to the Client upon Project Completion in either hard copy or electronic format.

19.Construction Resident Engineer

This project requires the appointment of a full-time Construction Health and Safety Officer, appointed in terms of Construction Regulation 8(5). This appointee should be duly registered and in good standing with a statutory body approved by the Chief Inspector as is required by Construction Regulation 8(6).

The South African Council for Project and Construction Management Professions (SACPCMP) is currently the statutory body responsible for the professional registration of construction health and safety officers and a copy of the appointee's SACPCMP's registration certificate should be submitted as part of the Principal Contractor's health and safety plan and be readily available in the health and safety file to be kept and maintained on site.

20.Duties and functions of the Resident Engineer

The Principal Contractor must ensure that the designated occupational health and safety representatives conduct a weekly inspection of their respective areas of responsibility, using a checklist, and report thereon to the Principal Contractor.

Occupational health and safety representatives must be included in accident and/or incident investigations. Occupational health and safety representatives must attend all occupational health and safety committee meetings.

21.Health and Safety Training/Induction

Induction

No Contractor may allow or permit any employee or person to enter site unless they have undergone health and safety induction training pertaining to the hazards prevalent on site at the time of entry. This includes visitors to site. The Contractor must ensure that visitors to site have the necessary protective equipment (PPE). A copy of attendance registers of all employees who attend inductions shall be kept.

Awareness

The Principal Contractor shall conduct periodic toolbox talks on site, preferably weekly or before any hazardous work takes place. These talks should deal with risks relevant to the construction work at hand. A record of attendance shall be kept in the health and safety file. All Contractors have to comply with this minimum requirement. The contractor shall inform all employees and or members of the public, who may be affected by the activities and who will most likely be exposed to the hazards identified of all precautionary measures to be taken.

Competency

All competent persons shall have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control or carry out. This will have to be assessed on regular basis e.g., periodic audits by ACSA, progress meetings, etc. The Principal Contractor is responsible to ensure that competent Contractors are appointed to carry out construction work. After the Contractor has identified the training to be conducted as part of the competency requirement, and based on Risk Assessment, he shall

send the relevant persons on appropriate courses and keep certificates of training for reference. Familiarity with the Health and Safety Act and Regulations is an integral part of the definition of competence.

22.Public and Site Visitor Health and Safety

Both ACSA and the Principal Contractor have a duty in terms of the OHS Act to do all that is reasonably practicable to prevent members of the public and site visitors from being adversely affected by the construction activities.

The Principal Contractor shall ensure that every person working on or visiting the site, as well as the public in general, shall be made aware of the dangers likely to arise from site activities, including the precautions to be taken to avoid or minimise those dangers. A record of these inductions or briefings shall be kept in the project health and safety file in accordance with the Construction Regulations. Appropriate health and safety notices and signs shall be posted up, but this shall not be the only measure taken. The construction site shall be suitably and sufficiently fenced off or barricaded and or provided with controlled access points to prevent the entry of unauthorized persons.

23.General Record Keeping

The Principal Contractor and all Contractors shall keep and maintain health and safety records to demonstrate compliance with this specification, with the OHS Act 85/1993, Construction Regulations 2014 and any other legislation applicable on site. The Principal Contractor shall ensure that all records of incidents/accidents, training, inspections, fines, audits, etc. are kept in a health and safety file held in the site office. The Principal Contractor must ensure that every Contractor opens its own health and safety file, maintains the file and makes it available on request. The Principal Contractor shall maintain an up-to-date register of each Contractor engaged in construction work on site giving the Contractors' name and the Responsible Persons' contact details and the number of employees on site. As these details may be subject to frequent change, the register must be updated at least weekly. The register is to be available for inspection. The Contractor shall keep and maintain Health and Safety records to demonstrate compliance with the Health and Safety Specification and the Occupational Health and Safety Act. All documents shall be available for inspection by the Client, or the Department of Labour's Inspectors.

Records to be Kept Onsite: The Principal Contractor must be aware of the following requirements

ITEM	CR	RECORD TO BE KEPT	RESPONSIBLE PERSON
1.	4(1)	Notification to Provincial Director – Annexure A Available on site	Contractor
2.	4(1)(m)	Copy of Principal Contractor's Health & Safety Plan Available on request	Client (Consultant)
3.	7(1)(d)	Copy of Principal Contractor's Health & Safety Plan As well as each Contractor's Health & Safety Plan Available on request	Principal Contractor
4.	7(2)(b)	Health & Safety File opened and kept on site (including all documentation-required i.t.o. OHSA & Regulations Available on request	Contractor
5.	7(1)(e)	Consolidated Health & Safety File handed to Client on completion of Construction work. To include all documentation required i.t.o. OHSA & Regulations and records of all drawings, designs, materials used and similar information on the structure.	Contractor
6.	7(1)(f)	Comprehensive and Updated List of all Contractors on site, the agreements between the parties and the work being done Included in Health & Safety file and available on request	Contractor
7.	8(5)	Keep record on the Health & safety File of the input by Construction Safety Officer [CR 6(6)] at design stage or on the Health & Safety Plan	Contractor
8.	9(6)	Risk Assessment Available on site for inspection	Contractor
9.	7(7)	Proof of Health & Safety Induction Training	Every Employee on site
10.	10(3)	Construction Manager [CR 8(1)] has latest updated version of Fall Protection Plan [CR 10(1)]	Contractor
11.	9(2)(b)	Inform Contractor in writing of dangers and hazards relating to construction work	Designer of Structure
12.	11(1) (c)	All drawings pertaining to the design of structure On site available for inspection	Contractor
13.	11(2) (a) and (b)	Record of inspection of the structure [First 2 years – once every six (6) months, thereafter yearly]	Owner of Structure
14.	11(2) (c) and (d)	Maintenance records – safety of structure Available on request	Owner of Structure
15.	12(3)(c)	Drawings pertaining to the design of formwork/support work structure Kept on site, available on request	Contractor
16.	13(2)(h)	Record of excavation inspection On site available on request	Contractor
17.	17(11)	Suspended Platform inspection and performance test records Kept on site available on request	Contractor

ITEM	CR	RECORD TO BE KEPT	RESPONSIBLE PERSON
18.	19(8)(c)	Material Hoist daily inspection entered and signed in record book kept on the premises	Contractor
19.	19(8)(d)	Maintenance records for Material Hoist Available on site	Contractor
20.	18(9)	Records of Batch Plant maintenance and repairs On site available for inspection	Contractor
21.	19(2)(g)(ii)	Issuing and collection of cartridges and nails or studs (Explosive Powered Tools) recorded in register – recipient signed for receipt as well as return	Contractor
22.	21(1)(d)	Findings of daily inspections (prior to use) of Construction Vehicles and Mobile Plant	Contractor
23.	22(d)	Record of temporary electrical installation inspections [once a week] and electrical machinery [daily before use] in a register and kept on site	Contractor
24		Copies of all appointments made in regard to safety supervisors and inspectors	Contractor

24. Health and Safety Audits, Monitoring and Reporting

ACSA will conduct at least once a month, health and safety audits of the work operations including a full audit of physical site activities as well as an audit of the administration of health and safety. The Principal Contractor is obligated to conduct similar audits on all contractors appointed by it. Detailed reports of the audit findings and results shall be reported on at all levels of project management meetings/forums. Copies of the Client audit reports shall be kept in the project health and safety file while the Principal Contractor audit reports shall be kept in their file, a copy being forwarded to ACSA. Contractors shall audit their sub-contractors and keep records of these audits in their health and safety files, available on request. These audits must be conducted by a competent person.

25. Accident / Incident Reporting and Investigation

The Principal Contractor must ensure that all incidents/accidents (this includes near miss, first aid and medical cases and section 24 cases) are reported by employees immediately to the Construction Manager for further investigation and remedial action. The Principal Contractor must ensure that all OHS Act section 24 incidents/accidents are reported to the Department of Labour immediately and preliminary investigation is conducted by a competent person within seven days. If construction work will be finished within 3 days after occurrence, an investigation must be conducted before such construction work is completed. Proof of such investigation must be submitted to ACSA immediately or within 24 hours after investigation.

The Client reserves the right to conduct investigations into any incidents that they deem fit and the Contractor is required to provide full co-operation in this regard.

The Principal Contractor must provide ACSA Safety with a full record of any incidents which may occur on site. In case of medical and/or fire emergency contact ACSA Fire & Rescue Services: (021) 937 1211 or 1249

NOTE: the above-mentioned services will incur a cost by the Clinic but is an option available to contractors on site.

26. Hazards and Potential Situations

The Principal Contractor shall immediately notify other Contractors as well as ACSA's Agent of any hazardous or potentially hazardous situations that may arise during performance of construction activities.

27. Contractors and Sub-contractors

The Principal Contractor shall ensure that all Contractors under its control comply with this specification, the OHS Act of 1993, Construction Regulations 2014, and all other relevant legislation that may relate to the activities directly or indirectly. The Contractor, when appointing other Contractors as 'Sub-contractors', shall mutatis mutandis ensure compliance and a section 37(2) agreement must be put in place.

28. Operational control

Emergency Procedures

The Principal Contractor shall prepare a detailed emergency procedure prior to commencement of work on site and it shall be included in, and form part of, the health and safety plan. The procedure shall be updated whenever changes occur, and it shall detail the emergency response plans. The emergency procedures shall not be limited to, but shall include the following key elements:

- List of key competent personnel on site;
- Details of the nearest emergency services, including their physical addresses and phone numbers;
- Actions or steps to be taken in the event of each specific type of emergency;
- Information on hazardous materials/situations that may be encountered on site.

Emergency procedures shall include, but shall not be limited to, fire, spills, accidents to employees, bomb threats, and major incidents/accidents, use of hazardous substances, dangers as a result of riot / service deliver protests / intimidation, etc. The Contractor shall advise the Client in writing of any on-site emergencies, together with a record of action taken, within 24 hours of the emergency occurring.

A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc) must be maintained and be readily available to site personnel at all times that there are persons on site i.e., it must not be in an area which may be inaccessible outside of normal working hours.

The Principal Contractor shall advise ACSA and the Principal Agent in writing forthwith, and thereafter at the project and health and safety meetings, of any emergencies that occurred, together with a record of the action taken. Copies of all reports on emergencies shall be kept in the project health and safety file.

First Aid Boxes and First Aid Equipment

The Principal Contractor and all other Contractors shall appoint first aider(s) in writing. All Contractors with more than 10 employees shall have a trained, certified first aider on site at all times. The appointed first aider(s) are to be sent for accredited first aid training. Copies of the valid first aid certificates for each First Aider are to be kept in the project health and safety file. The appointed First Aider(s) are to be sent for accredited first aid training before starting on site. Valid certificates are to be kept on site.

First Aid box/es must be adequately stocked at all times, accessible and be controlled by a qualified First Aider. If required by the Client, the Contractor shall have a stretcher on site to be used in case of a serious incident.

Security

No worker will be allowed to gain access to airside without the proper induction, training and security clearance. Access permits must be visible at all times. Any worker failing to comply will be removed from site. Closures of runways and bus ways must be conducted by ARFFHOD. AVOP licence will be required for driving airside. Note that contractor's personnel may not walk across taxi ways. All visitors to make arrangements prior to visiting site to gain access. All visitors to follow ACSA Airside security procedures. Selected contractors and delivery vehicles with permits will be allowed access to site.

The Principal Contractor must establish site access rules and implement and maintain these throughout

the construction period. Access control must, among others, include the rules that nonemployees will not be allowed on site unaccompanied. The Principal Contractor must develop a set of project applicable security rules and procedures in line with the ACSA Security procedures and rules and maintain these throughout the construction period.

29.Accommodation of traffic

The Principal Contractor shall ensure that appropriate and a sufficient number of road signs be posted as per Chapter 13, Volume 2 of the South African Road Traffic Signs Manual (SARTSM) and these signs also be actively maintained to protect employees against traffic and to warn road users of the presence of construction activities and related risks next to and in the road surface. These signs should be repeated as actual construction work and risk are approached. The maintenance of the road signs including after hour's management shall also be actively managed. Flag persons shall be provided, where applicable with suitable road marking and flags to ensure the effectiveness of this risk mitigation measures. To effectively manage and control traffic during the construction period onsite, the Principal Contractor must ensure the following:

- All traffic signs must be displayed as per the traffic management plan drawings.
- Size of signs used must be as per the traffic management drawings and all signs to be visible and in good condition.
- Traffic management Plan issued as per ICAO. Must be approved by the client and professional team.
- Plans for signage deployment must be in order and must be placed correctly.
- Traffic management plan must be submitted and must be suitable for the tasks being performed
- Traffic plan must be implemented and controlled by the competent Site Traffic safety officer and flag persons.
- Jersey barriers, where used, to be linked.
- No signs to be obstructed.
- STOP/GO structures must be protected against being struck by vehicles (e.g. new jersey barriers)
- Road marking buggies/vehicles must be protected by escort vehicles front and rear.
- Displayed traffic signs must be maintained in a daily register to be checked morning and evenings after works have been finalised.

Traffic Safety Officer must check signage daily and Responsible Person must sign it off daily/ as per schedule.

30.Stacking of materials

The Principal Contractor and other relevant contractors shall ensure that there is an appointed stacking and storage supervisor and all materials, all equipment is stacked and stored safely in a demarcated area.

31.Speed Restrictions, Signage and Protection

The Principal Contractor shall ensure that all persons in its employ, all Contractors, and all those that are visiting the site are aware and comply with the site speed restriction(s). Separate vehicle and pedestrian access routes shall be provided, maintained, controlled, and enforced. Signage shall be provided and should comply as per Occupational Health and Safety Act and SANS standards.

32.Hazardous Chemical Substances (HCS)

The Principal Contractor and other relevant Contractors shall provide the necessary training and information regarding the use, transport, and storage of hazardous chemical substances. The Principal Contractor shall ensure that the use, transport, and storage of hazardous chemical substances are carried out as prescribed by the hazardous chemical substance regulations. The Contractor shall ensure that all hazardous chemicals on site have Safety Data Sheets (SDS) and the users are made aware of the hazards and precautions that need to be taken when using the chemicals. The First Aiders must be made aware of the SDS and how to treat hazardous chemical substance incidents appropriately.

33. Construction Vehicle and Mobile Plant Operators

The following requirements will apply to construction vehicles and mobile plant operators:

- Only certified and/or competent employees may be allowed to operate any construction vehicle and mobile plant.
- Every lifting machine operator must be trained specifically for the type of lifting machine that he or she is operating.
- Only employees duly authorised to do so may operate any construction vehicle and mobile plant.
- Only employees physically and psychologically fit, i.e. in possession of a medical certificate of fitness, may be allowed to operate any construction vehicle and mobile plant.

Construction vehicles and mobile plant should be formally and duly inspected by a competent person appointed by the Principal Contractor prior to being allowed on a project site and suppliers of hired vehicles, plant and equipment must be required to comply with this specification as well as the Act and Regulations.

Construction vehicles and mobile plant must be:

- Of acceptable design and construction;
- Maintained in good working order;
- Used in accordance with their design and intention for which they were designed;
- Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons to be allowed to drive construction vehicles and mobile plant;
- Provided with safe and suitable means of access;
- Fitted with adequate signalling devices to make movement safe including reversing;
- Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into same;
- Provided with roll-over protection;
- Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book and any defects addressed as matter of urgency;
- Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions; and
- Used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

No loose tools, material etc. is allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported.

No person may ride on construction vehicles and mobile plant except for in a safe place designed and provided for this purpose.

Construction vehicles and mobile plant left unattended after hours adjacent to roads and areas where there is traffic movement must be fitted with lights, reflectors or adequate barricades to prevent moving traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant.

In addition, construction vehicles and mobile plant left unattended after hours must be parked with all buckets, booms etc. full lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely.

All construction vehicles and mobile plant daily inspection records must be kept in the health and safety file.

34. Electrical Installations

Any electrical work undertaken as part of the project, including the installation of temporary electricity for construction use shall be in accordance with Construction Regulation 24 and the Electrical Installation Regulations.

The Principal Contractor must ensure that:

- Existing services are to be located and clearly marked before construction commences and during the progress thereof;
- Where the abovementioned is not possible, employees with jackhammers etc. will be protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etc;
- Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site;
- Temporary electrical installations must be inspected at least once per week by a competent person and a record of the inspections kept on the occupational health and safety file;
- Electrical machinery used on a construction site must be inspected daily before start-up by the competent driver/operator or any other competent person and a record of the inspections kept on the occupational health and safety file; and
- A competent person appointed in writing must control all temporary electrical installations.

35. Electrical and mechanical lockout

An electrical and mechanical lockout procedure must be developed by the Principal Contractor and submitted to ACSA for approval before construction commences. All contractors on site must be informed of and adhere to this lockout procedure.

36. Use and Storage of Flammables

The principal contractor must ensure that:

- No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions is taken;
- Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with consistent access control measures in place and sufficient firefighting equipment installed and fire prevention methods practiced for example proper housekeeping;
- Only one day's quantity of flammable is to be kept in the workplace;
- Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas; and
- Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.
- Adequate and suitable firefighting equipment installed around the flammables store and marked with the prescribed signs.

- The flammable store to be designed and constructed so that in the event of spillage of liquids in the store, it will contain the full quantity + 10% of the amount liquid stored.
- Where the use of Bulk Storage facilities is contemplated, the contractor must ensure compliance to the local Authority bylaws.
- Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas.

37.Demolition Work

Demolition work must be carried out under the supervision of a competent person who has been appointed in writing.

A detailed structural engineering survey of the structure to be demolished must be carried out and a method statement on the procedure to be followed in demolishing the structure must be developed by a competent person, before any demolition may be commenced.

As demolishing progresses the structural integrity of the structure must be checked at intervals as determined in the method statement by the appointed competent person in order to prevent any premature or uncontrolled collapse.

Where demolition work will involve the use of explosives a method statement must be developed by a competent person in accordance with applicable explosives legislation before any explosives are used.

38.Fire Prevention and Protection

The Principal Contractor must ensure that:

- The risk of fire is avoided;
- Sufficient and suitable storage of flammables is provided.
- All employees are instructed in the use of the firefighting equipment and know how to attempt to extinguish a fire;
- A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;
- Employees are informed regarding emergency evacuation procedures and escape routes;
- Emergency escape routes are kept clear at all times and clearly marked;
- Evacuation assembly points are demarcated and made known to employees;
- Evacuation is regularly practiced to ensure that all persons are evacuated timeously and;
- Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors and disabled persons have been left behind; and
- A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.

39.Housekeeping

The Principal Contractor must ensure that:

- Housekeeping is continuously implemented and maintained;
- Materials and equipment is properly stored;
- Scrap, waste and debris is removed off site regularly;
- Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- Where practicable, construction sites are fenced off to prevent entry of unauthorised persons;
- An unimpeded work space is maintained for every employee;

- Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done;
- As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials; and
- The walls and roof of every indoor workplace be sound and leak-free.

40. Stacking and Storage

The Principal Contractor must ensure that:

- A competent person is appointed in writing to supervise all stacking and storage on a construction site;
- Adequate storage areas are provided and demarcated;
- The storage areas are kept neat and under control;
- The base of any stack is level and capable of sustaining the weight exerted on it by the stack;
- The items in the lower layers can support the weight exerted by the top layers;
- Cartons and other containers that may become unstable due to wet conditions are kept dry;
- Pallets and containers are in good condition and no material is allowed to spill out;
- The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector of the Department of Labour has been obtained to build the stacks higher with the aid of a machine. (The operator of the machine must be protected against items falling from overhead or off the stack and no items may overhang);
- The articles that make up a single tier are consistently of the same size, shape and mass;
- Structures for supporting stacks are structurally sound and able to support the mass of the stack;
- No articles are removed from the bottom of the stack first but from the top tier first;
- Anybody climbing onto a stack can and does do it safely and that the stack is sufficiently stable to support him or her;
- Stacks that are in danger of collapsing are broken down and restacked;
- Stability of stacks are not threatened by vehicles or other moving plant and machinery;
- Stacks are built in a header and stretcher fashion and that corners are securely bonded; and
- Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.

41. Employee Welfare Facilities

Toilets

The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 30.

Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of at least 1 toilet per 30 employees.

Showers

At least cold-water showers of some sort for each sex have to be provided at a ratio of at least 1 shower per 15 employees.

Change rooms

Some form of screened off changing facility must be provided separately for each sex.

Eating facility

Some form of eating facility sheltered from the sun, wind and rain must be provided.

Personal and other protective equipment

The Principal Contractor is required to proactively identify the hazards in the workplace and deal with them on an ongoing basis. He/she must either remove them or, where impracticable take steps to protect employees and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply re-engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Principal Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the Principal Contractor maintain the said equipment, that he/she instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s in a consistent and correct manner.

Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other valid reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed but an alternative solution has to be found that may include relocating the employee.

The Principal Contractor may not charge any fee for protective equipment prescribed by him or her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed;
- Where the employee has blatantly abused or neglected the equipment leading to early failure; and where the employee has lost the equipment.

Portable Electrical Tools and Equipment

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace i.e. drills, saws, grindstones, portable lights, etc. In addition, electrical appliances such as fridges, hotplates, heaters, etc must be inspected regularly but at least on a weekly basis and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following:

- Regular inspections by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorised persons are allowed to use portable electrical tools and equipment; and
- The correct protective equipment is worn/used whilst operating portable electrical tools and equipment.

This equipment:

- Must be maintained in good condition at all times to prevent an electrical shock to the user;
- The main source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and

- All equipment must be fitted with a switch to allow for safe and easy starting and stopping.

Portable lights

The following requirements apply to portable lights:

- Must be fitted with a robust non-hygroscopic non-conducting handle;
- Live metal parts which may become live must be protected against contact;
- The lamp must be protected by a strong guard;
- The cable lead-in must withstand rough handling;
- A register be kept for each piece of equipment with findings of regular inspections undertaken to evaluate the condition of these lights;
- Inspections must be undertaken that concentrate on at least the plug, cord, switch, guard and any obvious faults; and
- When used in wet/damp/metal container conditions, it must be protected.

Public Health and Safety

The Principal Contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes among others:

- Non- employees entering the site for whatever reason;
- The surrounding community; and
- Passers-by the site.

Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.

All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these.

Excavations

All excavation work has to comply with the following:

- Excavation work must be carried out under the supervision of a competent person with at least two years practical experience in excavation work who has been appointed in writing.
- Before excavation work begins the stability of the ground must be evaluated.
- Whilst excavation work is being performed, the Principal Contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material.
- No person may be required or permitted to work in an excavation that has not been adequately shored or braced.
- Where the excavation is in stable material or where the sides of the excavation are sloped back to at least the maximum angle of repose measured relative to the horizontal plane, shoring or bracing may be left out but only after written permission has been obtained from the appointed competent person.
- Shoring and bracing must be designed and constructed to safely support the sides of the excavation and prevent it from collapsing.
- Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained, before excavation proceeds, whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed excavation supervisor.

- No load or material may be placed near the edge of an excavation if it is likely to cause a collapse of the excavation, unless suitable shoring has been installed to be able to carry the additional load. Best practice requires a one-meter clearance so as to reduce the pressure on the side walls as well as risk of material falling onto persons inside the excavation.
- Every excavation must be provided with means of access that must be within 6 meters of any employee within the excavation at any time. Should ladders be utilised for this purpose they should be duly secured.
- The location and nature of any existing services such as water, electricity, gas, telecommunication etc must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for employees working in or near in the excavation.
- Every excavation, including the shoring and bracing or any other method to prevent a possible collapse, must be inspected by the appointed competent person as follows:
 - Daily before work commences
 - After every blasting operation
 - After an unexpected collapse of the excavation or part thereof
 - After substantial damage to any support
 - After rain
- The results of any inspections must be recorded in a register kept on site in the health and safety file.
- Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced off, on all sides, to at least one meter high and as close to the excavation perimeter as practicable. All such excavations must also be provided with warning lights or visible boundary indicators after dark or when visibility is poor.

42. Working in Confined Spaces

Ventilation

- The confined space must be opened and allowed to ventilate for at least 15 minutes before entering the confined space. All confined spaces must be barricaded and manned at all times.
- A gas monitor must be lowered to the bottom of the confined space with a rope to test the presence of any toxic/flammable gas. If any gas is detected, the space must be force ventilated by means of a blower for at least 15 minutes where after the air must be tested again. Under no circumstances may any space be entered while there is a toxic/flammable gas present.
- After the undertaking of the necessary work, the person in charge of the activities must confirm that all the employees are accounted for.

Entering a confined space

- When entering a confined space, the person entering the space must wear a safety harness and fully operational gas detector. A lifeline must be attached to the safety harness and a person on the surface must be in continuous contact with the person in the confined space. At least one person on the surface must be trained in basic first-aid (level 1) with proof of such training as well as a fully equipped first aid box available on site.
- No person shall remain within a confined space for a period of more than one hour at a time. A minimum of 5-minute rest periods on the surface must be taken after this period before re-entering.
- Should the alarm sound on the gas monitor, all employees must exit the confined space, and the immediate area must also be evacuated immediately. The area must be properly ventilated and

re-tested before re-entering the confined space. Professional support should be called for if necessary.

- Employees must be provided with flameproof lighting when entering a confined space with the possibility of flammable gases. No naked lights, smoking or unprotected electrical apparatus which may cause sparks, shall be permitted in any confined space or in its vicinity.

General

All employees working in confined spaces must be issued with fully functioning gas monitoring equipment and safety harnesses. All these employees must be trained (including refresher training on a regular and continuous basis) in the use thereof.

General records

The following records shall be implemented and maintained by the principal contractor:

- Confined space entry permits
- Confined space entry registers
- Safety harness and gas monitoring equipment registers
- Risk assessments
- Incident registers

43.Training

All employees that have to enter a confined space must be formally trained and confirmed competent before being required to enter such areas (new employees to complete this training and be declared competent before allowed to work in a confined space).

Refresher courses must be attended by employees at least once every 2 years or immediately if new methodologies or equipment are adopted or acquired.

Continuous onsite training and support by supervisory staff should be undertaken and enforced where required.

44.Vessels under Pressure (VUP) and Gas Bottles

The Principal Contractor and all relevant Contractors shall comply with the Pressure Equipment Regulations, including:

- Providing competency and awareness training to the operators;
- Providing PPE or clothing
- Inspect equipment regularly and keep records of inspections
- Providing appropriate firefighting equipment (Fire Extinguishers) on hand

45.Fire Extinguishers and Fire Fighting Equipment

The Principal Contractor and relevant Contractors must ensure all appropriate measures are taken to avoid the risk of fire shall provide adequate, regularly serviced firefighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted up as required. The fire equipment contemplated in previous paragraph is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof and a sufficient number of workers are trained in the use of fire-extinguishing equipment;

46.Hired Plant and Machinery

The Principal Contractor shall ensure that any hired plant and machinery used on site is safe for use. The necessary requirements as stipulated by the Occupational Health and Safety Act 85/1993 and Construction Regulations 2014 shall apply. The Principal Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health and safety file. All relevant Contractors must ensure the same.

47.Lifting Machines and Tackle

The Principal Contractor and all Contractors shall ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations. A competent lifting machinery and tackle inspector need to be appointed in writing and must inspect the equipment daily or before use, taking into account that:

- All lifting machinery and tackle have a safe working load clearly indicated;
- Regular inspection and servicing are carried out;
- Records are kept of inspections and of service certificates;
- There is a proper supervision in terms of guiding the loads that includes a trained banks man to direct lifting operations and check lifting tackle;
- The operators are competent as well as physically and psychologically fit to work and in possession of a medical certificate of fitness to be available on site.

48.General Machinery

The Principal Contractor and relevant Contractors shall ensure compliance with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing, and training those who use machinery.

49.High Voltage Electrical Equipment, Underground, Overhead power lines

Care shall be taken when working close to, over or under high voltage reticulation power lines or cables. Underground services to be identified beforehand and the layout of such to be included in the Contractors health and safety plan. A safe work procedure be drawn up and included in Principal Contractors health and safety plan.

50.Transport of Workers

The Principal Contractor and other Contractors shall not:

- Transport persons together with goods or tools unless there is an appropriate area of section to store them, and all loose tool and plant are tied down and secured;
- Transport persons in a non-enclosed vehicle, e.g. truck; there must be a proper canopy (properly covering the back and top) with suitable sitting area. Workers shall not be permitted to stand or sit at the edge of the transporting vehicle.
- Transport workers in bakkies unless they are closed/ covered and have the correct number of seats for the passengers.

51.Nuclear Density Gauge (Troxler)

The use of a Troxler on site must be in line with the SANS 3001 of March 2014. The SANS consists of 5 sections

The in-situ density of road construction materials is only determined in civil engineering using indirect methods such as the nuclear density gauge and sand replacement methods.

This method forms part of a set of methods used to operate nuclear gauges, and includes the following:

- a) administration, handling, and maintenance (see SANS 3001-NG1);
- b) validation of standard calibration blocks (see SANS 3001-NG2);
- c) calibration of nuclear gauge (see SANS 3002-NG2);
- d) verification of a nuclear gauge (see SANS 3001-NG4)
- e) in situ density determination using a nuclear gauge (see SANS 3002-NG5)

When used, Troxlers must be:

- Stored in a dedicated, lockable area and must have a warning signage displayed.
- Must only be transported in a dedicated vehicle with the required signage displayed and by an authorised employee that has been appointed in writing.
- Must have a Troxler Calibration Certificate in place.
- Must have a Troxler Technician Appointment on file and signed and proof of competency within the safety file.

52. Ergonomics Regulation of 2019

"Ergonomic risk" means a characteristic or action in the workplace, workplace conditions, or a combination thereof that may impair overall system performance and human well-being;

"Ergonomic risk assessment" means a programme, process, or investigation to identify, analyse, valuate and prioritise any risk from exposure to ergonomic risks associated with the workplace;

"Ergonomics" means the scientific discipline concerned with the fundamental understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimise human well-being and overall system performance.

The ergonomics regulations will apply to any Employer or self-employed person who carries out work at the workplace who may expose any person to an ergonomic risk in the workplace and any designer, manufacturer, importer or supplier of machinery, plant, or work systems for the workplace.

An Employer must, before the commencement of any work that may expose employees to ergonomic risks, have an ergonomic risk assessment performed by a competent person.

The ergonomic risk assessment must be done at intervals not exceeding two years.

An Employer must ensure that an employee is placed under medical surveillance, which is overseen by an occupational medicine practitioner, if-

- the ergonomic risk assessment referred to in regulation 6 indicates the need for the employee to be placed under medical surveillance; or
- an occupational health practitioner recommends that relevant employees must be under medical surveillance, in which case the Employer may call upon an occupational medicine practitioner to ratify the appropriateness of such recommendation.

53. Structures

(Construction Regulation 11)

The Contractor will ensure that in terms of Construction Regulation 11 the following is adhered to:

- That the structure on/in which works are to be performed has been inspected by a certified structural engineer declaring the structure to be safe for construction/demolition/renovations work processes.
- Steps are taken to ensure that no structure becomes unstable or poses a threat of collapse due to demolition and construction work being performed on it, or in the vicinity of it.

- No structure is overloaded to the extent where it becomes unsafe; if uncertainty arises then the structural engineer is to be consulted.
- He/she has received from the designer the following information:
- Information on known or anticipated hazards relating to the construction/demolition work and the relevant information required for the safe execution of the construction/demolition work.
- A geo-scientific report (where applicable).
- The loading the structure is designed to bear.
- The methods and sequence of the construction/demolition process.
- All drawings pertaining to the design are on site and available for inspection.

The structural engineer shall carry out inspections at appropriate and sufficient intervals of the construction work involving the design of the relevant structure to ensure compliance with the design and record the results of these inspections in writing.

54. Temporary Work

(Construction Regulation 12)

Temporary work must be carried out under the supervision of a competent person designated in writing. Temporary works structures must be so designed, erected, supported, braced and maintained such that it will be able to support any vertical or lateral loads that may be applied.

No load is to be imposed onto the structure that the structure is not designed to carry. Temporary works must be erected in accordance with the structural design drawings for that temporary works and, if there is any uncertainty, the designer must be consulted before proceeding with the erection/use of the temporary works.

All design drawings pertaining to the temporary works must be kept available on site.
All equipment used in the erection of temporary works must be checked by a competent person before use.

The foundation or base upon which temporary works is erected must be able to bear the weight and keep the structure stable.

Employees erecting temporary works must be trained in the safe work procedures for the erection, moving and dismantling of temporary works.

Safe access/egress (and emergency escape) must be provided for workers.
A competent person must inspect temporary works structures that have been erected before, during and after pouring of concrete or the placing of any other load and thereafter daily until the temporary works is stripped.

The results of all inspections must be recorded in a register kept on site.

The temporary works must be left in place until the concrete has reached sufficient strength to bear its own weight plus any additional weight that may be imposed upon it and not until the designated competent person has authorised its stripping in writing.

Any damaged temporary works must be repaired/rectified immediately Deck panels must be secured against displacement.

The contractor must ensure that no employee is exposed or required to work on slippery and dangerous surfaces.

Person's health must be protected when use is made of solvents, oils or other similar substances. Ensuring that the OEL (Occupational Exposure Limit) for any substances that they may be exposed to does not exceed the legal limits and that the necessary PPE is used.

55.Suspended Platform

(Construction Regulation 17)

The Contractor to design, erect, use and maintain suspended platforms in accordance with the requirements of Construction Regulation 17.

56.Explosive Actuated Fastening Device

(Construction Regulation 21)

Every Explosive Powered Tools (EPT) must be:

- Provided with a guard around the muzzle to confine flying fragments or particles

A firing mechanism that will prevent the EPT from firing unless it is pushed against the surface and at a right angle (where the EPT is fitted with an intermediate piston between the charge and the nail this requirement is waived)

- The Contractor or user must ensure that:
- Only the correct type of cartridge is used (product specific)
- The EPT is cleaned and inspected daily before use by an appointed competent person who maintains a register with the findings of his inspection and the details of cleaning, service and repairs
- The safety devices are in good working order before the EPT is used
- When the EPT is not being used, it is to be stored in an unloaded condition together with the cartridges in a safe/secure place inaccessible to unauthorised persons
- A warning notice is displayed at the point where the EPT is in use
- The issue and return of cartridges must be controlled by maintaining the issue/returns register signed by both issuer and user and empty cartridge cases must be returned with unspent cartridges.
- Users/operators of the EPT have received the necessary training and have been authorised as being competent to use/operate the EPT
- Users/operators must wear the prescribed PPE whilst using/operating the tool

57.Ladders

The Principal Contractor must ensure that all ladders are numbered, inspected before use and monthly inspections are recorded in a register. The Principal Contractor must ensure that a competent person who carries the above inspections is appointed in writing.

58.Employees Exposed to Excessive Noise

The Principal Contractor must ensure that all employees exposed to excessive noise, equal or above 85 dB(A), have undergone a baseline audiometric test prior commencement of construction work and SABS approved ear protection is provided and worn at all times.

59.Night Work

The Principal Contractor must ensure that necessary arrangements have been made with ACSA before conducting any night work and that there is adequate lighting for any work to be conducted and failure to do so will result in work being stopped.

60.Hot Work

The Principal Contractor must ensure that ACSA Fire & Rescue Department is notified of any hot work to be conducted during construction work. A hot work permit accompanied with a gas free certificate must be issued to the relevant Principal Contractor by ACSA Fire & Rescue Department when satisfied that the area is safe and that the Principal Contractor understands the procedure. The Principal Contractor must ensure that a hot work procedure is adhered to at all times by his/her employees.

61.Batch Plants

Should a batch plant be used, it must conform to the requirements as set out on Construction Regulation (February 2014) of OHS Act 85/93. These must include but not limited to appointment of a competent person to operate and supervise batch plant operations.

62.Liquor, Drugs, Dangerous Weapons, Firearms

The Principal Contractor must ensure that no person is allowed on site that appears to be under the influence of intoxicating liquor or drugs.

The Principal Contractor must encourage his/her workforce to disclose the medication that poses a health and safety threat towards his/her fellow employees. No person must be allowed to enter the site and work if the side effects of such medication do constitute a threat to the health or safety of the person concerned or others at such workplace.

No dangerous weapons or firearms allowed on the construction site.

ANNEXURE 5.2 : ACSA Generic Occupational Health and Safety Specification

Project: SOB Airside HVAC System Refurbishment at Cape Town International Airport

TABLE OF CONTENTS

Introduction

1. Scope
2. Definitions
3. Notification of Construction
4. Duties of the Principal Contractor and Contractor
5. Management and Supervision of Construction work
6. Registration with The Workmen's Compensation or Licensed Insurer
7. Mandatary Agreement
8. Assigned Person in terms of Occupational Health & Safety Act of 1993 & Applicable Regulations
9. Health and Safety Documentation
10. Risk Assessment
11. Fall Protection Plan
12. Administrative Controls and the Occupational Health And Safety file
13. Health and Safety Representatives
14. Health and Safety Training
15. Fire Prevention and Protection
16. Emergency Preparedness
17. Incidents/Accidents Reporting and Investigation
18. Personal Protective Clothing/Equipment
19. Fall Protection
20. Risk Assessment for Construction Work
21. Structures
22. Temporary Work
23. Excavations
24. Demolition Work
25. Scaffolding
26. Suspended Platforms
27. Explosive Actuated Fastening Devices
28. Cranes
29. Lifting Equipment, Tackle, Material Hoist and Cranes
30. Construction Vehicles & Mobile Plant
31. Electrical Installations and Machinery on Construction Sites
32. Use of Temporary Storage of Flammable Liquids on Construction Sites
33. Housekeeping and General Safeguarding on Construction Site
34. Stacking and Storage on Construction Sites
35. Fire Precautions on Construction Sites
36. Construction Employees' Facilities

- 37. Ladders
- 38. Pressure Equipment
- 39. Employees Exposed to Excessive Noise
- 40. Public Safety and Security
- 41. Night Work
- 42. Hot Work
- 43. Hired Plant and Machinery
- 44. Road Construction Work
- 45. Edge Protection and Penetration
- 46. Batch Plants
- 47. Confined Space Entry
- 48. Liquor, Drugs, Dangerous Weapons, Firearms
- 49. Internal/External Audits
- 50. Penalties**

INTRODUCTION

In terms of the Construction Regulation 5(1) b the client, is required to compile a Health & Safety specification for any intended project and provide such specification to any prospective contractor and designers. The contractor, on appointment shall submit a Health & Safety plan which shall address the requirements of this specification.

This specification objective is to ensure that the contractor(s) entering into a contract with ACSA achieve an acceptable level of OH&S performance. This document forms an integral part of Project Information and the contract. Principle and other contractors should make it part of any contract that they may have with their contractors and /or suppliers.

Compliance with this document does not absolve the client from complying with minimum legal requirements and the client remains responsible for the health & safety of his employees and those of his mandatories. ACSA reserves the right to audit, monitor and where necessary regulate the site work activities of any principle contractor or appointed subcontractor as per Construction Regulation 5(1) (o) and section 5 of this document.

1. SCOPE

This Specification is intended for all ACSA Service Providers.

2. DEFINITIONS

The definitions as listed in the OHS Act and Construction Regulations 84 of 7 February 2014 shall apply. Therefore, all references to the old Construction Regulations will change to the new Construction Regulations.

Client: means any person for whom construction work is being performed.

Principal Contractor: means an employer appointed by the client to perform construction work

Contractor: means an employer who performs construction work;

Construction work: means any work in connection with,

- the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work;

Competent person: means a person who,

- a) has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and
- b) is familiar with the Act and with the applicable regulations made under the Act;

Designer: means

- a) competent person who
 - i. prepares a design;
 - ii. checks and approves a design; or
 - iii. arranges for any person at work under his or her control to prepare a design
 - iv. including an employee of that person where he/she is the employer or
 - v. designs temporary work, including its components,
- b) an architect or engineer contributing to, or having overall responsibility for a design;
- c) a building services engineer designing details for fixed plant;
- d) a surveyor specifying articles or drawing up specifications;
- e) A Contractor carrying out design work as part of a design and building project; or
- f) an interior designer, shop-fitter or landscape architect;

Fall prevention equipment: means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines or physical equipment such as guardrails, screens, barricades, anchorages or similar equipment;

Fall arrest equipment: means equipment used to arrest a person in a fall, including personal equipment such as body harness, lanyards, deceleration devices, lifelines or similar equipment.

Hazard: means a source of or exposure to danger

Hazard identification: means the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed

Risk assessment: means the process contemplated in paragraph 10 of the specifications.

Excavation work: means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping;

Ergonomics: means the application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimise human well-being and overall system performance;

3. NOTIFICATION OF CONSTRUCTION

(Construction Regulation 4)

The Principal Contractor who intends to carry out any construction work must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2 if the intended construction work will—

- (a) include excavation work;
- (b) include working at a height where there is risk of falling;
- (c) include the demolition of a structure; or

- (d) Include the use of explosives to perform construction work.

4. DUTIES OF THE PRINCIPAL CONTRACTOR AND CONTRACTOR

(Construction Regulation 7)

The Principal Contractor must:

- (a) Provide and demonstrate to the client a suitable, sufficiently documented and coherent site-specific health and safety plan, based on the client's documented health and safety specifications. The plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the Principal Contractor as work progresses;
- (b) Open and keep on site a health and safety file, which must include all documentation required in terms of the Act and this specification, which must be made available on request to an inspector, the client, the client's agent or Contractor; and
- (c) On appointing any other Contractor, in order to ensure compliance with the provisions of the Act—
 - i. Provide contractors who are tendering to perform construction work for the Principal Contractor, with the relevant sections of the health and safety specifications pertaining to the construction work which has to be performed;
 - ii. Ensure that potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;
 - iii. Ensure that no contractor is appointed to perform construction work unless the Principal Contractor is reasonably satisfied that the contractor that he/she intends to appoint, has the necessary competencies and resources to perform the construction work safely;
 - iv. Ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;
 - v. Appoint each contractor in writing for the part of the project on the construction site;
 - vi. Take reasonable steps to ensure that each contractor's health and safety plan is implemented and maintained on the construction site;
 - vii. Ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the Contractor and Principal Contractor, but at least once every 30 days;
 - viii. Stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the Principal Contractor's health and safety plan, or which poses a threat to the health and safety of persons;
 - ix. Where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the contractor to execute the work safely; and
 - x. Discuss and negotiate with the contractor the contents of the health and safety plan and must thereafter finally approve that plan for implementation;
- (d) Ensure that a copy of his or her health and safety plan, as well as the contractor's health and safety plan is available on request to an employee, an Inspector, a Contractor, the Client or the Client's Agent;
- (e) Hand over a consolidated health and safety file to the client upon completion of the construction work and must, in addition to the documentation include a record of all drawings, designs, materials used and other similar information concerning the completed structure;
- (f) In addition to the documentation required in the health and safety file, include and make available a comprehensive and updated list of all the Contractors on site accountable to the Principal Contractor, the agreements between the parties and the type of work being done; and

- (g) Ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

The Principal Contractor must take reasonable steps to ensure co-operation between all contractors appointed by the Principal Contractor to enable each of those contractors to comply with this specification.

No contractor may allow or permit any employee or visitor to enter the site, unless that employee or visitor has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry and must ensure all have the necessary personal protective equipment.

The Contractor must prior to performing any construction work:

- (a) Provide and demonstrate to the Principal Contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the client's health and safety specification. The aforementioned plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the contractor as work progresses;
- (b) Open and keep on site a health and safety file, which must include all documentation required in terms of the Act and this specification, and which must be made available on request to an Inspector, the Client, the Client's Agent or the Principal Contractor;
- (c) Before appointing another contractor to perform construction work, be reasonably satisfied that the contractor that he/she intends to appoint has the necessary competencies and resources to perform the construction work safely;
- (d) Co-operate with the Principal Contractor as far as is necessary ensuring all comply with the provisions of the Act; and
- (e) As far as is reasonably practicable, promptly provide the contractor with any information which might affect the health and safety of any person at work carrying out construction work on the site, any person who might be affected by the work of such a person at work, or which might justify a review of the health and safety plan.

Where the contractor appoints another contractor to perform construction work, the duties determined in **section 5** of this document applies to the contractor as if he/she were the Principal Contractor.

A Contractor must at all times keep records of the health and safety induction training and such records must be made available on request to an inspector, the client, the client's agent or the principal contractor.

A Contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

5. MANAGEMENT AND SUPERVISION OF CONSTRUCTION WORK

(Construction Regulation 8)

The Principal Contractor must in writing appoint one full-time competent person as the Construction Manager with the duty of managing all the construction work on a single site, including the duty of ensuring Occupational Health and Safety compliance, and in the absence of the Construction Manager an alternate must be appointed by the Principal Contractor.

The Principal Contractor must upon having considered the size of the project, in writing appoint one or more assistant Construction Managers for different sections thereof: Provided that the designation of any such person does not relieve the Construction Manager of any personal accountability for failing in his or her management duties in terms of this regulation.

No Construction Manager appointed under paragraph 6 above may manage any construction work on or in any construction site other than the site in respect of which he/she has been appointed.

A Contractor must, after consultation with the client and having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction health and safety officer in writing to assist in the control of all health and safety related aspects on the site.

No Contractor may appoint a Construction Health and Safety Officer to assist in the control of health and safety related aspects on the site unless he/she is reasonably satisfied that the construction health and safety officer that he/she intends to appoint has necessary competencies and resources to assist the Principal Contractor

A Construction Manager must in writing appoint Construction Supervisors responsible for construction activities and ensuring Occupational Health and Safety compliance on the construction site.

A Contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the Construction Supervisor contemplated in **paragraph 6** above, and every such employee has, to the extent clearly defined by the Principal Contractor in the letter of appointment, the same duties as the Construction Supervisor: Provided that the designation of any such employee does not relieve the Construction Supervisor of any personal accountability for failing in his or her supervisory duties in terms of this section in the specification..

No Construction Supervisor appointed under paragraph 6 above may supervise any construction work on or in any construction site other than the site in respect of which he/she has been appointed: Provided that if a sufficient number of competent employees have been appropriately designated on all the relevant construction sites, the appointed Construction Supervisor may supervise more than one site.

6. REGISTRATION WITH THE WORKMEN'S COMPENSATION OR LICENSED INSURER

The Principal Contractor(s) must ensure that ACSA is provided with a valid letter of good standing, including a registration number with the Compensation for Occupational Injury and Diseases Fund or an alternative scheme approved in writing by the Commissioner to the COID Fund, at least 10 days prior commencement of construction work. It must remain the Principal Contractor's responsibility to furnish ACSA with a valid letter of good standing or keep a copy available for perusal by a Client, Client Representatives or any other person authorised thereto.

7. MANDATORY AGREEMENT

A duly signed mandatory form also referred to as 'OHS Act section 37.2' must be obtained from ACSA Safety Department. It must be signed and returned to ACSA by the Principal Contractor at least 10 days prior to commencement of construction work. The Principal Contractor must ensure that all its contractors have completed a similar document, and a proof of such signed documents is submitted to ACSA for reference purposes.

8. ASSIGNED PERSON IN TERMS OF OCCUPATIONAL HEALTH & SAFETY ACT OF 1993 & APPLICABLE REGULATIONS

A written letter of appointment must be forwarded to ACSA duly signed by responsible persons at least 3 days prior commencement of construction work for the following duties: **(Further appointments could become necessary as the project progresses and as per the requirements of OHS Act 85/1993)**

- (a) Person assigned duties in terms of the 16.2 appointees of the Act
- (b) Construction Manager CR8(1)
- (c) Assistant Construction Manager CR8(2) - *where applicable*
- (d) Full-time or part-time Construction Safety Officer CR8(5)
- (e) Construction Supervisor CR8(7))
- (f) Assistant Construction Supervisor CR8(8) - *where applicable*

- (g) Risk Assessor CR9(1)
- (h) Fall Protection Developer/Planner CR10(1) - *where applicable*
- (i) Temporary Works Designer CR11(1) - *where applicable*
- (j) Temporary Works Supervisor CR11(2) - *where applicable*
- (k) Excavation Supervisor CR13(1)a - *where applicable*
- (l) Demolition Work Supervisor and Controller CR14(1) - *where applicable*
- (m) Scaffolding Supervisor CR16(1) - *where applicable*
- (n) Scaffolding Team leader CR16(1) - *where applicable*
- (o) Scaffolding Inspector CR16(1) - *where applicable*
- (p) Scaffolding Erector CR16(1) - *where applicable*
- (q) Suspended Platforms Supervisor CR17(1) - *where applicable*
- (r) Rope Access Supervisor CR18(1)a - *where applicable*
- (s) Rope Access Fall Protection Plan Developed (R18(2)b) - *where applicable*
- (t) Material Hoist Inspector CR19(8)a - *where applicable*
- (u) Bulk Mixing Plant Supervisor CR20(1) - *where applicable*
- (v) Explosive Actuated Fastening Device Operator CR21(2)b - *where applicable*
- (w) Explosive Actuated Fastening Device Controller CR21(2)g(i) - *where applicable*
- (x) Construction Vehicles and Mobile Plant Operator CR23(1)d(i) - *where applicable*
- (y) Temporary Electrical Installations Controller CR24(c) - *where applicable*
- (z) Portable Electrical Equipment Supervisor CR24(d) - *where applicable*
- (aa) Fire Equipment Inspector CR29(h) - *where applicable*
- (bb) First Aider GSR3(4) -- *where applicable*
- (cc) Stacking Supervisor (CR28(a)) (GSR2(a))
- (dd) Competent Person in Confined Space Entry GSR5(1) - *where applicable*
- (ee) Gas Cutting/Welding Supervisor (GSR9(a)) - *where applicable*
- (ff) Ladder Supervisor and Inspector (GSR13(a)) - *where applicable*
- (gg) Lifting Machine Inspector (DMR18(7)) - *where applicable*
- (hh) Lifting Tackle Inspector (DMR18(10)e) - *where applicable*
- (ii) Lifting Machine Supervisor (DMR18(11)) - *where applicable*
- (jj) Supervisor of Machinery (GMR1) - *where applicable*
- (kk) Safety Representatives (OHS Act Sec.17 - *where applicable*
- (ll) Hazardous Chemical Substances Controller/Co-ordinator HCSR10 - *where applicable*
- (mm) Incident Investigator (GAR9(2))
- (nn) Blasting Supervisor (Supervision Of Explosives Workplace ER12) - *where applicable*

9. HEALTH AND SAFETY DOCUMENTATION

The Principal Contractor must provide and demonstrate to ACSA a suitable, sufficiently documented and coherent site-specific health and safety plan, based on ACSA's documented health and safety specifications. The health and safety plan must include but not limited to the following during tendering process, before commencement of construction work and during construction:

Principal Contractor's Health & Safety Policy

The Principal Contractor must provide a health & safety policy signed by the Chief Executive Officer (CEO) which outlines Principal Contractor's commitment towards health and safety

Health and Safety Organogram

The Principal Contractor must provide a health & safety organogram which outlines related appointments in terms of the OHS Act and applicable Regulations. Contact numbers should also be provided for easy reference.

10. RISK ASSESSMENT

(Construction Regulation 9)

A Contractor must, before the commencement of any construction work and during such construction work, have risk assessments performed by a competent person appointed in writing, which risk assessments form part of the health and safety plan to be applied on the site, and must include—

- (a) the identification of the risks and hazards to which persons may be exposed to;
- (b) an analysis and evaluation of the risks and hazards identified based on a documented method;
- (c) a documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;
- (d) a monitoring plan; and
- (e) a review plan.

A Contractor must ensure that:

- (f) as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment
- (g) that all employees under his or her control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures and or control measures before any work commences, and thereafter at the times determined in the risk assessment monitoring and review plan of the relevant site
- (h) Principal Contractor must ensure that all Contractors are informed regarding any hazard that is stipulated in the risk assessment before any work commences, and thereafter at the times that may be determined in the risk assessment monitoring and review plan of the relevant site
- (i) consult with the health and safety committee or, if no health and safety committee exists, with a representative trade union or representative group of employees, on the monitoring and review of the risk assessments of the relevant site
- (j) copies of the risk assessments of the relevant site are available on site for inspection by an inspector, the client, the client's agent, any Principal Contractor, any employee, a representative trade union, a health and safety representative or any member of the health and safety committee
- (k) review the relevant risk assessment—
 - i. where changes are effected to the design and or construction that result in a change to the risk profile; or
 - ii. when an incident has occurred.

11. FALL PROTECTION PLAN

(Construction Regulation 10)

A Contractor must

- (a) designate a competent person to be responsible for the preparation of a fall protection plan;
- (b) ensure that the fall protection plan contemplated above is implemented, amended where and when necessary and maintained as required; and
- (c) take steps to ensure continued adherence to the fall protection plan.

The Fall Protection Plan must include

- (a) a risk assessment of all work carried out from a fall risk position and the procedures and methods used to address all the risks identified per location;
- (b) the processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof;
- (c) a programme for the training of employees working from a fall risk position and the records thereof;
- (d) the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
- (e) a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

A Contractor must ensure that:

- (a) **The Construction Manager** appointed under **Construction Regulation 8(1)** is in possession of the most recently updated version of the fall protection plan.
- (b) all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;
- (c) no person is required to work in a fall risk position, unless such work is performed safely as contemplated in above;
- (d) fall prevention and fall arrest equipment are
 - i. approved as suitable and of sufficient strength for the purpose for which they are being used, having regard to the work being carried out and the load, including any person, they are intended to bear; and
 - ii. securely attached to a structure or plant, and the structure or plant and the means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who could fall; and
- (e) fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.

Where roof work is being performed on a construction site, the Contractor must ensure that, in addition to the requirements set out above, it is indicated in the fall protection plan that:

- (a) the roof work has been properly planned;
- (b) the roof erectors are competent to carry out the work;
- (c) no employee is permitted to work on roofs during inclement weather conditions or if any conditions are hazardous to the health and safety of the employee;
- (d) all covers to openings and fragile material are of sufficient strength to withstand any imposed loads;
- (e) suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and
- (f) suitable and sufficient guard-rails, barriers and toe-boards or other similar means of protection prevent, as far as is reasonably practicable, the fall of any person, material or equipment.

Principal Contractor / Contractor - Competency Assessment

(Construction Regulation 7)

The Principal Contractor must be reasonably satisfied that the sub-contractors he intends to appoint also have the necessary competencies and resources to safely conduct the work they will be appointed for. This must be established at tender stage and before appointments are made.

In order to ensure this, the Principal Contractor must demonstrate to the Client that it has a suitable and sufficiently.

12. ADMINISTRATIVE CONTROLS AND THE OCCUPATIONAL HEALTH & SAFETY FILE

(Construction Regulation 7)

The Occupational Health and Safety File

The Principal Contractor will keep an Occupational Health and Safety File on site containing the following documents (where applicable) as a minimum:

- Accident/Incident Register. (Annexure 1 of the General Admin Regulations)
- Health and safety Representatives Inspections Register.
- Construction Vehicles & Mobile Plant Inspection.
- Daily Inspection of Vehicles.
- Plant and other Equipment by the Operator/Driver/User.
- Demolition Inspection Register.
- Electrical Installations, Equipment & Appliances. (including Portable Electrical Tools)

- Excavations Inspection.
- Explosive Powered Tool Inspection/Maintenance/Issue/Returns Register. (incl. cartridges & nails)
- Fall Protection Inspection Register.
- First Aid Box Contents.
- Fire Equipment Inspection & Maintenance.
- False work Inspections.
- Hazardous Chemical Substances Record.
- Ladder Inspections.
- Lifting Equipment Register.
- Machinery Safety Inspection Register. (incl. machine guards, lock-outs etc.)
- Scaffolding Inspections.
- Stacking & Storage Inspection.
- Inspection of Structures.
- Inspection of Pressure Equipment.
- Welding Equipment Inspections.
- All other applicable records.
- An equipment inventory register, detailing all major items of equipment such as Construction Vehicles and Mobile Plant etc...

If any work is to be performed on Airside. The contractor must performing such work must provide ACSA with an airside safety plan.

On completion of the project or on completion of the contractors work each contractor must surrender the completed OHS file to the Principal Contractor for consolidation into one "Master File". **A Principal Contractor must** hand over a consolidated health and safety file to ACSA upon completion of the construction work and must, in addition to the documentation referred to in **paragraph 5** of this document include a record of all drawings, designs, materials used and other similar information concerning the completed structure. (These records will then be archived by ACSA for future reference purposes).

13. HEALTH AND SAFETY REPRESENTATIVES

The Principal Contractor must ensure that Health and Safety Representative(s) is/are elected and delegated in writing and necessary training has been provided by a competent person where there are more than 20 employees at the workplace. A proof of training certificate must be provided to ACSA.

Health and Safety Representatives must conduct monthly inspections by completing a checklist developed by the Principal Contractor. Safety defects noted must be recorded and reported to the supervisor for remedial action. Health and Safety Representative Inspection findings must be made available to ACSA for reference for audits purposes.

Health and Safety Representatives and their reports must form part of the safety committee which must meet on a monthly bases.

The Principal Contractor must hold health and safety committee meetings on site. Minutes of such meetings and action taken by management must be kept on file and made available to ACSA for reference purposes. Members of the committee must receive proper training and a proof of such training must be made available.

The Committee must consider, at least, the Following Agenda:

- Opening & Welcome
- Present/ Apologies/ Absent
- Minutes of previous Meeting
- Matters Arising from the previous Minutes
- OH&S Reps Reports
- Incident Reports & Investigations

- Incident /Injury Statistics
- Other Matters
- Endorsement of Registers and other statutory documents by a representative of the Principal Contractor
- Close/Next Meeting

The Principal Contractor must ensure that ACSA Safety Department is invited to such meetings. These meetings do not substitute for Principal Contractor's Site meetings.

14. HEALTH & SAFETY TRAINING

Environmental Health and Safety Induction

The Principal Contractor must conduct an induction training session prior commencement of construction work. An attendance register must be kept in the Principal Contractor's health and safety file.

For any construction work to be conducted on the Airside, Airside Induction training (AIT) must be attended by all persons entering who are to enter Airside and a course fee determined by ACSA must be paid by the Principal Contractor. A security permit to access airside must be issued on production of proof of attendance.

Induction Conducted by the Principal Contractor and Competent Person

A manual /copy of such training must be provided to ACSA for reference purposes. As determined by the risk assessment. The Principal Contractor must ensure that all employees under his/her control are trained by a competent person and a proof of such training is kept on file for reference.

Toolbox Talks

The Principal Contractor must ensure that employees attend a formal Toolbox Talk to be held at least once a week. Toolbox Talks must cover a wide variety of topics related to health and safety. An attendance register must be completed by employees who attended such talks. The register must indicate the topic covered presenter, date and signatures of employees attended. Records for Toolbox Talks must be kept in a health and safety file and be made available to ACSA for perusal.

First Aid Training

The Principal Contractor must appoint competent First Aider(s) in writing where more than 10 employees are employed. A letter of appointment must be kept on file for reference made available to ACSA Safety. Duly designated First Aider(s) must have attended training at an accredited institution prior commencement of construction work and a proof of certificate be submitted to ACSA for reference.

The Principal Contractor must ensure that the first aid box(s) is/are controlled by qualified First Aider(s) and kept fully stocked with necessary first aid contents related to the hazards and risks identified. A first aid box(s) must be accessible and location of such box(s) is clearly displayed on site.

15. FIRE PREVENTION AND PROTECTION

The Principal Contractor must ensure that adequate fire equipment is provided in strategic places (that is, where there is a mobile distribution board, flammable liquids, pressure equipment, confined spaces, hot work). The Principal Contractor must ensure that such equipment is inspected by a competent person on a monthly basis and such inspections are recorded on a register. The Principal Contractor must ensure that all fire equipment is serviceable and person(s) have been professionally trained on how to use the equipment. A proof of such training must be provided prior commencement of construction work.

16. EMERGENCY PREPAREDNESS

The Principal Contractor must provide ACSA with an emergency plan and procedure which will include, but not limited to emergencies such as fire, bomb threat, civil unrest, medical treatment, environmental incidents, accidents to employees and other persons other than their employees.

Emergency procedure must be communicated to employees and a proof of such training must be kept on file for reference. A list of emergency contact numbers must be conspicuously displayed on site for ease reference. An evacuation plan must be displayed in strategic places.

In case of medical and/or fire emergency contact ACSA Fire & Rescue Services:

(044) 876 9310

The Principal Contractor must provide ACSA Safety with a full record of any incidents which may occur on site.

17. INCIDENTS/ACCIDENTS REPORTING AND INVESTIGATION

The Principal Contractor must ensure that all incidents/accidents (this includes near miss, first aid cases and section 24 cases) are reported by employees immediately to the Construction Manager for further investigation and remedial action. The Principal Contractor must ensure that all OHS Act section 24 incidents/accidents are reported to the Department of Labour immediately and preliminary investigation is conducted by a competent person within seven days. If construction work will be finished within 3 days after occurrence, an investigation must be conducted before such construction work is completed. Proof of such investigation must be submitted to ACSA immediately or within 24 hours after investigation.

18. PERSONAL PROTECTIVE CLOTHING/EQUIPMENT

The Principal Contractor must ensure that personal protective equipment or clothing needs analysis is conducted and incorporated into the risk assessment. Records must be provided by the Principal Contractor prior to the commencement of construction work. The Principal Contractor must ensure that SABS approved personal protective equipment or clothing is provided to personnel. The Principal Contractor must ensure that no personnel are allowed to work on site without necessary personal protective equipment or clothing. The Principal Contractor must ensure that PPE or Clothing is kept in good working order and clearly stipulate procedures to be followed when PPE or Clothing is lost or stolen, worn or damaged. ACSA will remove any person from the construction site who is working without necessary personal protective equipment and/or clothing. Worn or tattered personal protective clothing will not be permitted on airport premises.

19. FALL PROTECTION (WORKING IN ELEVATED POSITIONS)

(Construction Regulation 10)

A pre-emptive Risk Assessment will be required for any work to be carried out above two metres from the ground or any floor level and will be classified as "Work in Elevated Positions".

As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he/she is working at ground level and whilst working in this position be wearing and using a full body harness that will be worn to prevent the person falling from the platform, ladder or other device utilised.

This safety harness will be, as far as is possible, secured to a point away from the edge over which the person might fall and the double lanyard must be of such a length that the person will not be able to move over the edge.

In addition, any platform, slab, deck or surface forming an edge over which a person may fall must be fitted with guard rails at two different heights as prescribed in SABS 085' Code of Practice for the Design, Erection, Use and Inspection of Access Scaffolding

Workers working in elevated positions must be trained to do this safely and without risk. Proof of training must be maintained on the contractors site safety file. Medical certificates of fitness for all employees working in elevated positions must be available on site. This must be issued by an Occupational Health Practitioner.

Where work on roofs are carried out, the Risk Assessment must take into account the possibility of persons falling through fragile material, skylights, soffits and openings in the roof, steel support work trusses and purlins so designed as to support the roof structure.

The Risk Assessments shall place specific emphasis on the placing and handling of roofing materials such as Inverted Box Rib Sheeting (IBR sheeting) or similar materials, (including contingency safety measures), which when exposed to windy conditions represents a serious safety hazard.

20. RISK ASSESSMENT FOR CONSTRUCTION WORK

(Construction Regulation 9)

Every Contractor performing Construction work shall, before the commencement of any construction work and during such work, have a Risk Assessment performed by a competent person, appointed in writing, and the Risk Assessment shall form part of the OH&S Plan.

Each activity must define individual tasks associated with that identified activity. These and all associated hazards must be identified and listed in the risk assessment. This ensures that critical tasks and associated hazards are not missed.

The Risk Assessment must include:

- The identification of the risks and hazards to which persons may be exposed to
- The analysis and evaluation of the risks and hazards identified
- A documented plan and applicable safe work procedures (SWP) to mitigate, reduce or control the risks and hazards that have been identified
- A monitoring plan and
- A review plan

A Contractor must ensure that:

- As far as is reasonably practicable ergonomic related hazards are analysed, evaluated and addressed.
- All employees under his/her control are informed, instructed and trained by a competent person regarding any hazards.
- A Principal Contractor must ensure all Contractors are informed regarding any hazard as stipulated in the risk assessment before any work commences.
- Consult with health and safety committee on monitoring and review risk assessment on site.
- Ensure a copy of risk assessments is available for inspection.
- Review relevant risk assessments where changes are affected to the design or construction that result in a change to the risk profile or when an incident occurred.

N.B. A risk assessment will be performed for all unplanned work and submitted to ACSA for approval prior to work commencing.

21. STRUCTURES

(Construction Regulation 11)

The Contractor will ensure that in terms of Construction Regulation 11 the following is adhered to:

- That the structure on/in which works are to be performed has been inspected by a certified structural engineer declaring the structure to be safe for construction/demolition/renovations work processes.
- Steps are taken to ensure that no structure becomes unstable or poses a threat of collapse due to demolition and construction work being performed on it, or in the vicinity of it.

- No structure is overloaded to the extent where it becomes unsafe; if uncertainty arises then the structural engineer is to be consulted.
- He/she has received from the designer the following information:
- Information on known or anticipated hazards relating to the construction/demolition work and the relevant information required for the safe execution of the construction/demolition work.
- A geo-scientific report (where applicable).
- The loading the structure is designed to bear.
- The methods and sequence of the construction/demolition process.
- All drawings pertaining to the design are on site and available for inspection.

The structural engineer shall carry out inspections at appropriate and sufficient intervals of the construction work involving the design of the relevant structure to ensure compliance with the design and record the results of these inspections in writing.

22. TEMPORARY WORK

(Construction Regulation 12)

Temporary work must be carried out under the supervision of a competent person designated in writing.

Temporary works structures must be so designed, erected, supported, braced and maintained such that it will be able to support any vertical or lateral loads that may be applied.

No load is to be imposed onto the structure that the structure is not designed to carry.

Temporary works must be erected in accordance with the structural design drawings for that temporary works and, if there is any uncertainty, the designer must be consulted before proceeding with the erection/use of the temporary works.

All design drawings pertaining to the temporary works must be kept available on site.

All equipment used in the erection of temporary works must be checked by a competent person before use.

The foundation or base upon which temporary works is erected must be able to bear the weight and keep the structure stable.

Employees erecting temporary works must be trained in the safe work procedures for the erection, moving and dismantling of temporary works.

Safe access/egress (and emergency escape) must be provided for workers.

A competent person must inspect temporary works structures that have been erected before, during and after pouring of concrete or the placing of any other load and thereafter daily until the temporary works is stripped.

The results of all inspections must be recorded in a register kept on site.

The temporary works must be left in place until the concrete has reached sufficient strength to bear its own weight plus any additional weight that may be imposed upon it and not until the designated competent person has authorised its stripping in writing.

Any damaged temporary works must be repaired/rectified immediately Deck panels must be secured against displacement.

The contractor must ensure that no employee is exposed or required to work on slippery and dangerous surfaces.

Person's health must be protected when use is made of solvents, oils or other similar substances.

Ensuring that the OEL (Occupational Exposure Limit) for any substances that they may be exposed to does not exceed the legal limits and that the necessary PPE is used.

23. EXCAVATIONS

(Construction Regulation 13)

The Principal Contractor must ensure excavation work is conducted under supervision of a competent person who has been appointed in writing. A letter of appointment must be provided to ACSA Safety prior commencement of work. A risk assessment outlining safe work procedures to be adhered to if excavation is more than 1.0m deep must be provided to ACSA prior commencement of work. The Principal Contractor must ensure that no person works in an excavation which is not adequately braced or shored.

The Principal Contractor must ensure that every excavation including bracing and shoring are inspected daily prior each shift starts and such records are kept on site for reference.

The Principal Contractor must ensure that all precautionary measure as stipulated for confined spaces as stated in the General Safety Regulation of OHS Act 85/1993 are complied with when entering any excavation. The Principal Contractor must ensure that warning signs are conspicuously displayed where excavation work involves the use of explosives and a method statement developed by a competent person is provided to ACSA prior commencement.

The Principal Contractor must ensure that safe and convenient means of access is provided to every excavation when required. Such access must not be further than 6m from the point where any worker within the excavation is working.

The Principal Contractor must communicate, train and enforce safe work procedures pertaining to excavation work to his/her employees.

24. DEMOLITION WORK

(Construction Regulation 13)

The Principal Contractor must ensure that a detailed structural engineering survey is conducted by a competent person and a method statement on the procedure to be followed is provided to ACSA Safety. The Principal Contractor must ensure that demolition work is conducted under the supervision of a competent person appointed in writing.

The Principal Contractor must ensure that safety precautionary measures stipulated in Asbestos Regulations is adhered to if demolition work involves asbestos material and that asbestos work is conducted under the supervision of a registered Asbestos Principal Contractor.

25. SCAFFOLDING

(Construction Regulation 16)

Access Scaffolding must be erected, used, and maintained safely in accordance with Construction Regulation 16 and SA Bureau of Standards Code of Practice, SANS 10085/1 entitled, "The Design, Erection, and Use & Inspection of Access Scaffolding.

Detailed consideration must be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. It must also be ensured that there is sufficient material available to erect the scaffolding properly.

Scaffolding may only be erected, altered or dismantled by a person who has the appropriate training and experience in this type of work or under the supervision of such a person

Specific attention must be given to the appointment of Scaffolding Inspectors and Scaffolding Erectors who shall not be the same person. The continuous inspection of scaffolding structures must be recorded on the applicable Scaffold register.

Tagging/Signs reflecting the status of the scaffold must be always used and fixed to the structure. (Safe to use / Scaffold not Safe)

On completion of the erection, the Supplier will inspect the structure and will ensure it is in sound working order and complies with all statutory regulations. The Supplier will then issue a Handover Certificate, Drawings, design, and specifications shall be signed by a registered professional engineer.

An inspection of the completed scaffold shall also be inspected by the registered professional engineer for approval prior to use. Should any additional load i.e., a hoist or advertising banners be added to the scaffold at a later stage, the professional engineer must approve the modification.

26. SUSPENDED PLATFORMS

(Construction Regulation 17)

The Contractor to design, erect, use and maintain suspended platforms in accordance with the requirements of Construction Regulation 17.

27. EXPLOSIVE ACTUATED FASTENING DEVICES

(Construction Regulation 21)

Every Explosive Powered Tools (EPT) must be:

- Provided with a guard around the muzzle to confine flying fragments or particles
- A firing mechanism that will prevent the EPT from firing unless it is pushed against the surface and at a right angle (where the EPT is fitted with an intermediate piston between the charge and the nail this requirement is waived)
 - The Contractor or user must ensure that:
 - Only the correct type of cartridge is used (product specific)
 - The EPT is cleaned and inspected daily before use by an appointed competent person who maintains a register with the findings of his inspection and the details of cleaning, service and repairs
 - The safety devices are in good working order before the EPT is used
 - When the EPT is not being used it is stored in an unloaded condition together with the cartridges in a safe/secure place inaccessible to unauthorised persons
 - A warning notice is displayed at the point where the EPT is in use
 - The issue and return of cartridges must be controlled by maintaining the issue/returns register signed by both issuer and user and empty cartridge cases must be returned with unspent cartridges.
 - Users/operators of the EPT have received the necessary training and have been authorised as being competent to use/operate the EPT
 - Users/operators must wear the prescribed PPE whilst using/operating the tool.

28. CRANES

(Construction Regulation 22)

A Crane permit must be obtained from ACSA and submitted before erection of crane.

A contractor must, in addition to compliance with the Driven Machinery Regulations, 1988 ensure that where tower cranes are used—

- (a) they are designed and erected under the supervision of a competent person;
- (b) a relevant risk assessment and method statement are developed and applied;
- (c) the effects of wind forces on the crane are taken into consideration and that a wind speed device is fitted that provides the operator with an audible warning when the wind speed exceeds the design engineer's specification;
- (d) the bases for the tower cranes and tracks for rail-mounted tower cranes are firm, level and secured;
- (e) the tower crane operators are competent to carry out the work safely; and
- (f) the tower crane operators have a medical certificate of fitness to work in such an environment, issued by an occupational health practitioner in the form of Annexure 3.

29. LIFTING EQUIPMENT, TACKLE, MATERIAL HOIST AND CRANES

The Principal Contractor must ensure that all lifting equipment and tackle are inspected before use and a monthly register is completed by a competent person. Proof of such inspections must be recorded and kept on file for reference. The Principal Contractor must ensure that a safe working load is conspicuously displayed on lifting equipment and tackle and service certificate is provided prior commencement of work. The Principal Contractor must ensure operators are properly trained on how to operate the above-mentioned equipment and a proof of competency is provided prior commencement of work.

The Principal Contractor must provide information on procedures to be followed in the case of:

- (a) Malfunctioning of equipment; and
- (b) Discovery of a suspected defect in the equipment

The Principal Contractor must ensure that safety measures stipulated in Driven Machinery Regulation and Construction Regulation with regard to above equipment are adhered to at all times.

30. CONSTRUCTION VEHICLES & MOBILE PLANT

(Construction Regulation 13)

Construction Vehicles and Mobile Plant may be inspected by ACSA prior to being allowed on a project site and suppliers of hired vehicles, plant and equipment will be required to comply with this specification as well as the OHS Act and Regulations.

Construction Vehicles and Mobile Plant (CV & MP) to be:

- of acceptable design and construction
- maintained in good working order
- used in accordance with their design and intention for which they were designed
- Operated/driven by trained, licensed competent and authorised operators/drivers. No unauthorised persons to be allowed to drive or operate CV & MP
- Operators and drivers of CV & MP must be in possession of a valid medical certificate declaring the operator/driver physically and psychologically fit to operate or drive CV & MP.
- fitted with adequate signalling devices to make movement safe including reversing
- excavations and other openings must be provided with sufficient barriers to prevent CV & MP from falling into same
- Provided with roll-over protection, appropriate seat fitted which shall be used during CV & MP operations.
- inspected daily before start-up by the driver/operator/user and the findings recorded in a register/logbook

- CV & MP to be fitted with two head and two taillights whilst operating under poor visibility conditions, in addition they shall be equipped with 'hazard warning' lights, which must be used whenever the CV & MP is on site.
- No loose tools, material etc. is allowed in the driver/operators compartment/cabin nor in the compartment in which any other persons are transported
- CV & MP used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported
- Operators to be issued with Personal Protective Equipment as required and identified by the Risk Assessments
- Only licensed and road worthy vehicles will be allowed on the public roads

No person may ride on a CV & MP except in a safe place provided by the manufacturer for this purpose

The construction site must be organized to facilitate the movement of CV & MP so that pedestrians and other vehicles are not endangered. Traffic routes are to be suitable, sufficient in number and adequately demarcated.

CV & MP left unattended after hours adjacent to roads and areas where there is traffic movement must be fitted with lights reflectors or barricades to prevent moving traffic coming into contact with the parked CV & MP.

In addition, CV & MP left unattended after hours must be parked with all buckets, booms etc. fully lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely

Workers employed adjacent to, or on public roads must wear reflective safety vests

All CV & MP inspection records must be kept in the OH&S File.

31. ELECTRICAL INSTALLATIONS AND MACHINERY ON CONSTRUCTION SITES

(Construction Regulation 24)

The Principal Contractor must, in addition to compliance with the Electrical Installation Regulations, 2009, and the Electrical Machinery Regulations, 1988, promulgated by Government Notice No. R. 1593 of 12 August 1988, ensure that—

- before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or on the site;
- all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;
- the control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing for that purpose;
- all temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site; and
- all electrical machinery is inspected by the authorized operator or user on a daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

The Principal Contractor must ensure that prior notice is given to ACSA Electrical Department of any work involving electrical installation. A lock-out certificate must be issued to the relevant Principal Contractor. The Principal Contractor must ensure that a lock-out procedure is adhered to by his/her employees whenever required. The Principal Contractor must ensure that safety measures stipulated in the Electrical Installation Regulations, Machinery Regulations, General Machinery Regulations and Construction Regulations are adhered to at all times.

32. USE AND TEMPORARY STORAGE OF FLAMMABLE LIQUIDS ON CONSTRUCTION SITES

(Construction Regulation 25)

The Principal Contractor to ensure that:

- No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present.
- No flammable substance is used or applied e.g. in spray painting, unless in a room or cabinet or other enclosure specially designed and constructed for that purpose, unless due to imposed controls that the ventilation provided is sufficient to ensure that the Lower Explosive Limit and Lower Fire Limit are not exceeded. Furthermore, that the risk assessments are reviewed to ensure that all the related hazards have been addressed and that adequate P.P.E. is provided.
- The workplace is effectively ventilated. Where this cannot be achieved:
- Employees must wear suitable respiratory equipment
- No smoking or other sources of ignition is allowed into the area
- The area is conspicuously demarcated as "flammable materials"
- Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container approved by the local Fire Department, cage or room that is kept locked with access control measures in place and sufficient firefighting equipment installed and fire prevention methods practised e.g. proper housekeeping
- Flammables stored in a permanent flammables store are stored so that no fire or explosion is caused i.e.: stored in a locked well-ventilated reasonably fire-resistant container, cage or room conspicuously demarcated as "Flammable Store -No Smoking or Naked Lights"
- Adequate and suitable firefighting equipment installed around the flammables store and marked with the prescribed signs
- All electrical switches and fittings to be of a flameproof design, or where necessary, intrinsically safe.
- Any work done with tools in a flammables store or work areas to be of a non-sparking nature
- No Class A combustibles such as paper, cardboard, wood, plastic, straw etc. to be stored together with Flammables
- The flammable store to be designed and constructed so that in the event of spillage of liquids in the store, it will contain the full quantity + 10% of the amount liquid stored.
- Where the use of Bulk Storage facilities is contemplated, the contractor must ensure compliance to the local Authority bylaws.
- A sign indicating the capacity of the store to be displayed on the door
- Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas
- Metal containers to be bonded to earth whilst decanting to prevent build-up of static electricity
- Welding and other flammable gases to be stored and segregated as to type of gas and empty and full cylinders
- All permanently installed storage facilities to comply with SANS 10089.

33. HOUSEKEEPING AND GENERAL SAFEGUARDING ON CONSTRUCTION SITES

(Construction Regulation 27)

The Principal Contractor must ensure that suitable housekeeping is continuously implemented on each construction site, including—

- (a) the proper storage of materials and equipment;

- (b) the removal of scrap, waste and debris at appropriate intervals;
- (c) ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways;
- (d) ensuring that materials which are no longer required for use, do not accumulate on and are removed from the site at appropriate intervals;
- (e) ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons; and
- (f) ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under or fencing off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe in the case of danger or possibility of persons being struck by falling objects.

The Principal Contractor must ensure that safety precautionary measures stipulated in Environmental Regulations for Workplaces and Construction Regulations and Construction Environmental Specification are adhered to at all times.

34. STACKING AND STORAGE ON CONSTRUCTION SITES

(Construction Regulation 28)

The Principal Contractor must ensure contractor must ensure that:

- (a) a competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site;
- (b) adequate storage areas are provided;
- (c) there are demarcated storage areas; and
- (d) storage areas are kept neat and under control a competent person is appointed in writing with a duty of supervising all stacking and storage on a construction work or site. A proof of such appointment must be provided prior commencement of construction work. The Principal Contractor must ensure that stacking is conducted under supervision and good housekeeping is maintained at all times.

35. FIRE PRECAUTIONS ON CONSTRUCTION SITES

(Construction Regulation 29)

The Principal Contractor must ensure that:

- (a) all appropriate measures are taken to avoid the risk of fire;
- (b) sufficient and suitable storage is provided for flammable liquids, solids and gases;
- (c) smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;
- (d) in confined spaces and other places in which flammable gases, vapours or dust can cause danger—
 - (i) only suitably protected electrical installations and equipment, including portable lights, are used;
 - (ii) there are no flames or similar means of ignition;
 - (iii) there are conspicuous notices prohibiting smoking;
- (iv) oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and

- (v) adequate ventilation is provided;
- (e) combustible materials do not accumulate on the construction site;
- (f) welding, flame cutting and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire;
- (g) suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order;
- (h) the fire equipment contemplated in paragraph (g) is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof;
- (i) a sufficient number of workers are trained in the use of fire- extinguishing equipment;
- (j) where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;
- (k) the means of escape is kept clear at all times;
- (l) there is an effective evacuation plan providing for all—
 - (i) persons to be evacuated speedily without panic;
 - (ii) persons to be accounted for; and
 - (iii) plant and processes to be shut down; and
- (m) a siren is installed and sounded in the event of a fire.

36. CONSTRUCTION EMPLOYEES' FACILITIES

(Construction Regulation 30)

A Contractor must provide at or within reasonable access of every construction site, the following clean, hygienic and maintained facilities:

- (a) Shower facilities after consultation with the employees or employees' representatives, or at least one shower facility for every 15 persons;
- (b) at least one sanitary facility for each sex and for every 30 workers;
- (c) changing facilities for each sex; and
- (d) sheltered eating areas.

A Contractor must provide reasonable and suitable living accommodation for the workers at construction sites who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

37. LADDERS

The Principal Contractor must ensure that all ladders are numbered, inspected before use and monthly inspections are recorded in a register. The Principal Contractor must ensure that a competent person who carries the above inspections is appointed in writing.

38. PRESSURE EQUIPMENT

The Principal Contractor must ensure that pressure equipment is identified, numbered and entered in a register. Furthermore he/she must ensure that inspections are carried out and certificates of testing are available and kept on file as per the Regulations.

39. EMPLOYEES EXPOSED TO EXCESSIVE NOISE

The Principal Contractor must ensure that all employees exposed to excessive noise, equal or above 85 dB(A), have undergone a baseline audiometric test prior commencement of construction work and SABS approved ear protection is provided and worn at all times.

40. PUBLIC SAFETY AND SECURITY

The Principal Contractor must ensure that notices and signs are conspicuously displayed at the entrance and along the perimeter fence indicating "No Unauthorized Entry", "Visitors to report to office", "helmet and safety shoes" etc.

Health and safety signage must be well maintained throughout the project. This must entail cleaning, inspection and replacement of missing or damaged signage.

Furthermore, the Principal Contractor must ensure that:

- a) Nets, canopies, fans etc. are provided to protect the public passing or entering the site
- b) A security guard is provided where necessary and provided with a way of communication and an access control measures or register is in place
- c) All visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site.

41. NIGHT WORK

The Principal Contractor must ensure that necessary arrangements have been made with ACSA before conducting any night work and that there is adequate lighting for any work to be conducted and failure to do so will result in work being stopped.

42. HOT WORK

The Principal Contractor must ensure that ACSA Fire & Rescue Department is notified of any hot work to be conducted during construction work. A hot work permit accompanied with a gas free certificate must be issued to the relevant Principal Contractor by ACSA Fire & Rescue Department when satisfied that the area is safe and that the Principal Contractor understands the procedure. The Principal Contractor must ensure that a hot work procedure is adhered to at all times by his/her employees.

43. HIRED PLANT AND MACHINERY

The Principal Contractor must ensure that any hired plant and/or machinery brought to site is inspected by a competent person before use and records confirming that it is safe for use are provided prior usage of such equipment. Such plant or machinery complies at all times with the requirements of the Occupational Health & Safety Act.

The Principal Contractor must ensure that hired operators receive induction prior commencement of work and that said hired operators have proof of competency.

The Principal Contractor must provide information on procedures to be followed in the case of:

- (a) Malfunctioning of equipment; and
- (b) Discovery of a suspected defect in the equipment

44. ROAD CONSTRUCTION WORK

The Principal Contractor must ensure that construction work conducted on the public road all necessary caution signage, cones, flag man etc. are provided as stipulated in the Road Traffic Ordinance is adhered to. The caution signage to be conspicuously displayed to warn the drivers of any construction work ahead must be provided at least at 75 m away from the cones; flag man; actual construction work etc.

45. EDGE PROTECTION AND PENETRATION

The Principal Contractor must ensure that all exposed edges and floor openings are guarded and demarcated at all times until permanent protection has been erected. Guardrails used for edge protection must be 500mm and 900mm apart (double railing) above the platform/ floor surface.

The Principal Contractors fall protection plan must include the procedure to be followed regarding the management of edge protection and penetration.

46. BATCH PLANTS

Should a batch plant be used, it must conform to the requirements as set out on Construction Regulation (February 2014) of OHS Act 85/93. These must include but not limited to appointment of a competent person to operate and supervise batch plant operations.

47. CONFINED SPACE ENTRY

The Principal Contractor must ensure that all necessary health and safety provisions prescribed in the General Safety Regulations are complied with when entering confined spaces.

48. LIQUOR, DRUGS, DANGEROUS WEAPONS, FIREARMS

The Principal Contractor must ensure that no person is allowed on site that appears to be under the influence of intoxicating liquor or drugs.

The Principal Contractor must encourage his/her workforce to disclose the medication that poses a health and safety threat towards his/her fellow employees. No person must be allowed to enter the site and work if the side effects of such medication do constitute a threat to the health or safety of the person concerned or others at such workplace.

No dangerous weapons or firearms allowed on the construction site.

49. INTERNAL/EXTERNAL AUDITS

The Principal Contractor must conduct monthly safety, health and environment audits and such records must be kept on site. The Principal Contractor must ensure that corrective measures are taken to ensure compliance.

ACSA must conduct monthly audits and defects noted must be reported to the relevant Principal Contractor for remedial action. Inspections must be conducted by ACSA and non-conformances noted must be recorded and provided to the relevant Principal Contractor for remedial action. ACSA must stop any Principal Contractor from executing any construction work which is not in accordance with the health and safety plan.

The Principal Contractor must ensure that all necessary documents stipulated in this document are kept on the health and safety file and made available when requested.

50. PENALTIES

Penalties will be imposed by ACSA on Principal Contractors who are found to be infringing these specifications, legislation and safety plans.

The Principal Contractor will be advised in writing of the nature of the infringement and the amount therefor. The Principal Contractor must determine how to recover the fine from the relevant employee and/or sub-

contractor. The Principal Contractor must also take the necessary steps (e.g. training) to prevent a recurrence of the infringement and must advise ACSA accordingly. The Principal Contractor is also advised that the imposition of penalties does not replace any legal proceedings.

Penalties will be between R200 and R20 000, depending upon the severity of the infringement. The decision on how much to impose will be made by the ACSA SHE Representative and will be final. In addition to the penalties, the Principal Contractor must be required to make good any damage caused as a result of the infringement at his/her own expense.

The preliminary list below outlines typical infringements against which ACSA may raise penalties; however, this list must not be construed as final:

- Failure to keep a copy of OHSACT on site.
- Failure to maintain an up-to-date letter of good standing with the Compensation Commissioner / FEM.
- Working on site without attending Safety Induction Training.
- Failure to conduct Safety Induction for personnel and visitors on site.
- Failure to issue and wear Personal Protective Clothing and Equipment.
- Failure to fully stock first aid box in accordance to the risks identified.
- Failure to disclose or report first aid cases and /or minor/major/fatalities as prescribed by the OHSACT.
- Failure to adhere to written safe work procedure as stipulated in the Hazard Identification and Risk Assessment and safety plan.
- Failure to maintain records and registers as per the OHS Act of 1993 and its regulations.
- Failure to conduct audits and inspections as required by legislation.
- Keeping un-serviced fire equipment on site.
- Failure to make use of ablution facilities.
- Failure to remove personnel on site who appears to be under the influence of intoxicating liquor or drugs.
- Failure to close out previously raised non-conformances.
- Failure to make and update legislative appointments.
- Failure to adhere to the OHS Act of 1993 and its regulations.

I, _____ (name & surname) of

_____(company) Upon receipt of this specification, agree and acknowledge ACSA's right to impose penalties should I or any of my employees or contractors fail to comply with these conditions.

Signed: _____

On this date: _____ (dd/mm/yyyy)

At: _____ (Airport Name)

ANNEXURE 5.3 : ACSA Baseline HIRA

Baseline Risk Assessment	
Project Name	SOB Airside HVAC System Refurbishment at Cape Town International Airport
Document Number: HIRA 1	Revision Number: 001

1. Risk assessment of the Project

Risk Severity Definition	Description: Consequences (can lead to)...	Examples of what to look out for...
Category A Catastrophic	One or more multiple deaths and complete loss or destruction of equipment	A major accident
Category B Hazardous	Serious injuries or minor equipment damage	Large reduction in safety margins, a reduction in the ability of the operators cannot be relied upon to perform their tasks accurately or completely
Category C Major	Minor injuries or minor equipment damage	A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of conditions impairing their efficiency.
Category D Minor	Incidents	Operating limitations are breached. Procedures are not used correctly.

Category E Negligible	Negligible or inconvenience	Few consequences, No safety consequences. Nuisance
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2. Generic Hazard Assessment of the Project

Likelihood Probability	Description	Examples of what to look out for...
Category 1	Extremely Improbable (Rare)	Almost inconceivable that the event shall occur
Category 2	Improbable (Seldom)	Very unlikely that the event shall occur. It is not known that it has ever occurred before
Category 3	Remote (Unlikely)	Unlikely but could possibly occur. Has occurred rarely.
Category 4	Occasional	Likely to occur sometimes. Has occurred infrequently.
Category 5	Frequent	Likely to occur many times or regularly. Has occurred frequently or regularly

		Catas- trophic	Hazardous	Major	Minor	Negligible
		A	B	C	D	E
Frequent	5	5A	5B	5C	5D	5E
Occasional	4	4A	4B	4C	4D	4E
Remote	3	3A	3B	3C	3D	3E
Improbable	2	2A	2B	2C	2D	2E
Extremely Improbable	1	1A	1B	1C	1D	1E

Required to Complete a Generic Hazard Assessment of the Project

Generic Hazard	Specific component of Hazard	Hazard related consequence	Existing defences to control risk	Safety Risk Index
Site establishment	Delivering of containers and materials; increased vehicle movements and location of services	Operational disruptions, incidents and service disruptions	Site plan location requires prior approval, services to be identified by ACSA representatives and drivers to be competent and vigilant of other road users. Vehicle inspections are to be conducted daily	2D
Site Access	Access is to be controlled and movement of vehicles and staff are to be monitored to reduce impact on operations	Injuries to Airport users, traffic build up, operational delays, vehicle incidents	Site is to be access controlled. All visitors to site are to report to the site office. Entrance to site camp is to be kept clean, swept after truck deliveries to minimize impact to operations.	2D
Persons on airside	Accidents and injuries	Injury to persons/Fatality	All staff wishing to work on the Airside are to go for Airside induction training. These staff members are to have valid Permits with them at all times. Personal protective equipment required for Airside includes but is not limited to high visibility jackets (as per the procedure, hearing protection, safety shoes & hard hats (if required). An airside safety plan must be submitted before commencement of work.	3A

Vehicles on airside	Accidents and injuries	Damage to aircraft/vehicles/property/persons	All vehicles operating on the Airside are to be fitted with a strobe light, appropriate signage in the form of a prefix, have the necessary vehicle permit in place, to be fitted with a fire extinguisher and is to be serviceable. Vehicles are to be checked by Airside Safety prior to be granted Airside access	4A
Driving on airside	Incidents	Damage to aircraft/vehicles/property/ persons	Airside induction is required for all persons entering the Airside. For persons wishing to drive on the Airside Service Road an AVOP 2 permit is required. Where work is to be conducted on the Airfield, then contractors are required to be under escorts or have undergone Radio Licence training and be in the possession of an AVOP 3 permit. The speed limit on the Apron Service Roads is 30km/h, 15km/h at the back of stand and 60km/h on the Perimeter Road. During period of Low Visibility (LVP) will be effected and no vehicular movements are allowed on the Airfield. Low visibility procedures will be in place	4A
Driving on runways and taxiways without permission	Incursion (include definition)	Collision with aircraft/property damage or fatality/ies	Runway and taxiway markings are indicated as per ICAO Annex 14. Permission is required from Air Traffic Control when crossing runways and taxiways. Signage indicating movement areas are painted on the ground or by means of illuminated signage boxes. Only persons in possession of a valid Airside Vehicle Operators Permit with the necessary radio licence (Partac training) will be permitted to drive in restricted areas. Vehicles under escort must follow at reasonable distance.	3A

Noise	Health Risks	Noise induced hearing loss	Baseline and annual audiograms are to be conducted. Contractors are to implement a hearing conservation programme and issue staff with hearing protection and provide the necessary training in this regard. Contractors to identify noisy operations in passenger areas and are to conduct noise generating operations at off peak times were possible or if unavoidable with ACSA's Project Leaders written permission.	3B
Jet blast	Potential injuries and property	Damage to vehicles/property/persons	Signage warning against jetblast is installed at high-risk areas. Risks associated with jetblast are covered during Airside Induction Training. Caution to be taken around aircraft when the anti-collision lights are activated in the Apron bays. 75 meter clearance behind aircraft to be observed to prevent jetblast. Contractors to be aware of aircraft movements	4C
Perimeter fence breach	Security risk	National Key Point Violation	Access and egress points are strictly enforced. Contractors are only to use the entry points as provided by the ACSA Project Leader. No materials are to be stored within 3meter of the perimeter fence.	3B
Crane operations	Height of crane	Flight path obstruction/collision with aircraft	30 meter height restriction procedure – refer to Airfield Operation Department for further information	2A
Weather	Adverse weather conditions	Damage to aircraft/vehicles/equipment	Weather warnings are issued by the Airside Safety Department as and when required. All equipment on the Airside is to be secured	4A

Construction works	Foreign Object Debris (FOD)	Ingestion into aircraft engine	Airside induction is required for all staff working on the Airside, FOD bins are to be used for any FOD found lying on the ground. All waste to be secured to prevent it from becoming airborne (refer to Environmental Terms and Conditions)	4B
Construction works	Working at Height	Injury /fatality	Fall protection plan to be devised by the contractors in line with the Construction Regulations 2014. Rescue plans are to be included	3A
Construction works	Storage of hazardous chemicals substances	Contamination/fi re/ injury to persons/ environmental impact	ACSA's Environmental terms and conditions are to be adhered to. All relevant legislation and bylaws are to be adhered to. All necessary permits are to be applied for by the contractor such as transport permits, possession permits and flammable certificates. ACSA Environment and Fire and Rescue to be notified where a spill occurs.	4B
Construction works	Waste	Attracts rodents and birds which leads to bird strikes and adds to FOD	Waste management to be implemented in line with ACSA's Environmental Terms and Conditions	4B
Construction works	Spillages (fuels/oils/hydraulics/chemicals/human waste)	Contamination/Pollution/injury to persons/adverse health effects	ACSA's Environmental terms and conditions and applicable legislative controls are to be adhered to. ACSA Environment and Fire and Rescue to be notified where a spill occurs	4B
Construction works	Dust	Damage to aircraft//injury to persons/adverse health effects/	Dust suppression measures are to be implemented and PPE used where required	4A

Construction works/ Trenching	Damage to underground services. Interruption of critical services	Electrocution, loss of critical services, damage to property, major injuries, aircraft diversions	Consult as-built plans. Scan area before trenching. Trenching to be done under competent supervision.	4A
Delivery of materials	Falling materials or stones or sand	Vehicle/pedestrian accidents	Materials are to be delivered within specified time frames, flagman to be utilised during deliveries, load limitations to be observed, netting is to be used, contractors to clean road after deliveries	4E
Lack of signage – warning signs	Injuries and accidents	Injuries and accidents	Contractors to install sufficient demarcations around construction sites along with the necessary warning signs and beacon lights (refer to Construction Regulations and Traffic Act) No signs are to be removed without prior permission and notification. Temporary way finding signage is required if signage has been disturbed	2D
Road crossing Central Boulevard	Not using the tunnel for crossing	Vehicle and pedestrian accidents	Contractor staff are to cross the Boulevard via the North or South tunnels	4B
Waste management	Environmental impact	Illegal dumping	Temporary laydown areas to be identified and no illegal dumping is permitted.	3C
Trolleys	Damaging trolleys through misuse	Injuries and property damage	Contractors to provide their own trolleys. ACSA's trolleys are for passenger use only	5D
Golf carts	Misuse of golf carts	Injuries and property damage	Contractor staff to be aware of golf cart movements on the Landside. Golf cart use for airport users only and not for contractor use for transporting materials. Golf cart operate in predetermined routes – contractors to be aware thereof	3D

Fire equipment	Use and abuse of fire equipment	Injuries and property damage	Fire equipment is only to be used during emergencies. Contractors to provide their own fire equipment. No materials to be stored in ACSA fire cabinets. Emergency exits are to be kept clear at all times.	2B
Unattended bags	Security risk	injuries/fatality to Airport users/stakeholders/ACSA employees. Bomb threat-damage to property, vehicle. Operational disruptions	Contractors are not permitted to leave bags unattended as they will be removed and will be handed to SAPS	5C
Speed limits	Car accidents	Injuries and vehicle damage	Speed limits on the Central Boulevard and Elevated Road are 40km/h, exiting the road networks is 50km/h, Tower Road is 50km/h and Freight Road is 50km/h. Speed humps are installed along Tower Road and Freight Road to reduce speeding	3C
Deliveries	Elevated Road	Disrupt traffic flow and passenger movements	No trucks allowed, deliveries to be done via North or South Delivery Yards, delivery notes are required and delivery times are to be specified.	2C
Overhead works	Falling items	Injuries, vehicles, property damage	Fall protection plan required as per the Construction Regulations 2014.	5C
General housekeeping	Damage to escalators	Injuries, property damages	Escalators are not be used to transport heavy items in the Parkade	4C

ANNEXURE 5.4 : Occupational Health and Safety Agreement

AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH & SAFETY ACT (ACT 85 OF 1993), AS AMENDED & CONSTRUCTION REGULATION 5.1(K)

OBJECTIVES

To assist Airport Company South Africa (ACSA) in order to comply with the requirements of:

1. The Occupational Health & Safety (Act 85 of 1993), as amended and its regulations and The Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993) also known as the (COID Act).
2. Construction Regulations 2014

To this end an Agreement must be concluded before any contractor/ subcontracted work may commence

The parties to this Agreement are:

Name of Organisation: AIRPORTS COMPANY SOUTH AFRICA "ACSA"
Physical Address: Airport Company South Africa Western Precinct, Aviation Park, O.R. Tambo International Airport 1 Jones Road Kempton Park Johannesburg, 1632 P O Box 75480, Gardenvue, Gauteng, South Africa, 2047

Hereinafter referred to as "Client"

Name of organisation:
Physical Address

Hereinafter referred to as "the Mandatory/ Principal Contractor"

MANDATORY'S MAIN SCOPE OF WORK

1. Definitions

- 1.1 "Mandatory" is defined as an agent, a principal contractor or a contractor for work, or service provider appointed by the Client to execute a scope of work on its behalf, but WITHOUT DEROGATING FROM HIS/HER STATUS IN HIS/HER RIGHT AS AN EMPLOYER or user of the plant.
- 1.2 "Client" refers to ACSA;
- 1.3 "Parties" means ACSA and the Contractor, and "Party" shall mean either one of them, as the context indicates;
- 1.4 "Services" means the services provided by the Contractor or Stakeholder to ACSA;
- 1.5 "Stakeholder" refers to companies conducting business at ACSA premises or within close proximity where there is an interface with ACSA operations;
- 1.6 "The OHS Act" refers to Occupational Health and Safety Act 85 of 1993, as amended;
 "The COIDA Act" refers to Compensation for Occupational Injuries and Diseases Act 61 of 1997, as amended; and
- 1.7 "SHE" means Safety, Health and Environment.

GENERAL INFORMATION FORMING PART OF THIS AGREEMENT

- a) The Occupational Health & Safety Act comprises of SECTION 1-50 and all unrepealed REGULATIONS promulgated in terms of the former Machinery and Occupational Safety Act No.6 of 1983 as amended as well as other REGULATIONS which may be promulgated in terms of the Act and other relevant Acts pertaining to the job in hand.
- b) Section 37 of the Occupational Health & Safety Act potentially punishes Employers for unlawful acts or omissions of Mandatories where a Written Agreement between the parties has not been concluded containing arrangements and procedures to ensure compliance with the said Act BY THE MANDATORY.
- c) All documents attached or refer to in the above Agreement form an integral part of the Agreement.
- d) To perform in terms of this agreement Mandatories must be familiar and conversant with the relevant provisions of the Occupational Health & Safety Act 85 of 1993 (OHS Act) and applicable Regulations.
- e) Mandatories who utilise the services of other contractors must conclude a similar Written Agreement with those companies.
- f) Be advised that this Agreement places the onus on the Mandatory to contact the CLIENT in the event of inability to perform as per this Agreement.
- g) This Agreement shall be binding for all work the Mandatory undertakes for the Client and remains in force for the duration of the contracted period as per Main Contract signed by both parties.
- h) The contractor shall submit all necessary documentation as per SHE File Index to the Client seven days prior to starting with any work,.

THE UNDERTAKING

The Mandatory undertakes to comply with:

2. REPORTING

The Mandatory and/or his / her designated person shall report to the Client prior to commencing any work at the airports as well as when the activities change from the original scope of work.

3. WARRANTY OF COMPLIANCE

3.1 In terms of this agreement the Mandatory warrants that he / she agrees to the arrangements and procedures as prescribed by the Client and as provided for in terms of Section 37(2) of the OHS Act for the purposes of compliance with the Act.

3.2 The Mandatory further warrants that he / she and / or his / her employees undertake to maintain such compliance with the OHS Act. Without derogating from the generality of the above, or from the provisions of the said agreement, the Mandatory shall ensure that the clauses as hereunder described are at all times adhered to by himself / herself and his / her employees.

3.3 The Mandatory hereby undertakes to ensure that the health and safety of any other person on the premises is not endangered by the conduct of his / her activities and that of his / her employees.

4. SHE Risk Management

4.1 The Mandatory shall ensure that a baseline risk assessment is performed by a competent person before commencement of any work in the Client's premises. A baseline risk assessment document will include identification of hazards and risk, analysis and evaluation of the risks and hazards identified, a documented plan and safe work procedures to mitigate, reduce or control the risks identified, and a monitoring and review plan of the risks and hazards.

4.2 The Mandatory shall review the risk registers as and when the scope of work changes and keep the latest version on the SHE File.

5. MEDICAL EMERGENCY RESPONSE

The Mandatory shall submit a detailed emergency response procedure to the Client OHS Department as part of the SHE File prior to start of work. The procedure shall stipulate how the Mandatory intends to attend to medical emergencies. In the sites where the Client has onsite clinic services, the medical staff can provide first line response and stabilise the patient however the Mandatory shall then activate its own medical response procedure and transport the patient to the medical facilities for further medical attention.

6. APPOINTMENTS AND TRAINING

6.1 The Mandatory shall appoint competent persons as per Section 16(2) of the OHS Act. Any such appointed person shall be trained on any occupational health and safety matter

and the OHS Act provisions pertinent to the work that is to be performed under his / her responsibility. Copies of any appointments and certificates made by the Mandatary shall immediately be provided to the Client.

- 6.2 The Mandatary shall at the beginning of the project or activities where there are 5 people and more people working appoint a full time dedicated Health and Safety resource whom will be dedicated to the project to ensure that Safety, Health and Environmental Requirements are met at all times. The allocated resource shall be based where the project is undertaken for the duration of the project or scope of work execution. The resource shall be trained and qualified on Occupational Health and Safety matters and the OHS Act provisions pertinent to the work that is to be carried out.
- 6.3 The Mandatary shall further ensure that all his / her employees are trained on the health and safety aspects relating to the work and that they understand the hazards associated with such work being carried out on the airports. Without derogating from the foregoing, the Mandatary shall, in particular, ensure that all his / her users or operators of any materials, machinery or equipment are properly trained in the use of such materials, machinery or equipment.
- 6.4 Notwithstanding the provisions of the above, the Mandatary shall ensure that he / she, his / her appointed responsible persons and his / her employees are at all times familiar with the provisions of the OHS Act, and that they comply with the provisions of the Act.
- 6.5 The Mandatary shall at all material times be responsible for all costs associated with the performance of its own obligations and compliance with the terms of this Agreement, unless otherwise expressly agreed by the Parties in writing.

7. SUPERVISION, DISCIPLINE AND REPORTING

- 7.1 The Mandatary shall ensure that all work performed on the Clients premises is done under strict supervision and that no unsafe or unhealthy work practices are permitted. Discipline regarding health and safety matters shall be strictly enforced against any of his / her employees regarding non-compliance by such employee with any health and safety matters.
- 7.2 The Mandatary shall further ensure that his / her employees report to him / her all unsafe or unhealthy work situations immediately after they become aware of the same and that he / she in turn immediately reports these to the Client within 48 hours with the action taken to mitigate the risk.
- 7.3 Where the hazard or risk identified is the responsibility of the Client to action, the Mandatary shall notify the Client OHS and Safety Department within 24 hours of becoming aware of the hazard or risk for prompt action to mitigate.

8. COOPERATION

- 8.1 The Mandatary and his/her employees shall provide full co-operation and information if and when the Client or his / her representative enquires into occupational health and safety issues concerning the Mandatary. It is hereby recorded that the Client and his / her representative shall at all times be entitled to make such an inquiry.
- 8.2 Without derogating from the generality of the above, the Mandatary and his / her responsible persons shall make available to the Client and his / her representative, on

request, all and any checklists and inspection registers required to be kept by him / her in respect of any of his / her materials, machinery or equipment and facilities.

9. WORK PROCEDURES

- 9.1 The Mandatary shall, after having established the dangers associated with the work performed, develop and implement mitigation measures to minimize or eliminate such dangers for the purpose of ensuring a healthy and safe working environment.
- 9.2 The Mandatary shall then ensure that his / her responsible persons and employees are familiar with such mitigation measures. This includes the lock out tag out processes relating to the use of machinery.
- 9.3 The Mandatary shall implement any other safe work practices as prescribed by the Employer and shall ensure that his / her responsible persons and employees are made conversant with and adhere to such safe work practices.
- 9.4 The Mandatary shall ensure that work for which a permit is required by the Employer or any statute is not performed by his / her employees prior to the obtaining of such a permit.

10. HEALTH AND SAFETY MEETINGS

- 10.1 OHS Act requires that Health and Safety Committees be established in case where employee count exceeds 20 onsite, however due to the duration and the nature of the scope of work executed by the contractors and stakeholders enforces that regardless of employees at the airports. The Mandatary shall establish his / her own health and safety committee(s) and ensure that his / her employees, being the committee members, hold health and safety representatives to attend the Employer's health and safety committee meetings on monthly basis or quarterly whichever is applicable as per contractor requirement.
- 10.2 The Mandatary Section 16(2) appointed and SHE resource shall attend the Client SHE meetings as per the schedule communicated. In cases where the Mandatary delegated resources are not able to attend the meeting, an apology shall be submitted to the Client OHS Manager 24 hours before the meeting. An alternative representative shall be deployed to attend the meeting on the half of the Mandatary.
- 10.3 The Mandatary appointed Section 16(2) and SHE resource shall not skip more than three SHE Committee meetings a year.

11. COMPENSATION REGISTRATION/INSURANCE

- 11.1 The Mandatary warrants that all their employees and/or their contractor's employees if any are covered in terms of the COID Act, which shall remain in force whilst any such employees are present on the Client's premises. A letter is required prior commencing any work on site confirming that the Principal contractor or contractor or stakeholder is in good standing with the Compensation Fund or Licensed Insurer.
- 11.2 The Mandatary warrants that they are in possession of the following insurance cover, which cover shall remain in force whilst they and /or their employees are present on the Client's premises, or which shall remain in force for that duration of their contractual relationship with the Client, whichever period is the longest.

- 11.3 The Mandatary shall provide the Client with Public Liability Insurance Cover as required by the Main Contract
- 11.4 Any other Insurance cover that will adequately makes provision for any possible losses and/or claims arising from their and /or their Subcontractors and/or their respective employee's acts and/or omissions on the Client's premises.
- 11.5 The Mandatary shall send updated Letter of Good Standing to the Client as and when the Mandatary receives it to ensure that the most valid version is available.

12. MEDICAL EXAMINATIONS

- 12.1 The Mandatary shall ensure that all his / her employees undergo routine medical examinations and that they are medically fit for the purposes of the work they are to perform.
- 12.2 Copies of such medical fitness certificates shall be made available to Client as part of the SHE file for review to ensure that they have been conducted by a reputable Occupational Health Practitioner registered with Health Professions Council of South Africa (HPCSA) as a doctor and specialist Occupational Medical Practitioner. Any other additional medical assessment shall be conducted in line with risk exposures.
- 12.3 Standard (Basic) medical tests shall constitute the following assessments as minimum:
- Individual's history of general and previous occupational health
 - Comprehensive physical examination for evaluation of systemic function
 - Blood Pressure Measurement
 - Weight, Height and Body Mass Index
 - Urine screening
 - Drug screening
 - Audio screening
 - Lung Function Test
 - Keystone eye test
 - Work at Height Questionnaire
 - Muscular skeletal questionnaire

13. INCIDENT REPORTING AND INVESTIGATION

- 13.1 All Safety, Health and Environmental Incidents shall be reported to the Client OHS and Safety Department within two hours from the time of occurrence via a phone call, sms or email or before end of shift. This shall be followed by a formal report in a form of a preliminary report within forty eight (48) hours.
- 13.2 All incidents referred to in Section 24 of the OHS Act shall be reported by the Mandatary to the Department of Labour and copies of such reporting to be sent to the Client. The Mandatary shall further be provide with copies of any written documentation and medical reports relating to any incident.
- 13.3 The Client retains an interest in the reporting of any incident as described above as well as in any formal investigation and/or inquiry conducted in terms of section 32 of the OHS-Act into such incident.

- 13.4 The Client reserves a right to hold its own investigation into any incident where it deems it is not satisfied with the incident investigation or where the severity of the incident is fatal or damage beyond a value of R1 million and above.

14. SUBCONTRACTORS

- 14.1 The Mandatary shall notify the Client of any subcontractor he / she may wish to source to perform work on his / her behalf on the Client premises. It is hereby recorded that all the terms and provisions contained in this clause shall be equally binding upon the subcontractor prior to the subcontractor commencing with the work. Without derogating from the generality of this paragraph:
- 14.2 The Mandatary shall ensure that the sub-contractor meets all the requirements and is competent for the scope of work contracted for. This includes that approval of the SHE file, SHE Plans associated with the work.

15. SECURITY AND ACCESS

The Mandatary shall request and familiarise its employees with the Client security rules which is not included in this agreement.

16. FIRE PRECAUTIONS AND FACILITIES

- 16.1 The Mandatary shall ensure that all his / her employees are familiar with fire precautions at the site(s), which includes fire-alarm signals and emergency exits, and that such precautions are adhered to.
- 16.2 This includes participating on planned and unplanned emergency drills organised the Client.

17. FACILITIES

The Mandatary shall have a program to upkeep and maintain the facilities leased out to it by the Client as stipulated on lease agreement.

18. HYGIENE AND CLEANLINESS

The Mandatary shall ensure that the work site, ablution, offices and surround area is at all times maintained to the reasonably practicable level of hygiene and cleanliness. In this regard, no loose materials shall be left lying about unnecessarily and the work site shall be cleared of waste material regularly and on completion of the work.

19. INTOXICATION AND SUBSTANCE ABUSE

- 19.1 Entry to the airside is subjected to Aviation Safety Requirements in line with Client Substance Abuse Policy. No intoxicating substance of any form shall be allowed on site where airside or land side. Any person suspected of being intoxicated shall not be allowed on the site. Any person required to take medication shall notify the relevant responsible person thereof, as well as the potential side effects of the medication.
- 19.2 The Client reserves a right to do substance abuse testing and main entry points for the Mandatary employees.
- 19.3 Intoxication limits shall be adhered to as stipulated on Client Substance Abuse Policy.

- 19.4 Records of substance abuse testing shall be filed on the SHE File and made available to the Employer on request.

20. PERSONAL PROTECTIVE EQUIPMENT

- 20.1 The Mandatary shall ensure that his / her responsible persons and employees are provided with adequate personal protective equipment (PPE) for the work they may perform and in accordance with the requirements of General Safety Regulation 2 (1) of the OHS Act. The Mandatary shall further ensure that his / her responsible persons and employees wear the PPE issued to them at all times.
- 20.2 The Mandatary shall monitor compliance to PPE of his/her own employees at all times, The Client can at its discretion conduct random PPE compliance inspections and these can be recorded officially on the Client non-conformance reporting tool.
- 20.3 The Mandatary shall keep records PPE Control cards of each employee those shall be kept on SHE File.

21. PLANT, MACHINERY AND EQUIPMENT

- 21.1 The Mandatary shall ensure that all the plant, machinery, equipment and/or vehicles he / she may wish to utilize on the Client premises is/are at all times of sound order and fit for the purpose for which it/they is/are attended to, and that it/they complies/comply with the requirements of Section 10 of the OHS Act.
- 21.2 Where the Mandatory's equipment interfaces to the Client's equipment's, a joint risk assessment shall be conducted by the Mandatary and the Client OHS department in order for the risks to be mitigated prior to the use of such equipment's. It is the responsibility of the Mandatary to notify the Client OHS department of such equipment's and machinery.
- 21.3 In accordance with the provisions of Section 10(4) of the OHS Act, the Mandatary hereby assumes the liability for taking the necessary steps to ensure that any article or substance that it erects or installs at the sites, or manufactures, sells or supplies to or for the Client, complies with all the prescribed requirements and will be safe and without risks to health and safety when properly used.

22. USAGE OF THE CLIENT'S EQUIPMENT

- 22.1 The Mandatary hereby acknowledge that his / her employees are not permitted to use any materials, machinery or equipment of the Employer unless the prior written consent of the Client has been obtained, in which case the Mandatary shall ensure that only those persons authorized to make use of same, have access thereto.
- 22.2 The Client shall ensure that it isolates and apply LOTO on any equipment's and machinery where there is an unexpected start up or flow of energy. The Mandatary has a responsibility to apply its own LOTO procedures before starting with work and post the use of the equipment and machinery.

23. PERMIT MANAGEMENT

- 23.1 The Mandatary shall ensure that work for which the issuing of permit to work is required shall not be performed prior to the obtaining of a duty completed approved permit by the

Client or relevant Authority.

23.2 In the context of the Client, the following activities are regarded as high risk activities and a permit to work shall be obtained prior to starting with the activities at any site:

- Cold Works Permit
- Hot Work Permit
- Confined Space Entry Permit
- Work At Heights Permit

24. TRANSPORTATION

24.1 The Mandatary shall ensure that all road vehicles used on the sites are in a roadworthy condition and are licensed and insured. All drivers shall have relevant and valid driving licenses and vehicle shall carry passengers unless it is specifically designed to do so. All drivers shall adhere to the speed limits and road signs on the premises at all times.

24.2 No employees on premises permitted in back of LDV (bakkie) and in front of LDV each driver and passenger must have a separate seat belt.

24.3 In the event that any hazardous substances are to be transported on the premises, the Mandatary shall ensure that the requirements of the Hazardous Substances Act 15 of 1973 are complied with fully all times.

25. CLARIFICATION

In the event that the Mandatary requires clarification of any of the terms or provisions of this agreement, he / she should contact the Client OHS Department.

26. DURATION OF AGREEMENT

This agreement shall remain in force for the duration of the work to be performed by the Mandatary and/or while any of the Mandatary's employees are present on the Client site.

27. NON-COMPLIANCE WITH THE AGREEMENT

If Mandatary fails to comply with any provisions of this agreement, the Client shall be entitled to give the Fourteen (14) days' notice in writing to remedy such non-compliance and if the Mandatary fails to comply with such notice, then the Client shall forthwith be entitled but not obliged, without prejudice to any other rights or remedies which the Mandatary may have in law,

- ❖ Apply penalties as stipulated on the matrix below; or
- ❖ to claim immediate performance and/or payment of such obligations.
- ❖ Should Mandatary continue to breach the contract on three occasions for the same deviation, then the Client is authorised to suspend the main contract without complying with the condition stated in clause above.

28. INDEMNITY

The Mandatary hereby indemnifies the Client against any liability, loss, claims or proceedings whatsoever, whether arising in Common Law or by Statute; consequent personal injuries or the death of any person whomsoever (including claims by employees of the Mandatary and

their dependents); or consequent loss of or damage to any moveable or immoveable property arising out of or caused by or in connection with the execution of the Mandatary's contract with the Client, unless such liabilities, losses, claims or proceedings whatsoever are attributable to the Client's faults. The Mandatary or his/her employees is liable to prove without reasonable doubt that the loss is due to the Client's fault or negligence.

COMPLIANCE WITH THE OCCUPATIONAL HEALTH & SAFETY ACT 85 OF 1993
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The Mandatary undertakes to ensure that they and/or their subcontractors if any and/or their respective employees will at all times comply with the following conditions:

- a) All work performed by the Mandatary on the Client's premises must be performed under the close supervision of the Mandatary's employees who are to be trained to understand the hazards associated with any work that the Mandatary performs on the Client's premises.
- b) The Mandatary shall be assigned the responsibility in terms of Section 16(1) of the OHS Act 85 of 1993, if the Mandatary assigns any duty in terms of Section 16(2), a copy of such written assignment shall immediately be forwarded to the Client.
- c) The Mandatary shall ensure that he/she familiarise himself/herself with the requirements of the OHS Act 85 of 1993 and that s/he and his/her employees and any of his subcontractors comply with the requirements.

29. FURTHER UNDERTAKING

Only a duly authorised representative appointed in terms of Section 16.2 of the OHS Act is eligible to sign this agreement on behalf of the Mandatary. The signing power of this representative must be designated in writing by the Chief Executive Officer of the Mandatary. A copy of this letter must be made available to the Client.

ACCEPTANCE BY MANDATARY

In terms of section 37(2) of the Occupational Health & Safety Act 85 of 1993 and section 5.1(k) of the Construction Regulations 2014,

Ia duly authorised 16.2 Appointee acting for and on behalf of(company name) undertake to ensure that the requirements and the provision of the OHS Act 85 of 1993 and its regulations are complied with.

Mandatary – WCA/ Federated Employers Mutual No.....

Expiry date

SIGNATURE ON BEHALF OF MANDATARY
 (Warrant his authority to sign)

DATE

Witnesses:

1. _____

2. _____

SIGNATURE ON BEHALF OF THE CLIENT
AIRPORT COMPANY SOUTH AFRICA

DATE

Witnesses:

3. _____

4. _____

ANNEXURE 5.5 : Environmental Terms & Conditions

ACSA Service & Maintenance Contractors

Environmental Terms and Conditions to Commence Work - EMS 048

The following Environmental Terms and Conditions shall be strictly adhered to by all contractors when conducting works for ACSA. ACSA shall audit contractor activities, products and services on an ad hoc basis to ensure compliance to these environmental conditions. Any pollution clean-up costs shall be borne by the contractor.

ISSUE	REQUIREMENT
Environmental Policy	ACSA's Environmental Policy shall be communicated, comprehended and implemented by all ACSA appointed contractor staff.
Storm water, Soil and Groundwater Pollution	- No solid or liquid material may be permitted to contaminate or potentially contaminate storm water, soil or groundwater resources. - Any pollution that risks contamination of these resources must be cleaned-up immediately. Spills must be reported to ACSA immediately. Contractors shall supply their own suitable clean-up materials where required. - Washing, maintenance and refuelling of equipment shall only be allowed in designated service areas on ACSA property. It is the contractor's responsibility to determine the location of these areas. - No leaking equipment or vehicles shall be permitted on the airport.
Air Pollution	- Dust: Dust resulting from work activities that could cause a nuisance to employees, or the public shall be kept to a minimum. - Odours and emissions: All practical measures shall be taken to reduce unpleasant odours and emissions generated from work related activities. - Fires: No open fires shall be permitted on site.
Noise Pollution	- All reasonable measures shall be taken to minimise noise generated on site as a result of work operations. - The Contractor shall comply with the applicable regulations with regard to noise.
Waste Management	- Waste shall be separated as general or hazardous waste. - General and hazardous waste shall be disposed of appropriately at a permitted landfill site should recycling or re-use of waste not be feasible. - Under no circumstances shall solid or liquid waste be dumped, buried or burnt. - Contractors shall maintain a tidy, litter free environment at all times in their work area. - Contractors must keep on file: - The name of the contracting waste company - Waste disposal site used. - Monthly reports on quantities – separated into general, hazardous and

	recycled. 4. Maintained file of all Waste Manifest Documents and Certificates of Safe Disposal 5. Copy of waste permit for disposal site This information must be available during audits and inspections.
Handling & Storage of Hazardous Chemical Substances (HCS)	• All HCS shall be clearly labelled, stored and handled in accordance to Materials Safety Data Sheets. • Materials Safety Data Sheets shall be stored with all HCS. • All spillages of HCS must be cleaned-up immediately and disposed of as hazardous waste. (HCS spillages must be reported to ACSA immediately). • All contractors shall be adequately informed with regards to the handling and storage of hazardous substances. • Contractors shall comply with all relevant national, regional and local legislation with regard to the transport, storage, use and disposal of hazardous substances.
Water and Energy Consumption	ACSA promotes the conservation of water and energy resources. The contractor shall identify and manage those work activities that may result in water and energy wastage.
Training & Awareness	The conditions outlined in this permit shall be communicated to all contractors and their employees prior to commencing works at the airport.

Penalties

Penalties shall be imposed by ACSA on Contractors who are found to be infringing these requirements and/or legislation. The Contractor shall be advised in writing of the nature of the infringement and the amount of the penalty. The Contractor shall take the necessary steps (e.g. training/remediation) to prevent a recurrence of the infringement and shall advise ACSA accordingly.

The Contractor is also advised that the imposition of penalties does not replace any legal proceedings, the Council, authorities, land owners and/or members of the public may institute against the Contractor.

Penalties shall be between R200 and R20 000, depending upon the severity of the infringement. The decision on how much to impose will be made by ACSA's Airport Environmental Management Representative in consultation with the Airport Manager or his/her designate and will be final. In addition to the penalty, the Contractor shall be required to make good any damage caused as a result of the infringement at his/her own expense.

I, _____ (name & surname) of _____
 _____ (company) agree to the above conditions and acknowledge ACSA's
 right to impose penalties should I or any of my employees or sub-contractors fail to comply with these
 conditions.

Signed: _____ on this date: _____ (dd/mm/yyyy)

at: _____ (airport name).

ANNEXURE 5.6 : ACSA Construction Environmental Management Plan

1. Background

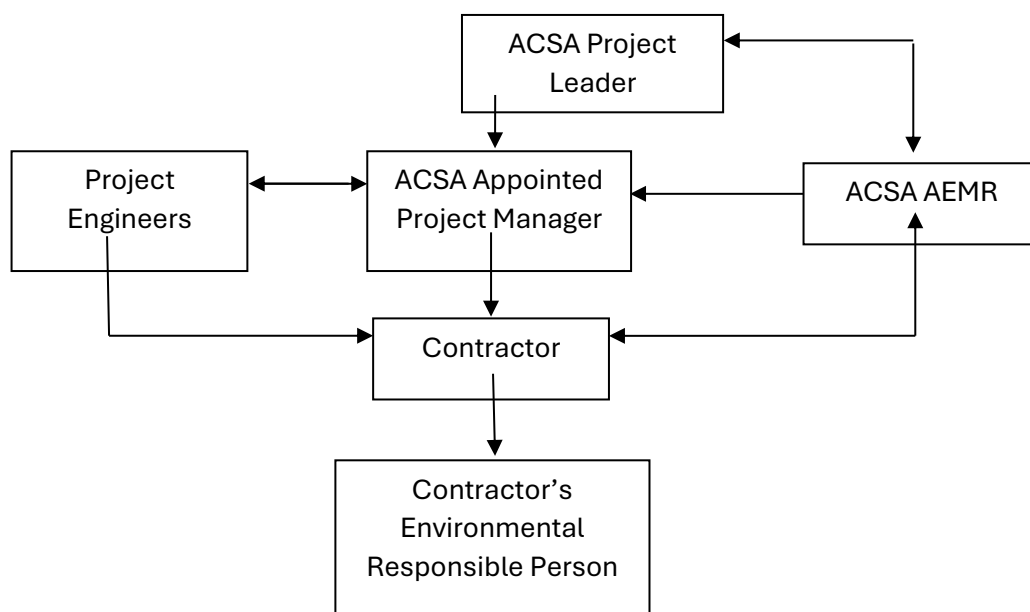
The purpose of this Environmental Management Plan (EMP) is to co-ordinate mitigation, rehabilitation, and monitoring measures of construction projects at ACSA airports such that environmental pollution and risks are minimized as far as possible.

This EMP is provided to contractors at the tender stage to ensure all costs associated with this EMP can be appropriately costed.

2. Organisational Structure

It is essential that an organisational structure is established early in the construction phase of the project and that all parties concerned accept the structure. This identifies the responsibilities and the authority of the ACSA Project Leader, design team, Project Manager (PM), consulting engineers and the numerous contractors and sub-contractors.

Responsibility for the application of the construction phase EMP for the project starts with ACSA's Project Leader. The ACSA Project Leader will devolve this responsibility to the designated and appointed Project Manager to assume this task within his or her portfolio, who will in turn issue conformance instructions to the Contractor(s). The Contractor(s) will appoint an Environmental Responsible Person who will ensure that the requirements of the EMP are implemented by monitoring and auditing the performance of the Contractor. ACSA's AEMR (Airport Environmental Management Representative) shall play an oversight role and report on overall EMP compliance to the ACSA Project Leader.



2.1 ACSA Project Leader

This is an ACSA employee ultimately responsible for the overall success of a project. This person could be within the Commercial, Maintenance & Engineering, Projects or Airport Planning Department.

2.2 Project Manager (PM)

The PM is responsible for ensuring that on-site activities are undertaken in accordance with the requirements of the EMP. The PM will thus need to ensure that:

- This EMP is included in the contracted agreements issued to the contractor(s)
- Environmental Method statements requested by ACSA's AEMR are provided prior to construction.
- Corrective action is implemented as required.
- Appropriate records and information regarding compliance with the EMP requirements are maintained and made available to the AEMR.
- Instructions as required by the AEMR are issued to the relevant contractor.

2.3 Contractor

- The Contractor shall ensure that all employees, sub-contractors, suppliers, etc. are fully aware of and comply with the environmental issues and requirements detailed in this EMP.
- The Contractor shall liaise closely with their Environmental Responsible Person and PM and will ensure that works on site are conducted in accordance with this EMP.
- The Contractor is to have a copy of the EMP on site and be familiar with its contents.
- The Contractor must ensure that all employees (permanent and temporary) and all sub-contractors that work on the site for longer than two days, receive Environmental Awareness Training prior to commencing work on site.
- The Contractor shall appoint an Environmental Responsible Person in writing, and will forward this appointment to ACSA's AEMR
- Prior to construction commencement, the Contractor shall draft and submit written environmental method statements to ACSA's AEMR for approval, covering those activities which are identified (in this document and/or by the AEMR), as being potentially harmful to the environment.

Environmental Method Statements indicate how compliance shall be achieved, and environmental risk will be mitigated. The environmental method statement shall state clearly:

- Timing of activities
- Materials to be used.
- Equipment and staffing requirements
- The proposed construction procedure designed to implement the relevant environmental specifications.
- The system to be implemented to ensure compliance with the above; and
- Other information deemed necessary by the AEMR and Environmental Responsible Person.

Method statements shall be submitted at least five working days prior to expected commencement of work on an activity, to allow the AEMR time to study and approve the method statement. The contractor shall not commence work on that activity until such

time as the method statement has been approved in writing by the AEMR.

Due to changing circumstances, it may be necessary to modify method statements. In such cases, the proposed modifications must be indicated and agreed upon in writing between the AEMR and Environmental Responsible Person. The AEMR and Environmental Responsible Person must retain records of any amendments and ensure that the most current version of any method statement is being used.

2.4 Contractor's Environmental Responsible Person

The Contractor shall appoint / designate an environmental responsible person to liaise with ACSA's AEMR and ensure that the requirements set out in this EMP are implemented. The Environmental Responsible Person shall:

- Develop a system to ensure that the EMP and Environmental Method Statements are effectively implemented;
- Audit this system so that he/she can demonstrate to the AEMR that the EMP and Environmental Method Statements are being effectively implemented;
- Ensure that Contractors staff, sub-contractors, suppliers etc. are aware of their requirements in terms of the EMP and that they adhere to the EMP.
- Ensure that responsible persons for sub-contractors or sub-sub-contractors are designated to carry out the requirements of the EMP and Environmental Method Statements;
- Have sufficient authority to issue site instructions to the Contractors staff on their site.
- Ensure that the Contractor and his Subcontractors and his employees have received the appropriate environmental awareness training before commencing on site.
- Meet with the Contractor to discuss the implementation of and non-conformances with this document.
- Identify appropriate corrective action if non-compliance occurs or unforeseen environmental issues arise that require environmental management action.
- Keep a register of major incidents (spills, injuries, complaints, legal transgressions, etc) and other documentation related to the EMP.
- Issue stop orders when required.
- Report to ACSA's AEMR any problems (or complaints) related to conformance with this document which cannot first be resolved in co-operation with the Contractor and/or his Subcontractors.
- Assist in finding environmentally acceptable solutions to construction problems.

2.5 ACSA's AEMR shall:

- Request, review, and approve environmental method statements from the Contractor.
- Undertake regular inspections (at least monthly, and more frequently at the AEMR's discretion) of the site in order to check for compliance with method statements as well as specifications outlined in this EMP.
- Provide an audit report to the ACSA Project Leader.

3. Environmental Specifications

3.1 Location of camp and depot

The Contractor's Camp and Materials Storage Area shall be located at a position approved by the AEMR. No site staff other than security personnel shall be housed on site.

The Contractor shall provide water and/or washing facilities at the Contractor's Camp for personnel.

The Contractor's Camp and Materials Storage Area shall be kept neat and tidy and free of litter.

3.2 Demarcation of the site & access

It is important that activities are conducted within a limited area to facilitate control and to minimise the impact on the existing natural environment, existing tenants, and other construction activities in the vicinity and public thoroughfares.

The Contractor shall demarcate the boundaries of the site in order to restrict his construction activities to the site. The Contractor shall ensure that all his plant, labour and materials remain within the boundaries of the site. Failure to do so may result in the Contractor being required to fence the boundaries of the site at his own expense to the satisfaction of the AEMR.

Security and access to the site must be controlled at all times.

3.3 Traffic control & safety

Traffic control and safety shall be done in accordance with the South African Traffic Safety Manual, with the relevant signs, flagmen, barriers, etc being provided at the various access points. Traffic control shall be done in co-operation with local traffic officials. All laws and regulations applicable on the public road system are enforceable on the construction site. Due to the activities involved in the construction phase, trucks and other related vehicles will be using the roads leading to the site. These vehicles will need to be roadworthy and abide by the speed limits. The Environmental Management Plan for the construction phase should monitor the impact on current traffic by additional construction vehicles to ensure noise, safety and dust issues are kept to a minimum.

3.4 Ablution facilities

The Contractor shall provide the necessary ablution facilities for all his personnel.

Chemical toilets shall be provided, with a minimum of one toilet per 15 persons. Toilets shall be easily accessible and shall be transportable. The toilets shall be secured to prevent them from blowing over and shall be provided with an external closing mechanism to prevent toilet paper from being blown out. Toilet paper dispensers shall be provided in all toilets. Toilets shall be cleaned and serviced regularly by a reputable toilet servicing company. Toilets shall be emptied before long weekends and builders' holidays.

The Contractor shall ensure that chemicals and/or waste from toilet cleaning operations are not spilled on the ground at any time. Should there be repeated spillage of chemicals and/or waste (i.e. more than three incidents), the Contractor shall be required to place the toilets on a solid base with a sump at his own expense. Accumulations of chemicals and waste will have to be removed from the site and disposed at an approved waste disposal

site or sewage plant.

Abluting anywhere other than in the toilets shall not be permitted. Repeated use of the veld or other areas for ablution purposes (i.e. more than three incidents) may result in the guilty party being given a spot fine. The Contractor shall also be responsible for cleaning up any waste deposited by his personnel.

3.5 Domestic wastewater

Wastewater from any other ablution or kitchen facilities on site shall be discharged into a suitable conservancy tank. The Contractor shall be responsible for ensuring that the system continues to operate effectively throughout the project and that the conservancy tank is emptied as required during the project. The Contractor shall employ a suitable qualified sub-contractor or the local authority to empty the conservancy tank.

3.6 Environmental training

According to the National Environmental Management Act (107 of 1998), any costs incurred to remedy environmental damage shall be borne by the person responsible for that damage; it is therefore critical that the contractors read and understand the requirements of this document and any succeeding documents pertaining to environmental requirements before construction commences. It is a requirement of the act that everyone takes reasonable measures to ensure that they do not pollute the environment. Reasonable measures include informing and educating employees about the environmental risks of their work and training them to operate in an environmentally acceptable manner.

Training is fundamental to the successful implementation of the EMP. All personnel whose work may result in an impact on the environment must receive appropriate training in the environmental procedures to be followed. In this regard, the following must be fulfilled:

- All personnel working on the construction site must attend an environmental awareness training workshop conducted by the Environmental Responsible Person prior to commencing work on site. The purpose of the workshop is to provide staff with the information they require to enable them to meet the requirements of the EMP. The Environmental Responsible Person may call upon the services of a specialist environmental education translator should this be required. Contractors, sub-contractors and all their staff must attend.
- The Environmental Responsible Person shall keep a register of all personnel attending the environmental awareness training workshops; attendance records must be filed and available on site.
- All staff must be trained in emergency response procedures; attendance records must be filed and available on site.
- Environmental awareness posters are to be displayed on site. Environmental 'do's and don'ts' must be clearly illustrated. The posters shall use pictures to convey the intended message, and any explanatory text will be in English and the local dialect.

3.7 Solid waste management

Solid waste includes construction debris (e.g. packaging materials, timber, cans etc.) waste and surplus food, food packaging etc.

The Contractor shall institute an on-site waste management system that is acceptable to

the AEMR in order to prevent the spread of refuse within and beyond the site. The Contractor is reminded that wind velocities on the construction site can be extremely high.

All waste shall be collected and contained immediately. The Contractor shall institute a weekly clean-up of the site. This daily/weekly clean up shall be for the Contractor's account.

The Contractor shall not dispose of any waste and/or construction debris by burning or burying. The use of waste bins and skips is essential. The bins shall be provided with lids and an external closing mechanism to prevent their contents from blowing out. The Contractor shall ensure that all waste is deposited by his employees in the waste bins for removal by the Contractor. Bins shall not be used for any purposes other than waste collection and shall be emptied on a regular basis. All waste shall be disposed of off site at approved landfill sites.

Waste generated at the construction camps shall be separated into recyclable and non-recyclable waste, and shall be separated as follows:

- Hazardous waste (including used oil, diesel, petrol tins, paint, bitumen, etc.);
- Recyclable waste (paper, tins, glass);
- General waste; and
- Reusable construction material

Recyclable waste shall be deposited in separate skips/bins and removed off site for recycling. The Contractor may wish to enter into an agreement with the surrounding communities and/or his staff with regard to the collection and sale of recyclable and reusable materials.

Hazardous waste, including waste oil and other chemicals (e.g. paints, solvents) shall be stored in (an) enclosed area(s), and shall be clearly marked. If deemed necessary by the Environmental Responsible Person, the Contractor shall obtain the advice of a specialist waste expert concerning the storage of hazardous waste. Such waste shall be disposed of off site by a specialist waste contractor, at a licensed hazardous waste disposal site. The Contractor shall keep documentary proof of the safe disposal of all waste, which will be available for audit at all times and will also include the waste type and volume.

The Contractor is advised that spot fines for littering have been included in this document. Offenders found littering will be liable for the spot fine.

3.8 Protection of fauna and flora

All fauna and flora (unless alien) within and around the site shall be protected. Birds and animals shall not be caught or killed by any means, including poisoning, trapping, shooting or setting of snares.

3.9 Protection of archaeological and palaeontological sites

If any possible palaeontological/archaeological material is found during excavations, the Contractor shall stop work immediately and inform the AEMR. The AEMR will inform the South African Heritage Resource Agency (SAHRA) and arrange for a palaeontologist/archaeologist to inspect, and if necessary, excavate, the material, subject to acquiring the requisite permits.

3.10 Water pollution prevention & management

The Contractor shall prevent pollution of surface or underground water and shall comply with the Water Act, 36 of 1998, and any other national, provincial and local legislation regarding the prevention of water pollution, including the pollution of groundwater and any wetland on site.

The Contractor must ensure that all reasonable precautions are taken to prevent the pollution of the ground and water resources as a result of site activities. Ground contamination may hinder or prevent the re-establishment of natural vegetation. The Contractor shall keep the necessary materials and equipment on site to deal with ground spills of any of the materials used or stored on site.

The Contractor shall ensure that no oil, petrol, diesel, etc is discharged onto the ground. Pumps and other machinery requiring oil, diesel, etc that is to remain in one position for longer than two days shall be placed on drip trays. The drip trays shall be emptied regularly and the contaminated water disposed of off site at a facility capable of handling such wastewater. Drip trays shall be cleaned before any possible rain events that may result in the drip trays overflowing, and before long weekends and holidays.

Stormwater and/or groundwater may accumulate on site during the construction period and there is the potential for this water to be contaminated as a result of construction procedures. The Contractor shall ensure that this water does not become contaminated. Contaminated water (e.g. cement washings, wastewater from ablution or kitchen facilities etc) shall be collected in a conservancy tank, removed from the site and disposed of in a manner approved by the AEMR.

3.11 Stormwater control

Contractors shall take reasonable measures to prevent erosion resulting from a diversion, restriction or increase in the flow of stormwater caused by the presence of their works, operations and activities. Any stormwater collected in bunded areas containing oils, fuels, chemicals or other potentially polluting substances shall be pumped out of the bund, collected in a suitable container and removed from the site for appropriate disposal.

Contractors shall provide adequate control measures to prevent stormwater damage and erosion during construction. Control measures should include the control by sumps and adequate pumping of water ingress into trenches below the water table. Stormwater should also be directed into attenuation ponds wherever possible. All methods of stormwater control during the construction phase are to be agreed and approved by the AEMR.

Berms and existing stormwater drainage systems shall be used to prevent surface run-off from entering site excavations.

3.12 Water resource management

Water is a scarce resource and shall be conserved wherever possible. The Contractor shall not waste water (e.g. water areas excessively etc). All leaking water pipes are to be repaired or replaced immediately. The Contractor shall provide all drinking water and water for construction purposes. Water shall not be used unnecessarily.

3.13 Pollution prevention and remediation

The Contractor must ensure that all reasonable precautions are taken to prevent the pollution of the ground and water resources as a result of site activities. Pollution could result from the release, accidental or otherwise, of contaminated runoff from construction camps, discharge of contaminated construction water, chemicals, oils, fuels, sewage, run off from stockpiles, solid waste, litter, etc.

The first activity to be undertaken once a spill occurs is to terminate the source of the spill and contain the polluted area.

All fuel, oil or hydraulic fluid spills are to be reported to the Project Manager/ Engineer, Environmental Responsible Person and AEMR so that appropriate clean-up measures can be implemented.

The Contractor shall keep the necessary materials and equipment on site to deal with ground spills of any of the materials used or stored on site. Sufficient quantities of suitable hydrocarbon absorbent or remediation materials must be present on site at all times. Absorbent “spill-mop-up” products need to be on hand – Enretech, Spillsorb or Drizit type products should be investigated for these purposes.

Concrete-mixing equipment (mixers and the like) shall not be discharged overland. Such water shall be collected in a conservancy tank, removed from the site and disposed of in the correct manner. The Contractor may consider reusing such water for washing other concrete equipment to minimise the amount required to be removed off site.

The Contractor is advised that cement and concrete are regarded as highly hazardous to the natural environment on account of the very high pH of the material, and the chemicals contained therein. Therefore, the Contractor shall ensure that:

- concrete is mixed on mortar boards, and not directly on the ground;
- the visible remains of concrete, either solid, or from washings, are physically removed immediately and disposed of as waste. Washing the visible signs into the ground is not acceptable; and
- all aggregate is also removed.

Trucks delivering concrete shall not wash the trucks or the chutes on the site. All washing operations shall take place off site at a location where wastewater can be disposed of in the correct manner.

3.14 Servicing/fuelling of construction equipment

Servicing and fuelling should preferably occur off site.

However, if these activities occur on site, the Contractor shall ensure that all servicing of vehicles and equipment takes place in designated areas agreed upon by the AEMR. All waste shall be collected and disposed of off site at an appropriately licensed landfill site. All equipment that leaks onto the ground shall be repaired immediately or removed.

Similarly, no vehicles or machines shall be refuelled on site except at designated refuelling locations, unless otherwise agreed with the AEMR. The Contractor shall not change oil or lubricants anywhere on site except at designated locations, except if there is a breakdown or an emergency repair. In such instances, the Contractor shall ensure that he has Drizit

pads (or equivalent) and/or drip trays available to collect any oil, fluid, etc.

3.15 Fuels and Chemicals

The Contractor shall take all reasonable precautions to prevent the pollution of the ground and/or water resources by fuels and chemicals as a result of his activities.

The Contractor shall keep the necessary materials and equipment on site to deal with ground spills of any of the materials used or stored on site.

The Contractor shall ensure that no oil, petrol, diesel, etc. is discharged onto the ground. Pumps and other machinery requiring oil, diesel, etc. that is to remain in one position for longer than two days shall be placed on drip trays. The drip trays shall be emptied regularly and the contaminated water disposed of offsite at a facility capable of handling such wastewater. Drip trays shall be cleaned before any possible rain events that may result in the drip trays overflowing, and before long weekends and holidays.

The Contractor shall remove all oil-, petrol-, and diesel-soaked sand immediately and shall dispose of it as hazardous waste.

Should the Environmental Responsible Person/AEMR and/or the relevant authorities deem it necessary to institute a programme for the removal of contaminated ground resulting from the non-compliance of the controls detailed above, these costs will be for the Contractor's account. Remedial action shall be approved by the AEMR and relevant authorities, if appropriate.

3.16 Fuel & Hazardous Materials Storage

Contractors shall identify fuels and hazardous substances to be stored on the site and shall ensure that they know the effects of these substances on their staff and the environment. The Environmental Responsible Person shall keep a copy of a fuels and hazardous substance inventory which shall be available on site.

Contractors shall ensure that the quantities of fuels and chemicals on site are appropriate to the requirements and are stored and handled so as to avoid the risk of spillage. All fuels, oils and chemicals shall be confined to a specific and secured area. These materials shall be stored in an area with a concrete or other impervious base, which is adequately bunded. The volume of the bund shall be two times the volume of the containers stored. Gas and fuel should not be stored in the same storage area, and any generators used on the site should also be placed on a bunded surface.

The Contractor shall be responsible for securing any permits / certificates that may be required in respect of fuel storage from the local authorities.

In addition, the following must be implemented:

- All fuel stores must be equipped with a fire extinguisher;
- Materials Safety Data Sheets must be available on site and filed accordingly.
- No vehicle servicing may take place on the site. Servicing of equipment that uses hydrocarbon fuels, oils, lubricants and other hazardous chemicals may only take place in the site camp under conditions approved by the AEMR;
- All fuels are to be stored within a lined / demarcated area in the Site Camp. No refuelling is to take place outside of this demarcated area unless authorised by the

Environmental Responsible Person. Note that filling machinery in the field (on site) from canisters should be cleared with the Environmental Responsible Person and both a “no leak” funnel / pump and one of the above-mentioned absorption products must be on hand in the event of such refuelling taking place.

3.17 Dust control

The Contractor shall be responsible for the continued control of dust arising from his operations, through measures including, but not limited to, spraying of water on bare areas, rotovating straw bales into the soil surface and the scheduling of dust-generating activities to times when wind velocity is low. Overhead sprayers shall not be used in windy conditions, because too much water will be lost to evaporation. The use of water carts is preferred.

3.18 Noise control

The Contractor shall take all reasonable precautions to minimise noise generated on site as a result of his operations, especially when working in areas or on activities that may impact on neighbouring land users.

The Contractor shall comply with the applicable regulations with regard to noise.

The Environmental Responsible Person and/or AEMR may inform adjacent land users, tenants and communities about the possibility of noise pollution and the approximate duration of the problem.

3.19 Emergency procedures

The Contractor shall ensure that emergency procedures are set up prior to commencing work. Emergency procedures shall include, but are not limited to, fire, spills, contamination of the ground, accidents to employees, use of hazardous substances, etc. Emergency procedures, including responsible personnel, contact details of emergency services, etc. shall be made available to all the relevant personnel and shall be clearly demarcated at the relevant locations around the site.

The Environmental Responsible Person shall advise the Contractor, PM and AEMR of any emergencies on site, together with a record of action taken.

3.19.1 Fires

The Contractor shall take all the necessary precautions to ensure that fires are not started as a result of his activities on site and shall also comply with the requirements of the Occupational Health and Safety Act 85 of 1993.

No open fires shall be permitted on or off site. Closed fires or stoves shall only be permitted at designated safe sites in the construction camps. Fires shall also not be permitted near any potential sources of combustion, such as fuel stores, stockpiles of plant material etc.

The Contractor is advised that sparks generated during welding, cutting of metal or gas cutting can cause fires. Every possible precaution shall therefore be taken when working with this equipment near potential sources of combustion. Such

precautions include having an approved fire extinguisher immediately available at the site of any such activities.

The Contractor shall be liable for any expenses incurred by any organisations called to assist with fighting fires, and for any costs relating to the rehabilitation of burnt areas.

No smoking will be permitted on the site except for within a designated area in the site camp. Suitable firefighting equipment must be readily available in this area.

The Contractor must ensure that the contact details of the nearest Fire Department are displayed on site (together with other emergency services) and that all persons involved with the project know the location of these numbers on site.

4. SITE CLEARANCE & REHABILITATION

4.1 Removal of topsoil

Following removal of vegetation from the site, all topsoil shall be removed (up to a maximum of 30 cm depth) and stockpiled for re-use in subsequent rehabilitation and landscaping activities. The stockpiles shall not be higher than 2 m in order to minimise composting. The stockpiles of topsoil shall be located in an area agreed with the AEMR.

4.2 Stabilisation of steep slopes

The disturbance of steep slopes, for example by the removal of vegetation, may result in slope instability and erosion by rain and surface run off. The Contractor shall ensure that slopes that are disturbed during construction are stabilised to prevent erosion occurring. Any erosion that does occur must be reinstated at the Contractor's cost.

4.3 Rehabilitation

The Contractor shall be responsible for rehabilitating any areas cleared or disturbed for construction purposes that are to be incorporated into open space or buffer zones, as well as all spoiling. The Contractor shall revegetate such areas in accordance with the specification provided below.

The Contractor shall stabilise, by straw rotovation or other, any areas that are cleared or disturbed for construction purposes which are not going to be incorporated into open space or buffer zones (i.e. areas that will be subsequently developed by another party).

All construction equipment and excess aggregate, gravel, stone, concrete, bricks, temporary fencing and the like shall be removed from the site upon completion of the work. No discarded materials of whatsoever nature shall be buried on the site or on any other land not owned by ACSA.

4.4 Landscaping and preparation for re-vegetation

Areas that require reshaping shall be cut, filled and compacted so as to follow the contours of the surrounding landscape. Topsoil removed from the area initially shall be replaced. Care must be taken not to mix the topsoil with the subsoil during shaping operations. Should a crust form on the soil before revegetation is commenced, the

Contractor shall, at his own cost, loosen the crust by scarifying to a depth of 150 mm.

5. MANAGEMENT AND MONITORING

This section focuses on the systems and procedures required to ensure that the environmental specifications are effectively implemented. Emphasis is on monitoring and penalties, aimed at ensuring compliance with this document.

5.1 General inspection monitoring and reporting

The Environmental Responsible Person shall:

- Inspect the site on a daily basis to ensure that the environmental specifications are adhered to.
- Maintain a record of major incidents (spills, impacts, complaints, legal transgressions etc) as well as corrective and preventive actions taken.
- Conduct regular internal audits (at least weekly) to ensure that the system for implementation of the EMP is operating effectively and keep records of these audits.
- Conduct monthly meetings for the duration of the project. These will be attended by the Environmental Responsible Person, Contractors Resident Engineers and sub-contractor representatives, and will be minuted and available for audit. The agenda will cover compliance with the EMP and environmental method statements, results of audits, non-compliances and corrective and preventative actions with agreed dates, and environmental queries.

5.2 Penalties

Penalties may be imposed by the AEMR on Contractors who are found to be infringing these specifications. The Contractor shall be advised in writing of the nature of the infringement and the amount of the penalty. The Contractor shall determine how to recover the fine from the relevant employee and/or sub-contractor. The Contractor shall also take the necessary steps (e.g. training) to prevent a recurrence of the infringement and shall advise the AEMR accordingly.

The Contractor is also advised that the imposition of penalties does not replace any legal proceedings the Council, authorities, land owners and/or members of the public may institute against the Contractor.

Penalties may range between R200.00 and R20, 000.00, depending upon the severity of the infringement. The decision on how much to impose will be made by the AEMR, and will be final. In addition to the penalty, the Contractor shall be required to make good any damage caused as a result of the infringement at his own expense.

A preliminary list of infringements for which penalties will be imposed is as follows:

- Moving outside the demarcated site boundaries;
- Littering of the site and surrounds;
- Burying waste on site and surrounds;

- Smoking in the vicinity of fuel storage and filling areas and in any other areas where flammable materials are stored/used;
- Making fires outside designated areas;
- Defacement of natural features;
- Spillage onto the ground of oil, diesel, etc;
- Picking/damaging plant material;
- Damaging/killing wild animals; and
- Additional fines as determined by the AEMR and added to this list.

The AEMR may also order the Contractor via the ACSA Project Leader to suspend part or all the works if the Contractor repeatedly causes damage to the environment by not adhering to the EMP. The suspension will be enforced until the offending actions, procedure or equipment is corrected. No extension of time will be granted for such delays and all costs will be borne by the Contractor.

ANNEXURE 5.7 : Contractor's Installation Conditions & House Rules

CONTRACTOR INSTALLATION CONDITIONS AND HOUSE RULES

The following must be adhered to by the Contractor:

CONSTRUCTION RULES

1. All deliveries that will obstruct portions of the roadways or public routes for any period are to be restricted between 19h30 and 05h00 (Sunday to Friday) 15H30 and 05H00 (Saturday). No construction related vehicles are allowed on the roads alongside the terminal buildings. No queuing of delivery vehicles will be permitted on any part of the route to your site.
2. All logistics affecting operations are to be approved by the relevant ACSA Managers.
3. All work resulting in high levels of noise or disruption to airport operations will be restricted to hours between 19h30 and 05h00 (Sunday to Friday) 15H30 and 05H00 (Saturday).
4. All dust and debris resulting from construction work is to be contained within the hoarded site. Any materials and rubble outside the hoarded site will be removed by ACSA from the Airport without notice to yourselves and will be for your account.
5. All active services are to be protected.
6. Work will be allowed at night if the site is adequately illuminated.
7. All vehicles related to your works are to be parked within your hoarded site or in public parking with costs for your account. Any contractor vehicle towed for illegal parking will be for your account.
8. A parking access card can be procured for at a cost of R150.00 per card per month. This card must be applied for through the *Project Manager* at the ACSA Landside Department. Each card will be programmed accordingly with reference to the duration of the contract. Payment of these cards will be for the *Contractor's* own account and must be paid at the parking office at the start of a new month in advance.
9. The site is to be maintained in a reasonable state of tidiness at all times.
10. Rubble may not be accumulated on site. Suitable skips are to be provided for the works.
11. A health and safety plan is to be tabled with the ACSA Safety Department for approval prior to works proceeding.
12. Access to the site is subject to the current security policy in effect.
13. All work is to comply with the current ACSA Environment Management Plan.
14. Similarly, the *Contractor* and its agents/sub-contractors are limited to their actual site establishment areas and places of work and under no circumstances will materials, equipment, tools, cooking or any other disturbance be allowed in public areas and delivery of materials outside of the agreed routes is strictly prohibited.

15. Use of the public people mover infrastructure is prohibited.
16. The *Contractor* will ensure the proper handling and carting away of spoil material, and the cleaning of ablution areas set aside for the use of the *Contractor's* staff.
17. The *Contractor's* employees are to be clearly identifiable, and they must be discouraged from visiting the public areas of the airport.

BUILDING WORK

1. All plumbing connections are to be approved by ACSA Maintenance Manager, Maintenance & Engineering Department.
2. All hoarding are to comply with the ACSA standard (ACSA Maintenance Manager, M&E Department).
3. The hoarding is to be maintained to ACSA's specifications at all times. Any costs incurred by ACSA for repairing your hoarding will be forwarded to yourselves for payment. To avoid this, ensure that the hoarding is maintained on a daily basis.
4. No existing finishes outside the works area line are to be changed without prior approval by the *Project Manager*.

ELECTRICAL

1. All electrical installations and loading being approved by ACSA Maintenance Manager, M&E Department, prior to any work being executed.
2. All cable installation to comply with the ACSA specification as a minimum and be approved by ACSA IT and ACSA Maintenance Manager, M&E Department.

MECHANICAL

1. All mechanical alterations or impact thereon, i.e. air-conditioning, be approved by the ACSA Maintenance Manager IAM Department prior to any work being executed.
 - The use of any people mover infrastructure for delivery is to be approved by ACSA Maintenance Manager, M&E Department.

FIRE PROTECTION

1. All alterations to fire detectors and sprinklers or impact thereon to be approved by the ACSA Maintenance Manager, M&E Department and the Manager Airfield Services, prior to any work commencing.

SIGNAGE

1. All neon signage are to have fireman's switches connected.
2. All signage and advertising are to be contained within the construction site and approved by the *Project Manager* prior to installation.

APPROVAL / CERTIFICATION

1. All electrical works are to be certified by a registered electrical engineer or electrician in
 - a. Terms of legislation with a Certificate of Compliance issued.
2. All structural works are to be certified by a registered structural engineer in terms of legislation.
3. All drawings are to be submitted to the *Project Manager/ Engineer* for approval.

4. Where applicable, plans are to be submitted to the City of Cape Town Municipality for approval and a reference number obtained. This reference number must be supplied to *Project Manager* involved. No work is to proceed without formal approval or exemption by the local Authority.
5. The *Contractor* is to ensure the design is fully integrated in terms of operations, emergency evacuations and disabled access.
6. The *Contractor* is to ensure that all relevant legislation is complied with.
7. All installations are to be approved prior to operations by the relevant ACSA divisions.

SPOT FINES

1. Under no circumstances will the *Contractor* be allowed to make use of any baggage trolley or other airport equipment. Should the Lessee or his agents/sub- contractors be seen making use of the aforementioned equipment, an immediate spot fine of R 3,000.00 per occurrence will apply and such monies will automatically be invoiced to the *Contractor*.
2. The *Contractor* is to respect the operational environment in which their work will be performed. All conditions of approval are to be observed by the *Contractor*. A spot fine of R2 500.00 per occurrence of non-compliance will be charged to the *Contractor*.
3. All costs incurred to comply with the conditions stated are for the *Contractor's* account.

Signatures:

Contractor:

.....

Employer:

.....

ANNEXURE 5.8 : POPIA Agreement

CONFIDENTIALITY AND DATA PROTECTION

Save as provided in this clause (*Confidentiality and Data Protection*), each Party shall, and shall procure that its Affiliate and their respective officers, directors, employees, agents, auditors and advisors shall, treat as confidential all information relating to the other Party or its Affiliates thereof or relating to their respective businesses that is of a confidential nature and which is obtained by that Party in terms of, or arising from the implementation of this Agreement, which may become known to it by virtue of being a Party, and shall not reveal, disclose or authorise the disclosure of any such information to any third party or use such information for its own purpose or for any purposes other than those related to the implementation of this Agreement.

The obligations of confidentiality in this clause shall not apply in respect of the disclosure or use of such information in the following circumstances:

in respect of any information which is previously known by such Party (other than as a result of any breach or default by any Party or other person of any agreement by which such Confidential Information was obtained by such Party);

in respect of any information which is in the public domain (other than as a result of any breach or default by either Party);

any disclosure to either Party's professional advisors, executive staff, board of directors or similar governing body who (i) such Party believes have a need to know such information, and (ii) are notified of the confidential nature of such information and are bound by a general duty of confidentiality in respect thereof materially similar to that set out herein;

any disclosure required by law or by any court of competent jurisdiction or by any regulatory authority or by the rules or regulations of any stock exchange;

any disclosure made by a Party made in accordance with that Party's pursuit of any legal remedy;

any disclosure by a Party to its shareholders or members pursuant to any reporting obligations that Party may have to its shareholders or members, provided that each such shareholder or member is notified of the confidential nature of such information and is bound by a general duty of confidentiality in respect thereof materially similar to that set out herein;

In the event that a Party is required to disclose confidential information as contemplated in this clause, such Party will:

advise any Party/ies in respect of whom such information relates (the **"Relevant Party/ies"**) in writing prior to disclosure, if possible;

take such steps to limit the disclosure to the minimum extent required to satisfy such requirement and to the extent that it lawfully and reasonably can;

afford the Relevant Party/ies a reasonable opportunity, if possible, to intervene in the proceedings;

comply with the Relevant Party/ies' reasonable requests as to the manner and terms of such disclosure; and

notify the Relevant Party/ies of the recipient of, and the form and extent of, any such disclosure or announcement immediately after it was made.

Either Party may, by notice in writing, be entitled to demand the prompt return of the whole or any part of any confidential information supplied by it to the other Party, and each Party hereby undertakes to comply promptly with any such demand.

In line with the provisions of Protection of Personal Information Act, No 4 of 2013 (POPIA), particularly section 20 and 21, the service provider (referred to as Operator in POPIA) shall observe the following principles when processing personal information on behalf of the Company (referred to as Responsible Party in POPIA):

the Service Provider shall only act on the Company's documented instructions, unless required by law to act without such instructions;

the Service Provider shall ensure that its representatives processing the information are subject to a duty of confidence;

the Service Provider shall take appropriate measures to ensure the security of processing. The Service Provider shall ensure and hereby warrants that they have minimum IT and or physical security safeguard to protect personal information;

the Service Provider shall notify the Company immediately where there are reasonable grounds to believe that the personal information of a data subject has been accessed or acquired by any unauthorised person;

the Service Provider shall only engage a sub-operator with the Company's prior authorisation and under a written contract;

the Service Provider shall take appropriate measures to help the Company respond to requests from data subjects to exercise their rights;

taking into account the nature of processing and the information available, the Service Provider shall assist the Company in meeting its POPIA obligations in relation to the security of processing, the notification of personal information breaches and data protection impact assessments;

the Service Provider shall delete or return all personal information to the Company (at the Company's choice) at the end of the contract, and the service provider shall also delete existing personal information unless the law requires its storage; and

the Service Provider shall submit to audits and inspections. The Service Provider shall also give the Company whatever information it needs to ensure that the Parties meet their Section 20(1) obligations.

1. SIGNATURES

FOR AIRPORTS COMPANY SOUTH AFRICA

THUS, DONE AND SIGNED AT _____ ON THIS _____ DAY OF _____ 2025.

FOR SERVICE PROVIDER

THUS, DONE AND SIGNED AT _____ ON THIS _____ DAY OF _____ 2025.

ANNEXURE 5.9 : Government's Programme for Broad-Based Black Economic Empowerment

1. GOVERNMENT POLICY

There is a compelling need to elevate development of previously disadvantaged individuals and enterprises, and leadership. ACSA is required to establish the framework for the development of previously disadvantaged individuals and enterprises.

The objective of ACSA is to promote equity ownership across the different contracting categories and grades, as well as improving skills and performance in the delivery and maintenance of capital works across the public sector.

2. APPLICABLE LEGISLATION

All tenders will be considered with specific reference to applicable legislation in force from time to time and which are specifically applicable to organs of state for example the following: -

- 2.1 Public Finance Management Act No. 1 of 1999;
- 2.2 Preferential Procurement Policy Framework Act No. 5 of 2000;
- 2.3 The Constitution of South Africa
- 2.4 Broad-Based Black Economic Empowerment Act No. 53 of 2003
- 2.5 National Small Business Amendment Act No. 26 of 2003

C5.8.2 DEFINITIONS

1) BBBEE

Broad-Based Black Economic Empowerment

2) BO

Black Owned

3) BWOYO

Black Woman Owned; Youth Owned

4) CIDB

Construction Industry Development Board

5) CPG

Contract Participation Goals

6) EME

Exempted Micro Enterprise

7) ISO

Quality management systems standards

8) JV

Joint Venture

9) NCDP

National Contractors Development Programme

10) PPPFA

Preferential Procurement Policy Framework Act

11) PWPDO

Persons with Physical Disability Owned

12) SADC

Southern African Development Community

Table A

Size	Total Gross asset value (fixed property excluded) (less than)	Total annual turnover (less than)	Total full time equivalent of paid employees (less than)
Medium	R 5 m	R 26 m	200
Small	R 1 m	R 6 m	50
Very Small	R 0.5 m	R 3 m	20
Micro	R 0.1 m	R 0.2 m	5

C3.8.3 CONTRACT PARTICIPATION

Airports Company South Africa aims to contract predominantly with Empowering Suppliers per the definition in P010 004P (ACSA internal transformation policy) were this relates to:

- an increase in local production,
- raw material beneficiation
- retention and employment of black people
- the transfer of skills to black owned EME's and QSE's.

1. Contract Participation Goals (CPG)

CPG refers to the extent to which the contracted resources achieve predetermined transformation objectives, expressed as a percentage (%) of the contract value. Bidders are expected to achieve this target by the end of the project.

- Bidders are to submit to submit a transformation proposal meeting the CPG target for all contracts over R1m including VAT.
- CPG for this contract will be at 50% which will consist of the following B-BBEE elements:
 - Equity (Target 50%): 40% weighting.
 - Management (Target 50%): 10% weighting
 - Enterprise and supplier development: 50% weighting
 - Socio Economic Development: 2.5% weighting
- To facilitate achievement of targets set out in 3, and transfer of skills, the tenderer may subcontract up to 30% of the contract value to entities that are women owned, youth owned, PWPDO, or allocate to EME, QSE that are 51% black owned entities.

5. In the event that the Contractor/consultant fails to substantiate that any failure to achieve the contract participation goal relating to the granting of a preference was due to quantitative underruns, the elimination of items, or any other reason beyond the Contractor's control which may be acceptable to the Employer, the Contractor/Consultant shall be liable to pay to the Employer a financial penalty calculated in the following manner:

$$P = (0,15 \times (D - Do) \times CA) / 100$$

- where D is the tendered contract participation goal percentage;
- Do is the contract participation goal which the Employer's representative, certifies based on the credits passed, as being achieved upon completion of the contract;
- CA is the contract amount.
- P is the monetary value of penalty payable

No financial award is due for over performance on CPG.

6. Sample score sheet for Calculation of Contract Participation goals.

Transformation score sheet								
(Only Populate the white blocks/cells)								
Ownership target 51%	Method 1	% of contract executed by prime contractor	% Black Ownership	Effective	Total CPG/ Element	Weighting CPG	Contract CPG	
		70%	51%	0,357				
	Method 2	% contract being executed by targeted JV Partners	% Black Ownership					
		20%	100%	0,2				
	Method 3		% Black Ownership					
		30%	100%	0,3		34%		
Management target 51%	Method 1	% of contract executed by prime contractor	% Management	Effective	Total CPG/ Element	Weighting		Contract CPG
		50%	51%	0,255				
	Method 2	% contract being executed by targeted JV Partners	% Management					
		20%	100%	0,2				
	Method 3		% Management					
		30%	100%	0,3		8%		
ESD				Effective	Total CPG/ Element	Weighting	Contract CPG	
	Method 2	% contract being executed by targeted JV Partners	% Black management					
		20%	100%	0,2				
	Method 3	% on contract being executed by targeted subcontractors	% Black management					
		30%	100%	0,3				