



AIRPORTS COMPANY
SOUTH AFRICA

**AIRPORTS COMPANY SOUTH AFRICA
O.R TAMBO INTERNATIONAL AIRPORT**

CONTRACT No: ORT 6029/2019

MANUAL OF PROCEDURES FOR WORKING AIRSIDE

FOR

**REHABILITATION OF TAXIWAYS AT O.R TAMBO
INTERNATIONAL AIRPORT**

ISSUED BY:

Airport Company South Africa
Private Bag X1
OR Tambo International Airport
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NAME OF CONTRACTOR:



AIRPORTS COMPANY
SOUTH AFRICA

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TABLE OF CONTENTS

| | PAGE |
|---|-------------------------------------|
| 1 GENERAL | 1 |
| 2 DEFINITIONS | 1 |
| 3 CONTRACTOR’S CAMPSITE | 4 |
| 4 PROGRAMMING OF THE WORKS | 4 |
| 5 STOCKPILE AND SPOIL SITE | 5 |
| 6 RESTRICTED ACCESS TO THE SITE OF THE WORKS | 6 |
| 7 BARRICADES | 7 |
| 8 ON SITE STORAGE OF PLANT AND EQUIPMENT | 7 |
| 9 TEMPORARY TRAFFIC-CONTROL FACILITIES | 7 |
| 9.1 TRAFFIC SIGNS | 7 |
| 9.2 TAXIWAY CLOSING DURING CONSTRUCTION PERIOD | 7 |
| 9.3 RUNWAY AND TAXIWAY CLOSURE | ERROR! BOOKMARK NOT DEFINED. |
| 9.4 SCHEDULED MAINTENANCE | 8 |
| 9.5 UNSCHEDULED MAINTENANCE..... | ERROR! BOOKMARK NOT DEFINED. |
| 9.6 NON-SCHEDULED RUNWAY CLOSURE FOR SAFETY REASONS | ERROR! BOOKMARK NOT DEFINED. |
| 9.7 RUNWAY AND TAXIWAY RE-OPENING | 8 |
| 9.8 TRAFFIC SAFETY OFFICER..... | 9 |
| 10 SPECIAL PROCEDURES FOR CONSTRUCTION AND NIGHT WORK | 10 |
| 10.1 BEFORE WORK COMMENCES, AGREEMENTS MUST BE ESTABLISHED ON | 11 |
| 10.2 BRIEFING BEFORE PROJECT COMMENCES | 12 |
| 10.3 MARKING OF A SITE BY DAY | 13 |
| 10.4 MARKING OF A SITE BY NIGHT OR LOW VISIBILITY..... | 13 |
| 10.5 WORKS UNDER ON/OFF CONDITIONS | 13 |
| 11 EXISTING SERVICES | 14 |
| 12 ELECTRICAL EQUIPMENT LIMITATIONS | 14 |
| 12.1 INTERFERENCE WITH NAVIGATIONAL FACILITIES | 14 |
| 12.2 INTERFERENCE WITH AIRCRAFT COMMUNICATIONS | 14 |
| 13 HOT WORK PERMIT | 14 |
| 14 RADIO COMMUNICATION ON THE AIRPORT | 15 |
| 15 RESPONSIBILITY OF AIRPORT MANAGER AND AIR TRAFFIC CONTROL | 15 |
| 15.1 AIRPORT OPERATIONS AND AIR TRAFFIC CONTROL | 15 |
| 15.2 NOTAM..... | 15 |
| 15.3 PERMITS | ERROR! BOOKMARK NOT DEFINED. |
| 16 AIRPORT SECURITY | 16 |

| | | |
|-----------|---|-------------------------------------|
| 17 | MOVEMENT WITHIN THE AIRPORT (AIRSIDE) | 17 |
| 17.1 | GENERAL | 17 |
| 17.2 | AIRSIDE ACCESS | 17 |
| 17.3 | AIRSIDE MOVEMENT | 18 |
| 17.4 | AIRSIDE VEHICLE CONTROL SYSTEM | 18 |
| 17.4.1 | Responsibilities of the Contractor | 18 |
| 17.4.2 | Airside vehicle permit..... | 19 |
| 17.4.3 | Authority to drive airside | 19 |
| 17.4.4 | Airside Vehicle Operators Permit - AVOP | 20 |
| 17.4.5 | Rules for driving airside | 20 |
| 17.5 | ACCIDENT AND INCIDENTS | 22 |
| 17.5.1 | Scope | 22 |
| 17.5.2 | Objective..... | 22 |
| 17.5.3 | Definitions..... | Error! Bookmark not defined. |
| 17.5.4 | Procedure general | 22 |
| 17.5.5 | Responsibilities..... | Error! Bookmark not defined. |
| 17.5.6 | Verification..... | Error! Bookmark not defined. |
| 17.5.7 | Non-conformance | Error! Bookmark not defined. |
| 17.5.8 | Reference | Error! Bookmark not defined. |
| 17.5.9 | Subordinate Documents | Error! Bookmark not defined. |
| 17.5.10 | Change Control..... | Error! Bookmark not defined. |
| 17.6 | ADDITIONAL REQUIREMENTS REGARDING CONSTRUCTION ACTIVITIES | 23 |
| 17.6.1 | Existing surfaces..... | 23 |
| 17.6.2 | Barricades and markings | 23 |
| 17.6.3 | Illuminated Runway closure marker | Error! Bookmark not defined. |
| 17.6.4 | Unforeseen delays due to action by airport authorities..... | 23 |
| 18 | ENVIRONMENTAL CONSIDERATIONS | 23 |
| 19 | THE SAFETY PLAN | 23 |
| 19.1 | PHASE 1: KICK-OFF MEETING TO BE CHAIRED BY THE ER 1 HOUR BEFORE THE TAXIWAY/RUNWAY IS CLOSED | 24 |
| 19.2 | PHASE 2: TAXIWAY/RUNWAY CLOSURE CHECKLIST TO BE COMPLETED BEFORE ACCESS TO FACILITIES | 25 |
| 19.3 | PHASE 3: OPERATIONAL MATTERS DURING CONSTRUCTION | 25 |
| 19.4 | PHASE 4: RUNWAY OR TAXIWAY OPENING CHECKLIST TO BE COMPLETED 10 MINUTES BEFORE OPENING OR AS REQUIRED BY FIRE AND RESCUE IN CASE OF AN EMERGENCY OPENING OF THE RUNWAY OR TAXIWAY | 27 |
| 20 | THE CONTINGENCY PLAN | 27 |
| 20.1 | LATE COMPLETION ON A SHIFT | 27 |

| | | |
|-----------|--|---------------------------------|
| 20.1.1 | Asphalt work, Earth works, Layer works and Electrical work | 27 |
| 20.1.2 | Paint markings | 28 |
| 20.1.3 | Confirmed late completion..... | 28 |
| 20.1.4 | Sudden rain..... | 28 |
| 20.1.5 | Emergency flight /fog/low visibility | 28 |
| 20.1.6 | Aircraft or vehicles violate no-go areas..... | 28 |
| 20.1.7 | Non-attendance of radio or communications support..... | 28 |
| 20.1.8 | Inoperative plant on the taxiway/runway | 29 |
| 21 | REPORTING OF ACCIDENTS/INCIDENTS | 29 |
| 22 | PENALTY FOR NON-COMPLIANCE TO THE AIRSIDE RULES AND SAFETY SYSTEM | 29 |
| 23 | CONTACT LIST | Error! Bookmark not defined. |
| 24 | DECLARATION | 30 |
| | APPENDIX A: WORK AREAS AND STRIP HAZARD REQUIREMENTS FOR TAXIWAYS AND RUNWAYS | 31 |
| | APPENDIX B: APPLICATION FORM FOR CLOSURE OF AIRSIDE FACILITIES | Error! Bookmark not defined. |
| | APPENDIX C: ROUTING PLAN | Error! Bookmark not defined. |
| | APPENDIX D: METHOD STATEMENT | Error! Bookmark not defined. |

1 GENERAL

This document (Volume 5) 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.

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.

2 DEFINITIONS

| | |
|-----------------------------------|--|
| ACSA | Airports Company South Africa |
| ATC | Air Traffic Control |
| ATNS | Air Traffic and Navigation Services who undertake the ATC services at OR Tambo International Airport |
| AIRPORT/AERODROME | An area of land including buildings intended to be used partly or wholly for the arrival, departure and movement of aircraft, air passengers and airfreight |
| AIRPORT MANAGER (AM) | In this document is replaced with Air Traffic Control |
| AIRSIDE | The movement area on the airport, adjacent terrain and building or portions thereof, access to which is controlled, but excluding leased areas |
| APPROVED ISSUING AUTHORITY | An organisation approved by the airport manager to issue airport security and airside vehicle permits |
| APRON | The part of the Airport Movement Area used for: <ul style="list-style-type: none">▪ The purpose of enabling passengers to board, or disembark from aircraft; |

| | |
|-----------------------------------|--|
| | <ul style="list-style-type: none"> ▪ Loading cargo onto, or unloading cargo from aircraft and ▪ Refuelling, parking aircraft or carrying out maintenance on aircraft |
| AUTHORITY TO DRIVE AIRSIDE | <p>Authority issued by the Airport Operator to a driver for the purpose of driving in certain areas on the Airside</p> <ul style="list-style-type: none"> ▪ <i>Authority to Drive Airside Category 1</i> – An Authority issued by the Airport Operator to a driver for the purpose of driving only on the Airside Road in the vicinity of the Terminal or Apron Areas; ▪ <i>Authority to Drive Airside Category 2</i> – An Authority issued by the Airport Operator to a driver for the purpose of driving on the Airside Roads and Aprons (this may include crossing specific taxiways where a taxiway crossing is marked, and when the driver has received specific training to cover this occurrence) and ▪ <i>Authority to Drive Airside Category 3</i> – An Authority issued by the Airport Operator, following a satisfactory attendance and written test, to a driver for the purpose of driving on all movement areas at the airport. |
| AUTHORITY FOR USE AIRSIDE | Is an authority to be affixed to a Vehicle or motorised item of Construction Equipment approved to access the Airside. |
| ER | Engineer’s Representative for the Consulting Engineer. |
| ESCORT | Means the supervision of a vehicle or item of construction equipment on the airside whereby the supervising person takes responsibility for and provides guidance and may take immediate action to prevent an unsafe act by the vehicle or item of construction equipment being escorted. |
| ESCORT OFFICER | Means a person authorised by the Airport Operator to perform the act of escorting another vehicle on the airside of the airport. |
| F&R | Fire and Rescue. |
| ORTIA | Means O.R TAMBO International Airport |
| ILS | Instrument Landing System. Instrumentation installed along the runway strip to assist pilots during poor weather conditions. |
| LANDSIDE | The area of the airport to which the public has unrestricted access. |
| MOVEMENT AREA | That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft consisting of the manoeuvring area and the apron(s). |
| MANOEUVRING AREA | That part of an aerodrome to be used for take-off, landing and taxiing of aircraft – excluding aprons. |

| | |
|--------------------------------------|---|
| MARKINGS | Symbols, lines, words and figures displayed on the surface of a movement area, or special visual features added to vehicles. |
| NOTAM | A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations. |
| PERIMETER ROAD | A road within the airside to facilitate movement of vehicles to various areas while remaining clear of the manoeuvring areas. |
| RET | Rapid Exit Taxiway. A Taxiway designed to facilitate the rapid exit of aircraft from the runway. |
| RESTRICTED AREA | Any part of an airport, designated by notices posted by the airport manager/ATC/Fire and Rescue. Access to this designated area is allowed only for persons in possession of an authorised identification card valid for the specific restricted area. |
| RUNWAY (RWY) | A defined surfaced rectangular area at an airport prepared for the landing and take-off of aircraft. |
| RUNWAY TURNPAD | A defined area on a land aerodrome adjacent to a runway for the purpose of completing a 180-degree turn on the runway |
| BLASTPAD | A specially prepared surface placed adjacent to the ends of the runways to eliminate the erosive effect on pavement surfaces by high jet engine efflux forces produced by the airplanes at the beginning of their takeoff rolls |
| RUNWAY END SAFETY AREA (RESA) | An area symmetrical about the extended runway centre line and adjacent to the end of the strip primarily intended to reduce the risk of damage to an aeroplane undershooting or overrunning the runway |
| RUNWAY STRIP | The area adjacent to the runway extending to 150 m on either side from the centre line of the runway |
| TAXIWAY (TWY) | A defined path for the taxiing of aircraft, including aircraft stand taxi lane, apron taxiway and rapid exit taxiway. |
| CLEARWAY (CWY): | A defined rectangular area on the ground, selected or prepared as a suitable area over which an aeroplane may make a portion of its initial climb to a specific height |
| VEHICLE | Any self-propelled ground surface vehicle or mobile equipment (including specialised aircraft servicing vehicles and ramp equipment). |

3 CONTRACTOR'S CAMPSITE

An area will be made available for the Contractor's Campsite.

The contractor will pay for the service sewer connection, if available and the contractor should allow to provide for chemical toilet facilities. A telecommunication point is also available. The utilisation of this service is at the expense of the contractor.

The height of any fixed structure (silo's, cranes, etc) for the duration of the contract shall be forwarded to the Employers agent/Engineer prior to erection thereof. The Employers agent/Engineer will verify that these structures do comply with airspace safety regulations and will notify the Contractor accordingly.

The Contractor shall not be allowed to store/deliver materials or occupy any other area, other than the site establishment area demarcated as such.

Under no circumstances will construction traffic, deliveries, etc be allowed through and via the normal airport traffic routes or perimeter roads. Construction traffic that has to travel on the airside must be strictly controlled and channelled via approved routes inside the airport boundary.

The Contractor shall provide 24-hour security at the site camp at his own cost and shall provide sufficient lighting in compliance with the OHS regulations. The Contractor must also allow for full compensation for providing one security guard to control the access at the respective access gates to the site as indicated on the drawings.

4 PROGRAMMING OF THE WORKS

The Engineer: Airside must approve the programme of the works. The programme of the works must be compiled to ensure minimum disruption to airside operations and in line with the dates stated in Volume 3. The Contractor must take the following restrictions into account when compiling his programme of works:

(a) Work next to runways, RETs and taxiways

Special arrangements need to be made for any construction work on the runway, RETs and taxiways. Work is not permitted in this area without approval from the Manager: Airside.

(b) Restricted Working Times

The construction programme must be based on the restricted working times as shown in Table 1.

Table 1: RESTRICTED WORKING TIMES

| MAIN ACTIVITY | DURATION | START | FINISH | CLOSURE TYPE | WORK DAYS |
|--|----------|-----------|-----------|----------------|---------------|
| Echo Taxilane (Subsoil Drainage) | 4 months | 21-Oct-19 | 28-Feb-20 | 21:00 - 07:00 | Full week |
| Bravo Taxiway (Part 1: Concrete) | 3 months | 28-Feb-20 | 30-May-20 | Full closure | Full week |
| Bravo Taxiway (Part 2: Asphalt) | 3 months | 28-Feb-20 | 30-May-20 | 21:00 - 07:00 | M; W; F; S; S |
| AlphaTaxiway (03L) - A1 | 1 month | 30-May-20 | 30-Jun-20 | 00:00 - 05:00 | M; W; F; S; S |
| Alpha-Bravoo-Juliet Junction A2 | 1 month | 30-May-20 | 30-Jun-20 | 00:00 - 05:00 | M; W; F; S; S |
| Juliet 1 Taxiway (btn Alpha and 03L) | 1 month | 30-Jun-20 | 30-Jul-20 | 00:00 - 05:00 | M; W; F; S; S |
| Juliet 2 Taxiway (btn Charlie and 03L) | 1 month | 30-Jun-20 | 30-Jul-20 | 00:00 - 05:00 | M; W; F; S; S |
| Quebec Taxiway | 1 month | 30-Jul-20 | 31-Aug-20 | 00:00 - 05:00 | M; W; F; S; S |
| AlphaTaxiway (21R) | 1 month | 30-Jul-20 | 31-Aug-20 | 00:00 - 05:00 | M; W; F; S; S |
| Echo Taxilane | 4 months | 30-Jul-20 | 13-Dec-20 | 00:00 - 05:00* | Full week |

* Additional hours are requested and may be granted by contract award (21:00 - 07:00)

(c) End of Shift

On the areas where restrictions apply, all works shall be completed at least 30 minutes before the end of the working time. The termination of the shift must allow for sufficient time to do cleaning work and the compulsory inspection before the opening at the due time, to ensure the safe movement of aircraft after opening. The holding lines, relevant runway markings, stop bar lights and runway edge lights where air traffic movement takes place shall be operational after each shift.

5 STOCKPILE AND SPOIL SITE

Inside the boundaries of the ORTIA, the Contractor shall only stockpile or spoil approved construction material at designated approved areas, which will be provided by the Engineer. Alternatively the Contractor shall make arrangements for his own spoil sites outside the ORTIA boundaries. The stockpiles will not exceed in height the surrounding vegetation/trees and will not be within 3,0 m of any boundary fence.

Waste matter such as plastics, paper, etc that originates from the Contractor shall be taken to spoil outside the ORTIA boundaries.

6 RESTRICTED ACCESS TO THE SITE OF THE WORKS

(a) Restricted Areas

The contractor will have restricted access to the works at any given time because simultaneous closure of the runway and taxiways during normal operational hours will not be permitted.

The temporary hazard drawings summarise hazard requirements for the TWY, RET and RWY strips. After every re-opening of the TWY, RET and RWY, the surface of the work area shall comply with these requirements (See Appendix A).

Although the entire site will be handed to the Contractor at the start of the contract, the airport manager and the air traffic controller have the right to decide at short notice where on the site the Contractor may work. Both runways (03L/21R and 03R/21L) will remain operational and access on these runways are limited to night work and subject to approval by the Engineer.

Under ILS conditions (instructed by the ATC), for all work areas in restricted conditions, no work shall be allowed next to the RWY or in restricted access areas.

(b) Access Point and Routes

The designated access point for plant and personnel will be indicated to the contractor. The Contractor will provide 24 hour security at this Gate. The security stall at this Gate will be in radio contact with Fire & Rescue at all times to enable the provision of escort services.

Fire & Rescue will provide staff at strategic points to observe the progress of vehicles along the access routes and to redirect vehicles where necessary.

Construction material must be delivered via the super south, jet center gate or ATNS access gates to the site camp under escort.

(c) Communication

Both the Engineer's Representative and the Contractor's Safety Managers will be in possession of radios which can communicate directly with Fire & Rescue. These radios will be used, inter alia, to communicate emergencies, as well as to arrange for opening and closing inspections.

The Contractors' staff will be in contact with one another by means of a radio system of their own. ATNS will be required to authorize the use of any radio frequencies on the airside.

(d) Escorts

The Contractor will be responsible to arrange his own escort on site. Allowance has been made in the Volume 3 document for the Contractor to obtain the necessary permits.

Contractor's escort will collect all contract related delivery/service vehicles at the access gate and proceed to the site camps only.

Pedestrians to be collected by Contractor's escort and transported to site camp. A log sheet of all pedestrians and vehicles escorted onto the construction areas/site camp will be completed on a daily basis and submitted to the ACSA permit office for record purposes. One escort will be allowed to escort a maximum of ten staff members/pedestrians.

7 BARRICADES

The Contractor shall erect, maintain, move and finally remove temporary barriers, fences, signs and markings, all as prescribed by the airport authorities or as shown on the drawings. Barricades, markers and signs have to be placed under escort or while being in radio contact with the ATC, prior to entering a work area for construction purposes.

Movement outside the areas demarcated for construction shall not be permitted, unless special arrangements have been made and approved by the Engineer.

8 ON SITE STORAGE OF PLANT AND EQUIPMENT

Temporary stockpiling and storage of equipment on the site shall be done as far away as possible from operational areas within the approved demarcated areas for construction work. The Contractor shall submit a proposal for approval by the Engineer's Representative.

9 TEMPORARY TRAFFIC-CONTROL FACILITIES

9.1 TRAFFIC SIGNS

The Contractor shall supply, erect and maintain all necessary temporary road signs in accordance with South African Road Traffic Signs Manual, Volume 2, Chapter 13 (latest edition).

All temporary road signs, devices, sequences, layouts and spacing shall also comply with the requirements set out in the Road Traffic Act, 1989 (Act 29 of 1989) and its Regulations, the requirements of the relevant authority and the South African Road Traffic Signs Manual, Volume 2, Chapter 13.

The Contractor shall indemnify the Employer against all proceedings, claims, actions, damages and costs which may arise from or be related to the absence or improper functioning or placement of road-traffic signs, barricades, traffic-control facilities, channelisation devices and warning devices.

9.2 TAXIWAY CLOSING DURING CONSTRUCTION PERIOD

Barricades and steady red lights shall be provided to indicate that a taxiway is closed as indicated in the specification and drawings.

The Contractor shall locate barriers at areas approved by the Engineer. These barriers shall be weighted down by means of sandbags at both ends. The barrier consists of a triangular framework covered with plate sheeting (covered with high intensity grade retro-reflective material) (also see Work Program Drawing in Volume 4).

9.3 SCHEDULED MAINTENANCE

Once the maintenance schedule has been agreed upon the ACSA Manager will ensure that the necessary NOTAM have been communicated to all the Airlines. Scheduled maintenance at ACSA operated airports will be carried out after normal operational hours wherever possible. At ORTIA scheduled maintenance is carried out between the hours of 00h00 and 05h00 local time.

9.4 RUNWAY, RET AND TAXIWAY RE-OPENING

After completion of work the Contractor will clean up the area on a daily basis before the handover. A combination of hand brooming and mechanical brooming will be used and a flat truck will be available to remove any swept up debris.

Existing runway markings will be reinstated before the end of each shift, unless otherwise agreed with the Employers agent/Engineer.

Upon receipt of notification of completion of the above, the ACSA Fire and Rescue Services Department Head will conduct a runway/taxiway inspection and advise ATC that the runway/taxiway is now available for use. The Engineer's Representative will give Fire & Rescue progress reports from 2 hours before RWY opening, every 30 minutes. If there is any reason why the runway cannot be opened on time at the specified time the Engineer's Representative will inform ACSA Project Manager as soon as he becomes aware of this situation. The ACSA Project Manager will then initiate the emergency procedures and mobilise the necessary ACSA personnel.

Fire & Rescue will inspect the no-work areas from 1 hour before RWY opening and maintain a vehicle to monitor and ensure no further activity in these areas. Construction activities must be completed 30 minutes before RWY opening. Plant and personnel will be clear of the runway 25 minutes before RWY opening (escort if required). On completion of a shift the Contractor will ensure that the work area is clean and free of all FOD material. Painting should be completed 20 minutes before RWY opening. The Engineer's Representative Officer and Fire & Rescue will conduct final inspection of the work area 20 minutes before the designated opening time. The sweeper truck will not leave the runway until Fire & Rescue has declared the runway open. Once the construction area has been inspected and found satisfactory by Fire & Rescue, Fire & Rescue and Engineer's Representative will sign off the relevant runway handover forms. ATNS will be notified by Fire & Rescue and the area will be opened for use by the specified time.

9.5 TRAFFIC SAFETY OFFICER

The Contractor's Safety Officer shall be made available to discuss safety and traffic accommodation matters whenever required by the Employers agent/Engineer. The Safety Officer is responsible for the following:

- (a) Record on neat and dimensioned sketches and submit to the Employers agent/Engineer the position and sign reference number, where applicable, of each sign, barricade, amber flicker light, guardrail and permanent or temporary painted surface marking feature. The position of each shall be adequately referenced to identifiable permanent features located along the site of the works.

These records shall also show the date and time at which the recorded traffic accommodation features are certified correct by the traffic safety officer, before being submitted to the Employers agent/Engineer.

The records shall be amended whenever changes are made in the field and the revised detailed sketches shall be submitted to the Employers agent/Engineer. This shall include the recording of the position of lookouts, flagmen and stop/go control men and their associated traffic accommodation equipment wherever they are used.

- (b) Personally inspect the position and condition of each traffic accommodation feature on the whole site at regular intervals, to record all irregularities discovered and the remedial action taken, and to sign off as correct and submit to the Employers agent/Engineer such record sheets the next day. The Safety Officer shall keep a duplicate book for this specific purpose and a record of photographs on a daily basis.

The Safety Officer shall also submit to the Employers agent/Engineer before the start of works, a record of all matters pertinent to site safety and traffic accommodation throughout the site of works. He shall also record the daily labour returns of lookouts, flagmen, stop/go and traffic signal control men employed.

The Safety Officer shall be equipped with a radio and cellular telephone and shall have a vehicle and labourers at his disposal at all times and he shall be directly answerable to the site agent. The traffic safety vehicle shall be a truck with a minimum capacity of 5 tons and shall be equipped with a high visibility rear panel in accordance with the requirements of Chapter 13 of Volume 2 of the South African Road Traffic Signs Manual. The Safety Controller shall have a direct line of communication at all times with the ATC, Engineer and ATNS responsible for the area within the limits of the contract.

- (c) Ensure that all obstructions related to the Contractors activities be removed before the end of closure where applicable and instructed by the Employers agent/Engineer and that the runway and taxiways are safe for traffic.

- (d) The Safety Officer shall, also be responsible for removal of broken down vehicles/equipment, resources, etc off the runway and taxiways and implementing actions requested by the Engineer with regard to the work to be carried out, be responsible for the erection and maintenance of all traffic signs, etc necessary for the accommodation of traffic.
- (e) The Employers agent/Engineer is entitled to call a false alarm at any given time and the cost will have to be born by the Contractor.

10 SPECIAL PROCEDURES FOR CONSTRUCTION AND NIGHT WORK

Any work undertaken within 50 m from the RWY edge and 50 m from the TWY centreline shall be undertaken when the RWY and TWY is closed.

The Contractor's attention is drawn to the fact that his subcontractors shall also comply with the specified safety regulations for entering airside and that he shall remain responsible for their compliance with the safety regulations. The Weather Bureau shall be consulted by the contractor during the day prior to any work at night on the runways, RETs or taxiways in order to ensure that no delays due to inclement weather occur for re-opening the runway the next morning.

A method statement for every closure shall be submitted to the engineer before any work will commence. Careful briefing of all personnel working is one of the most important aspects to ensure high safety standards.

The Contractor shall provide artificial light after sunset to ensure the proper execution of the work in terms of the contract and shall be subject to the Engineer's approval and the power system shall comply with the Machinery and Occupational Safety Act No 6 of 1983 as amended, and the Standard Regulations for Wiring of Premises of the South African Institute of Electrical Principal agents.

At the end of the night work, the construction area shall be made safe to a distance of 50 m from the RWY edge and 50 m from TWY centreline. This area shall be cleared of all personnel, plant and obstructions and shall have no loose material on the surface before re-opening. The work shall be programmed such that enough time is allowed for cleaning and inspection of the area prior to its re-opening.

Late opening of elements due to the negligence of the Contractor will be subject to penalties as indicated in Volume 3 of the contract.

10.1 BEFORE WORK COMMENCES, AGREEMENTS MUST BE ESTABLISHED ON

- The authorised routes - these should preferably be marked with contractor's signs. At critical points controls should be established. Where there is real risk of conflict between aircraft and vehicles, control points should be manned. At less critical points, controls may be affected by lights or warning signs.
- The communication facilities to be used - where direct control of vehicles is required, each vehicle should either have R/T or be escorted by a suitably equipped vehicle. In some circumstances it may be sufficient to have direct communications with control points by R/T or by direct telephone lines to air traffic control.
- The permitted heights of vehicles and equipment and the limitations to be placed on operating heights of crane jibs and any limitation to be placed on the use of electrical equipment, which might cause interference with navigational facilities or aircraft communications.
- Where contractors work on or traverse movement areas, these areas shall be thoroughly inspected before they are opened again for aircraft use, with particular attention being paid to the presence of debris and general cleanliness of the surface. Where aircraft are constantly using areas open to contractors, inspection will be carried out by ACSA at frequent intervals to ensure that the contractor carried out any necessary cleaning.
- Adequate markings are required for crane jibs when increased visibility is considered desirable. If work is of a prolonged duration a constant watch should be maintained to ensure that the marking and lighting of obstacles and unserviceable areas do not degrade below acceptable limits. This also applies to marking and lighting arrangements to indicate a displaced threshold.
- The possible interference of cranes and other equipment on Instrument Landing Systems (ILS) and radar need to be considered in conjunction with those responsible for electronic landing aids. Necessary steps to reduce any limitation to the minimum will be taken. Construction equipment may have adverse affect on obstacle clearance allowances and the appropriate authorities shall be consulted when working arrangements are being planned. The Obstacle Limitation Surfaces according to ICAO Annex 14 will apply.
- Construction sites are to be roped, demarcated or hoarded off from the operational area.
- Occupational Health and Safety Legislation is to be adhered to by all.
- All workers on the site will all be in possession of a valid ACSA Security Permit and where applicable, a cell phone permit and camera permit.
- All delivery and construction vehicles must be issued with a valid ACSA Vehicle Permit and all drivers to be in possession of an Airside Vehicle Operator Permit (AVOP)
- Appropriate personal protective equipment to be issued and worn by all workers on site.

- Clearing of debris from the site to be carried out in line with safe working practices to avoid any Foreign Object Damage (FOD).
- Final site inspections must be carried out by ACSA to ensure that any parking stand signage and markings are compliant with recommendations of the Airports Council International (ACI)/International Air Traffic Association (IATA), as contained in their handbook's first edition of 2000 or later.

10.2 BRIEFING BEFORE PROJECT COMMENCES

It is essential that time be set aside prior to commencing with the project, that everyone is briefed on the work activities including individual workmen. Special care must be taken on longer projects that all shifts are included and new employees or replacements are briefed before they commence work on the site. Reference must be made to the responsibility placed on the individual by the Occupational Health and Safety Act. Under certain circumstances it may be possible to issue written work instructions beforehand, but an oral brief should be held as well to give the opportunity to staff to ask questions. The following list details some of the points that should be included in the brief:

- Task(s) being carried out;
- Works Area and how it is to be marked by day and night
- Whether anyone is permitted to move outside the site boundaries and if so, when and under what conditions
- The permitted working hours and any other restrictions
- The identification methods of warning the working party
- What to do when aircraft approach
- How to warn the working party if a person sees impending danger
- Who to ask in case of experiencing a particular difficulty
- Communications procedures and contacts
- The action to be taken in the event of an accident
- Controlled crossings and other approved routes
- Vehicle lights and markings applicable
- Use of high visibility clothing
- Warning not to leave equipment outside the designated working area
- The importance not to generate any Foreign Object Damage (FOD)
- Under no circumstances is food or rubbish to be left on site as this may attract birds and

- The dangers of engine suction and exhaust blast.

10.3 MARKING OF A SITE BY DAY

The Contractor undertaking the work is responsible to ensure that all marking equipment for use such as barriers, fences, etc are approved and available in sufficient quantity.

Where specified, such as for extended projects, a Contractor's fence must be erected as specified in the drawings, Operational Safety Instructions (OSI) and Operational Works Memo's. All holes, unconsolidated ground such as trenches are to be marked even though they may be inside an approved working area. Before work commences a member of the ACSA Safety Department will inspect the site to check that it is marked out correctly and to a sufficient high standard.

10.4 MARKING OF A SITE BY NIGHT OR LOW VISIBILITY

ACSA Safety will specify to the Contractor undertaking the work the type of night lighting and marking equipment to be used. All working areas must be lit during hours of darkness, commencing 30 minutes after sunset until 30 minutes before sunrise or in conditions of low visibility.

Work sites are to be lit by obstruction lights at a maximum spacing of 3 metres. The obstruction lights are to be of a pattern approved by ACSA Airfield Operations. This does not obviate the need for a lookout if specified and if work is taking place.

Work sites that are required to be marked will be inspected by the ACSA Safety Department each night too ensures they are lit to the correct standard.

10.5 WORKS UNDER ON/OFF CONDITIONS

ON/OFF Work can be described as work that takes place on or within the obstruction limits of a taxiway and when an aircraft approaches both men and equipment endangering their safety as well as that of the aircraft and its occupants.

In this case, the men and equipment must clear the area to a safe distance away to allow the aircraft to pass. Once the aircraft is clear, the men and equipment can re-enter the area and continue their work. The conditions for work under ON/OFF work are as follows:

This type of work is only permitted if the visibility is above specified minima as laid down by ACSA Airfield Operations.

- The work must be of such a nature that it can be abandoned and when left it will not be a hazard to passing aircraft
- If equipment/plant is used, it must be mobile so that it can be withdrawn quickly
- All those in the working party must wear high visibility clothing
- R/T Communications with ATNS are to be maintained at all times and a lookout nominated

- All members of the working party must be properly briefed, understand the safety measures and be suitably trained/qualified in the use of R/T communications and procedures; and

If work is carried out at night, red stop bars which surround the pavement block are to be switched on whenever possible to give the party additional protection. The above also apply to urgent electrical repairs.

11 EXISTING SERVICES

A detailed drawing of the known services is shown in the Volume 4 document. It will be the Contractors responsibility to verify these services as well as to locate and expose any other services.

12 ELECTRICAL EQUIPMENT LIMITATIONS

12.1 INTERFERENCE WITH NAVIGATIONAL FACILITIES

Where cranes are used, the potential for interference with navigational facilities exists. The Engineer will be notified whenever a crane is to be used, for example, to remove broken down plant.

12.2 INTERFERENCE WITH AIRCRAFT COMMUNICATIONS

The Contractor will seek approval from ATNS via Fire & Rescue for the radio frequencies to be used on the project. Should any vehicles or radios be found to cause interference with aircraft communications, the relevant vehicle shall be removed from the site or the radio switched off until the fault can be traced and repaired.

13 HOT WORK PERMIT

The following activities have been identified as hot work:

- Heating paver screeds using gas burners
- Heating bituminous products in spray tankers using gas burners
- Any other work involving open flames

A hot work permit with a validity period of two weeks will be applied for and will list the above activities. Fire & Rescue will be asked to extend the validity of this permit every two weeks.

A copy of the permit will be carried by everyone on the site who is likely to engage in hot work, as well as the Safety Officer. A copy will also be kept in the Site Safety File.

14 RADIO COMMUNICATION ON THE AIRPORT

The Contractor shall establish an acceptable radio communication system on the airport. Such a system must be approved by the ATC to ensure that no interference with normal aeronautical communication occurs. A special radio frequency will be provided by ACSA for the contract.

Radio communication between the ATC and the Contractor will be effected by means of two-way radio units. These units are to be supplied by the Contractor. The number of units permitted shall be determined by the Engineer, depending on the need for direct contact with the Contractor. The Contractor's personnel shall complete a radio operator's basic course before they use the two-way radio units. The duration of the radio course is 5 working days. The contact person for confirmation regarding cost and course dates is listed in the contact list. The Contractor shall be responsible for any maintenance costs, damage or loss of these units.

No access shall be given on the airside without the escort, and all personnel and equipment shall remain behind the escort when elements are entered. All delay to the works due to the incidental non-availability of such escort will be for the contractor's account.

All permanent staff will apply for ACSA permits. The Contractor will provide within one week of award of contract a list of staff (including identity numbers) who will receive airside induction training. A meeting will then be scheduled to inform the Contractor of the permit requirements and issuing of permits. Special induction training sessions will be scheduled for the contract to ensure timeous issue of permits to permanent staff members.

15 RESPONSIBILITY OF AIRPORT MANAGER AND AIR TRAFFIC CONTROL

15.1 AIRPORT OPERATIONS AND AIR TRAFFIC CONTROL

The ATC is responsible for the safe movement of all aircraft, both in the air and on the ground. The ATC shall at all times have absolute authority regarding the movement of any construction personnel, vehicles or equipment, where such movement take place within the obstruction free areas of existing facilities, or where it affects the safe movement of the air traffic, and his/her instructions shall be implicitly obeyed. The ATC's decision regarding the acceptability and programming of the Contractor's activities within the above mentioned areas shall be taken into account.

All liaison with the ATC shall be arranged through the Employers agent/Engineer. The Employers agent/Engineer will establish detailed lines of communication.

16 AIRPORT SECURITY

The Contractor shall ensure that the security of the airport is maintained wherever it may be affected by his operations. He shall be responsible for the observance of all security regulations and related requirements, both by his employees, subcontractors and their employees, as well as by his suppliers.

Entry into the security area, whether for personnel, vehicles or self-propelled construction equipment shall be subject to the issue of access permits. All personnel or vehicle permits shall be displayed at all times while such person or vehicle is within the security area. Permits may be issued to grant access to a designated area only and it shall be the Contractor's responsibility to exercise the necessary control on site in order to prevent trespassing by personnel or vehicles in this regard.

The possession of any firearms, explosives or other weapons on the site is also expressly forbidden. Smoking or fires are prohibited in certain areas on the airport, and forbidden on the airside, and fires required for any purpose may only be lit after written approval has been obtained from the airport authorities who will also supervise such fires. Smoking is only allowed at properly demarcated areas and marked with SMOKING ZONE signs.

Sketches, drawings, diagrams, information, etc regarding the works may not be made, recorded or reproduced other than that specifically required by and for the purpose of the contract, and no sketches, drawings, diagrams, information, etc may be published in magazines, journals or elsewhere unless authorised in writing by the Employer.

This document contains information related to the defence of the Republic of South Africa and should be treated as secret. Amongst others, the provisions of section 118 of the Defence Act, Act 44 of 1957, as amended, as well as the provisions of the Official Secrets Act, Act No 16 of 1956, as amended, are applicable.

The failure of the Contractor to comply with these or other security regulations and requirements, shall be sufficient reason to cancel the Contractor's access permits and/or terminate all construction activities until such shortcomings or breaches of security have been rectified, and the Contractor shall have no right to claim for any resulting delays, standing time or losses whatsoever. Any costs incurred by ACSA in rectifying and controlling the breach will be for the Contractor's account.

In order to reduce the risk of theft and FOD creation on the airside all recovered material including lights, electrical cabling will be securely stored in containers in the site camp. No additional payment will be made for the provision of these containers and the Contractor shall include this in his establishment cost. ACSA will carry out periodic audits to confirm compliance in this regard.

17 MOVEMENT WITHIN THE AIRPORT (AIRSIDE)

17.1 GENERAL

The Contractor shall control all movement of his personnel, vehicles and equipment according to the stipulations laid down by the ATC, or specified in the documents or indicated on the drawings. In order to achieve proper control over all movements on site, certain areas, routes or corridors shall be clearly demarcated by the erection of temporary barriers, construction fences or security fences, as indicated on the drawings or instructed by the Engineer. Such fences, or barriers - shall be erected or placed prior to the commencement of any construction activities in any particular area, and shall be moved to new positions as the requirements change during construction of the works.

Movements and operations within the above mentioned demarcated areas shall not normally be subjected to any restrictions from the ATC. Any access, haul or construction routes shall however, be fixed after consultation with the Engineer.

The Contractor must allow in his construction program for any time required to arrange for permission for employees to enter the airside area to execute the contract. Access to the working areas shall be only through ACSA established gates.

The cost of permits for the contractor's personnel and vehicles are recoverable as stated in the Volume 3 document. The recoverable cost will be limited to the actual cost for attaining the permit and not for the time spent to attain the permits. It is the contractor's responsibility to arrange for timely application for permits, including attending the required induction or other training courses.

17.2 AIRSIDE ACCESS

The Contractor's employees will not be allowed to enter the airside area without permission. A Security Permit to enter the airside area will ONLY be issued to persons who have undergone the compulsory prescribed Safety Induction course. All the Contractor's labourers and subcontractors shall attend a compulsory safety course.

Stakeholders who wish to conduct their own training may do so provided the necessary accreditation is obtained from the Aerospace Industry Education Training Board (AIETB).

All workers entering the airside area must wear lime coloured safety reflective waistcoat type jackets. Waistcoat jackets are more visible during night and low visibility/fog than the vest type. The Contractor's employees may be exposed to excessive aircraft noise and the required measurements shall be taken to comply within the Health and Safety regulations. The Contractor shall warn their employees regarding aircraft jet blast.

Access for construction works to the airside area must be limited to the minimum. Special permits for temporary workers to enter the airside area are required. Non South Africans must hold valid work permits to qualify for Security Permits. Full particulars on application will be required. Any worker, who is granted a permit to enter the airside area, must wear such permit while on site and must also be in

possession of his/her identification document (ID). The Contractor's workforce will be checked from time to time to ensure compliance with the above. Any personnel found without a permit and an ID will be arrested and charged. The Contractor will be held liable for the behaviour of his personnel.

The ACSA permit/security policy must be adhered to at all times. The policy document can be obtained from the Permit Office (see Contact List). Abuse of the system will lead to termination of the issue of any further permits and permits are not transferable.

The Contractor must confirm with ACSA and control the process of obtaining the necessary permits for his workforce that may have to work on the airside. He must further manage the process during construction and his tender must allow and include for possible loss of time for workers to move through security check points, etc

ACSA will provide its own security during the construction period. The security will comprise of security equipment, checkpoints, metal detectors, X-ray machines, etc

The Contractor may also apply to the Engineer in writing, requesting to accommodate an additional security person. Should the Contractor opt to use an alternative security company, the security company must also be cleared with ACSA security.

17.3 AIRSIDE MOVEMENT

The Contractor shall submit a plan to the Engineer for routes to be used for travelling between the various construction areas, spoil site and campsite. The Contractor will not be permitted to travel on any other routes.

17.4 AIRSIDE VEHICLE CONTROL SYSTEM

17.4.1 *Responsibilities of the Contractor*

Contractors wishing to operate vehicles on the airside without an escort shall make the necessary applications in the manner set out below for each vehicle and driver. As a condition of approval of an application for an Airside Vehicle Permit, the company shall ensure that all vehicles and drivers are covered by the Contract Works, Public Liability and SASRIA Special Risks Insurances.

When a vehicle is no longer required for airside use, the Contractor must, upon removing it from airside use, remove and return the Airside Vehicle Permit to the airport manager.

The Contractor shall immediately report to the Engineer all notifiable accidents and shall ensure that arrangements are in place for the rapid removal and/or repair of its vehicles should they become immobilised on movement areas.

17.4.2 *Airside vehicle permit*

Applicants are to demonstrate an operational need for the vehicle to enter the airside, and include the following details of the vehicle:

- Name and address of the owner
- Make and model
- Type of work to be undertaken
- Proposed areas of operation
- Certificate of provincial vehicle registration (or reasons why the vehicle is not registered)
- Any special features

Vehicles are to display the current Authority for Use Airside Permit on the right hand side of the windscreen or in a holder. All vehicles (including delivery vehicles, etc) shall display appropriate identity signage as follows:

Lettering shall be 25 mm wide and 200 mm high, black or dark blue. Signage shall be applied to both sides and on the roof of the vehicle. The company's prefix shall be clearly visible, as well as the vehicle's registration or fleet number. All vehicles registration shall be recorded in the ACSA logbook.

A medium sized amber strobe light shall also be fitted on the roof or other high part of the vehicle or construction plant.

Vehicles shall be registered, or if not registered, shall meet the mechanical and road-worthiness requirements of the relevant provincial authority. In the case of specialist vehicles and equipment, the recognised industry standards shall be met.

An appropriate radio equipped vehicle (eg. from Safety/Fire and Rescue or Contractors approved Escort) shall at all times escort vehicles wishing to operate on the manoeuvring areas of airports.

17.4.3 *Authority to drive airside*

The authority to drive airside is coupled to the Airside Vehicle Operators Permit (AVOP).

The Contractor certifies by applying for an AVOP that the proposed driver:

- has an operational need to drive on the airside
- holds a current provincial driver's license and, where appropriate, is endorsed with an official license to cover the specific type/s of vehicle/equipment to be operated and is able to operate the vehicle/s concerned in a competent and safe manner
- is proficient with the terminology used to describe the airside and is familiar with the airport layout relevant to his/her driving duties
- is conversant with the contents of this Procedure Manual.

Except as otherwise specifically authorised, no person shall drive a vehicle on airside unless the vehicle has a current Airside Vehicle Permit and his Security Permit, which is valid for that area of the airport under construction. It is an explicit condition that the Contractor maintains a control system, at the defined security gates, for the access to vehicles and people from outside using these gates during the work periods. This control shall include giving directions and provide contractors escorts to and from the specific work area.

17.4.4 *Airside Vehicle Operators Permit - AVOP*

An AVOP permit is only required for everyone driving vehicles on airside. All vehicles will have to be escorted by an escort with a radio licence. As a first step, drivers of any vehicles or items of construction equipment must hold an authority to drive airside (Airside Vehicle Operators Permit) - AVOP, endorsed by the ACSA Airport Authority. Such Driver's Authority is not transferable between individuals or between airports and must be carried on the person for the duration of the works on the Airside. The above permit is issued to the driver or operator of equipment subject to completion of theoretical and practical examination and satisfying the competency assessments. Drivers and Operators are also subject to medical examination, and shall be in possession of a valid driver's license and Public drivers permit where necessary.

All vehicles and items of construction equipment shall display the permit authorising entrance to the airside clearly in the windscreen of the vehicle or item of construction equipment.

As a driver on the Airside of the airport, it is the driver's responsibility to ensure that he/she remains up to date with the latest amendment to the Airport Airfield Regulations.

17.4.5 *Rules for driving airside*

A driver wishing to operate vehicle(s) on airside areas of the Airport shall:

- wear a valid Airport Security Permit at all times when in a restricted area
- only operate a vehicle displaying a current Airside Vehicle Permit
- produce the Airport Security Permit and Airside Vehicle Permit on demand by the Engineer

All drivers shall:

- give way to manoeuvring aircraft or an aircraft on tow (operation of the red anti-collision beacons may indicate that aircraft engines have started or that push-back or towing of the aircraft is about to commence or is underway)
- obey speed limits. Unless otherwise indicated, speed limits are:
 - on an Airside Road: 30 km/h
 - on perimeter service roads: 30 km/h

- on an Aircraft Parking Stand: 5 – 8 km/h
 - Elsewhere on apron or movement area: 15 km/h
- obey all other road signs and markings installed around the airport (markings are not always accompanied by associated road signs)
 - follow the service roads (apron service roads are delineated by white staggered lines) provided for vehicular movement (as indicated by the Engineer after award of tender)
 - make sure that loose material, equipment and spoil material carried on a vehicle is covered adequately to prevent spillage and where spillage does occur, to clean it immediately
 - when operating a vehicle at night, or in periods of poor visibility while moving on the movement area, ensure headlights are dipped and tail lights are displayed as for normal night driving
 - park vehicles and equipment in areas specified by the Engineer (note that Areas marked for steps and are vacant may be utilised by vehicles associated with the servicing of aircraft in the period ½-hour before to ½-hour after arrival or departure of aircraft)
 - when operating vehicles in excess of 4,3 m in height, obtain the necessary clearance, either by radio or by telephone from Apron Control to use the alternative routes as indicated by ATC
 - when operating vehicles in excess of 4,3 m in height when crossing a taxiway, runway, apron, etc outside the delineated service roads or any service vehicle behind the white safety lines at the back of aircraft stands, do so only when:
 - (i) there is no aircraft on the facility
 - (ii) no aircraft is about to move from the aircraft stands
 - take extreme care when overtaking any other vehicle on airside service roads.

Drivers shall not:

- operate construction vehicles/plant equipment without having had an adequate rest period since the previous shift
- drive on taxiways or runways unless in radio communication with Air Traffic Control or under escort by an Airport Authority vehicle
- operate a vehicle while under the influence of drugs or alcohol
- operate a vehicle while taking medication that can cause drowsiness
- operate a vehicle closer than 50 metres to an aircraft
- drive a vehicle between passengers moving to and from an aircraft.

The Airport Manager reserves the right to:

- withdraw any airport security permit
- withdraw any airside vehicle permit, if it is considered necessary
- tow away vehicles when parked incorrectly.

17.5 ACCIDENT AND INCIDENTS

17.5.1 *Scope*

This procedure details the reporting steps to be taken by all ACSA personnel as specified below, on all ACSA owned or managed airports including sites occupied by stakeholders and contractors. These steps shall be followed in the event of an accident or incident within the parameters as per the definition.

17.5.2 *Objective*

To effectively inform all ACSA relevant management and personnel of all incidents or accidents, which have the potential or could result into injury, illness, disease, death, aircraft disaster, damage to property, equipment, vehicles, major aircraft obstruction, normal operational obstruction and business interruption.

17.5.3 *Procedure general*

- (a) Should an accident/incident be reported, or come to the attention of any individual, the accident/incident shall immediately be reported to the Help Desk and the Fire Department.
- (b) Upon receipt of the above, the one party shall contact the other (Help Desk to Fire Department or vice versa) irrespective of whether they are aware of the accident/incident or not.
- (c) Distinction shall be made between the following types of accidents:
 - Incidents of a minor nature, which do not have an effect on the operational efficiency of the vehicles, aircraft, building or airport property, involved and reported within 24 hours of occurrence.
 - Accidents, which cause damage to property affecting the operational efficiency of vehicles or infrastructure or causing injury, illness or disease to persons travelling or visiting the airport and reported immediately to the ~~AM Engineer and the SAPS~~. Where possible neither the driver, the passenger nor the vehicles should leave the accident site before the arrival of the police.

17.6 ADDITIONAL REQUIREMENTS REGARDING CONSTRUCTION ACTIVITIES

17.6.1 *Existing surfaces*

The surfaces of existing facilities at and adjacent to places where the contractor is working shall be absolutely clean whenever they are used by aircraft. This will require the presence of a cleaning team to remove all debris, stones or other material from the surfaces. The Contractor shall be responsible for any damage to aircraft or other equipment as a result of failure to comply with this requirement. The contractor must provide designated Foreign Object Debris Bins within the confines of the working area.

17.6.2 *Barricades and markings*

The Contractor shall erect, maintain, move and finally remove temporary barriers, signs, fences and markings required by the employer, all as prescribed by the airport authorities or as shown on the drawings.

Barricades, markers and signs shall be placed under the direct supervision of the F&R or ER's Safety Controller whilst being in radio contact with ATC, prior to entering a work area for construction purposes. No movement of the contractor will be permitted outside demarcated areas for construction, and these must be treated as NO-GO-AREAS. (Also see Par 20.1.6).

17.6.3 *Unforeseen delays due to action by airport authorities*

The Contractor shall note that, at any time during the contract period, the arrival or departure of any aircraft may be delayed or brought forward, and the Contractor may be required to adapt the programme of his work accordingly.

18 ENVIRONMENTAL CONSIDERATIONS

The Environmental considerations that the contractor must adhere to are specified in Clause C3.3 (Volume 3).

19 THE SAFETY PLAN

The following fundamental safety procedures must be taken into account with which to ensure that work in the Movement Area is properly conducted and are to be followed by those responsible for organising and briefing working parties.

- (a) The following very important information must be made available to all staff required to conduct works on the Movement Area:

- i. Know whom to contact and by what means should a problem arise.
- ii. Know what action you will have to take in the event of an accident.
- iii. **Manoeuvring Area Entry Points, Entry and Exit points to the Manoeuvring Area must be via an inter-stand clear way.**

(b) The Safety Plan will be executed in four phases during the night work construction periods.

19.1 PHASE 1: KICK-OFF MEETING TO BE CHAIRED BY THE ER 1 HOUR BEFORE THE TAXIWAY/RET/RUNWAY IS CLOSED

The primary function of the kick-off meeting is to determine if all measures are in place to allow a normal shift's work to be completed in time and as indicated in the Contractor's Method Statement. The following representatives of parties involved with the project will attend the meeting:

- The Engineer's Representative (ER) and ER's Safety Controller
- Site Agent (for each contractor on the project including subcontractors)
- Site Safety Officer/Escort services
- F&R Shift Controller

The following agenda will be discussed and minutes taken by the ER or his representative or the ER's Safety Controller:

- Confirm emergency procedures (by means of detailed explanation by contractor)
- Current weather condition and wind direction (feedback by ER's Safety Controller)
- Expected weather conditions, wind direction and Air Traffic Movements for the night (feedback by ER's Safety Controller)
- Plant and personnel (List to be compiled by contractor's safety official)
- Check hard copy of NOTAM requirements and confirm with ATC (ER's Safety Controller)
- Check available work time and confirm required quantities
- Check latest status and departure time of aircraft (F&R)
- Confirm construction plan, work areas and routes to be followed by Air Traffic and Construction Vehicles, compare with NOTAM (ER's Safety Controller to submit route diagram)
- Confirm availability of Traffic Signs, Barricades and the responsibilities for moving the signs in place (ER's Safety Controller to submit traffic diagram)
- Confirm Method Statement by the Contractor

- Confirm operational requirements:

| | |
|---|--------------------------|
| - Plan transverse and longitudinal joints | - Contractor |
| - Temporary paint markings | - Contractor |
| - Moving temporary taxiway lights | - Electrical Contractor |
| - Closure of taxiways | - ER's Safety Controller |
| - Spoil and stockpile sites as per the drawings | - Contractor |
| - Affected electrical services | - Electrical Contractor |
| - Open excavations along the facilities | - All Contractors |
- Confirm the availability of a qualified Motor Mechanic on site
- Confirm there are sufficient critical spares available for critical plant

19.2 PHASE 2: TAXIWAY/RET/RUNWAY CLOSURE CHECKLIST TO BE COMPLETED BEFORE ACCESS TO FACILITIES

The ER's Safety Controller will report on the following matters:

- Taxiway/RET/Runway Closure Markers, Barricades and placed in position
- Plant and vehicles provided with Amber Flash Lights and Reflective Tape as required
- Personnel have Lime Reflective Jackets and necessary valid permits (eg. AVOP, etc)
- Security measures at the gate are in place
- Radio Communications of both F&R Escorts and ER's Safety Controller in place

19.3 PHASE 3: OPERATIONAL MATTERS DURING CONSTRUCTION

The ER's safety controller will inform the Contractor to adhere to the following timetable during the shift to ensure that the Taxiway/RET/Runway can be opened to Air Traffic in due time:

- ER's Safety Controller must confirm with the contractor 2 hours before taxiway/RET/runway opening time the official completion time (Refer to items 20.1.1, 20.1.7).
- Construction activities will be completed 30 minutes before taxiway/RET/runway opening time. The Engineer will be informed on completion of the construction activities.
- No longitudinal steps will be allowed.
- Temporary paint markings for live taxiways, RETs and runways will be completed 20 minutes before opening. The Engineer will be informed on completion of the paint markings.
- Plant will vacate the runway 25 minutes before opening, to designated storage areas.
- The ER's safety Controller must be finished with inspection of work completed 20 minutes before opening after which the vehicle barricades shall be removed.

- The taxiway/RET/runway opening checklist will be completed and handed over to officials of Fire and Rescue completed 10 minutes before opening.
- The runway closure markers are to be removed on instruction of the officials of Fire and Rescue 10 minutes before taxiway/RET/runway opening time.

The Contractor will be required to include the above timetable in his proposed Construction Method Statement to be approved by the Employers agent/Engineer. This will include a methodology for cleaning the work area and the haul routes. A cleaning team and equipment will be on standby till one hour after opening should additional cleaning be required on instruction of Fire and Rescue.

The Construction and phasing plan indicate the order of construction to prevent conflict between aircraft movements and construction vehicle routes. Haul routes will follow perimeter road, apron and taxiways. Marker boards will indicate the haul route between the work area and the gate or spoil and stockpile areas. Vehicles will not be allowed to move neither onto the grass verges nor close to the Nav aids.

Barricades will be placed at the entrance to taxiways affected by night work such that aircraft approaching a closed taxiway will have an alternative route to follow. Each work area will be totally isolated by means of barricades and Markers, except for a single access for construction vehicles. Work areas will be demarcated at least 50 m away from any "live" Taxiway centreline and 80 m away from the Runway centreline.

Vehicles will be fitted with reflective tape, 2 strips, attached horizontally, each 150 mm wide and with 150 mm gap along the two longer sides of the equipment. Rotating amber lights will be fitted to the equipment. Construction teams will be identified by colour codes.

All lights on vehicles, plant or other obstacles, the work area and used for demarcation will be inspected regularly by the ER's Safety Controller. Any malfunctioning light need to be replaced within 30 minutes.

As part of the ER's personnel, the Safety Controller will have the following duties on site:

- Confirm with ATC on a continuous basis the scheduled route for aircraft and vehicles
- Inspect and confirm Markers, Barricades and at the start and during routine inspections on shift;
- Check safety procedures and markings by the Contractor;
- Keep in contact with Escorts and give instructions if required by ER
- Keep track of ATC instructions to aircraft and their movements and notify if errors have been picked up

- Keep track of vehicle movements and give assistance where required; must be informed of visitors and sub-contractors coming to the work area, and be informed of who the escorts are
- Liase with Airport Security on permits and security at the gate, and do regular spot-checks for visibility of permits on contractor employees.

19.4 PHASE 4: RUNWAY, RET OR TAXIWAY OPENING CHECKLIST TO BE COMPLETED 10 MINUTES BEFORE OPENING OR AS REQUIRED BY FIRE AND RESCUE IN CASE OF AN EMERGENCY OPENING OF THE RUNWAY, RET OR TAXIWAY

The work shall be programmed such that enough time is allowed for cleaning and inspection of the runway/RET/taxiway prior to opening of the element. Late opening of elements due to negligence of the contractor will be subject to penalties. (See 20.1.3)

The work areas and haul routes will be inspected by the ER's Safety Controller 20 minutes before opening after which the following Taxiway/RET/Runway Opening Checklist will be completed:

- Excavation backfilled where required in RWY and TWY or TWY Strip
- Ramps complete and in place as required
- Haul routes clean
- Work area clean
- Plant and moved to the designated areas
- Personnel ready to move Barricades and Markers to designated areas on instruction by Fire and Rescue.

The checklist will be signed by the contractor's Safety Official, ER's Safety Controller and officials of Fire and Rescue, 20 minutes before opening. The checklist must be completed by the ER's Safety Controller.

20 THE CONTINGENCY PLAN

The following actions will be taken if required:

20.1 LATE COMPLETION ON A SHIFT

20.1.1 *Asphalt work, Earth works, Layer works and Electrical work*

- ATC will be contacted by the ER's Safety Controller via F&R 2 hours before official completion and again 1 hour before completion and the status communicated.
- Should estimated completion be later than the designated completion time, the Employers agent/Engineer will advise on immediate termination of work and making safe of the work area.
 - The Taxiway/RET/Runway Opening checklist will be done.

- Handover to Fire and Rescue team will follow.

20.1.2 *Paint markings*

The paint contractor will be contacted 3 hours in advance of his services being required and his attendance confirmed every hour. Yellow and white paint and hand equipment shall be available on site for possible emergency use.

20.1.3 *Confirmed late completion*

This shall be identified 2 hours before opening and again 1 hour before opening and confirmed by the Contractor and communicated through F&R to ATC and the Help Desk. The expected completion time shall be made known 30 minutes before opening time or earlier and adhered to.

The ER will go through the opening checklist before signing the handover form.

20.1.4 *Sudden rain*

Where a sudden downpour occurs, work will be stopped and the balance of the work period re-planned in order to open the runway to air traffic at the appointed time. Should rain delay critical asphalt work which could delay opening of the runway or taxiway, paving will be stopped and a temporary ramp installed.

20.1.5 *Emergency flight /fog/low visibility*

Should the Contractor be required to vacate the runway due to the ATCs need to use the ILS on RWYs 03L/21R or 03R/21L, this will be treated as an emergency measure. Works will be stopped immediately. A temporary full width ramp shall be installed in the case of asphalt works and earthworks excavations backfilled in the case of earthworks as per strip hazard requirements. The Contractor shall evacuate the runway within 45 minutes of being notified of the emergency.

20.1.6 *Aircraft or vehicles violate no-go areas*

The ER's Safety Controller will notify ATC via F&R per radio and if possible, physically stop the violation. (Refer to Par 15.1).

20.1.7 *Non-attendance of radio or communications support*

The ER's Safety Controller will notify the controller at the Fire Station and the contractor will be notified to stop all work and vacate the work area if there is no attendance in

30 minutes. A temporary ramp will be installed and the Runway/RET/Taxiway opening procedures will be followed.

This rule will also apply for telephone and cell phone communication failure between the ER's Safety Controller and F&R.

20.1.8 *Inoperative plant on the taxiway/runway*

Safety Controller will notify ATC per radio. ATC will be contacted 2 hours before official (as per NOTAM) completion time and works will be stopped. ATC will be contacted again 1 hour before completion and the status communicated.

The Contractor shall ensure that any plant inoperative on the RWY or within the ILS restriction distance (Zone III) can be removed immediately. The Contractor's method statement shall clearly indicate how inoperative plant in these areas, will be removed.

21 REPORTING OF ACCIDENTS/INCIDENTS

Contractors shall report to the Engineer any accident involving vehicle or plant under their control where the accident has involved injury or damage to another vehicle, aircraft or airport property; or where there is injury to driver(s) or passenger(s) in the vehicle. The prescribed accident report shall be used for this purpose. Refer to paragraph 15.

22 PENALTY FOR NON-COMPLIANCE TO THE AIRSIDE RULES AND SAFETY SYSTEM

The Contractor's attention is drawn to the penalty system introduced by the Engineer to enhance airside safety. The contractor shall be conversant with the content of the ORTIA Airside Safety Penalty System document, which is available from the Department Head: Aviation Safety or go the website, www.acsa.co.za.

The Contractor's employees are to be clearly identifiable and must be discouraged to visit the public areas of the airport.

Failure or refusal on the part of the contractor to take the necessary steps to ensure the safety and convenience of the public accommodation of traffic, resources such as plant and personnel in accordance with these specifications or ordered by the Employers agent/Engineer, shall be sufficient cause for the Employers agent/Engineer to impose penalties.

Fixed and non-fixed penalties shall be deducted for each and every occurrence of non-compliance with any of the requirements of the standard specifications. In addition time-related penalties over and above the fixed penalties shall be deducted for non-compliance as specified.

23 DECLARATION

I/we herewith declare on (date)that I/we:

(name) (signature)

(name) (signature)

(name) (signature)

(name) (signature)

(name) (signature)

(name) (signature)

is/are fully conversant with the content of this document and will be responsible on behalf of

..... (name of contractor)

to implement and maintain these procedures during the period working airside for completion of Contract No. ORT6023/2019.

**APPENDIX A: WORK AREAS AND STRIP HAZARD REQUIREMENTS FOR TAXIWAYS
AND RUNWAYS**



