BASELINE HEALTH & SAFETY RISK ASSESSMENT AND PROJECT HEALTH & SAFETY SPECIFICATIONS DOCUMENT

PROJECT:

DESIGN, SUPPLY AND INSTALLATION SERVICES FOR BAGGAGE CAROUSELS AT CAPE TOWN INTERNATIONAL AIRPORT

Date: July 2019
FOREWORD

These health & safety specifications have been compiled in terms of the Occupational Health & Safety Act no. 85 of 1993 and its Regulations as amended, in particular the Construction Regulations 2014.

It must be clear that this document is a management tool and should be used by the Principal Contractor and Contractors in order to comply with the aforementioned Act and regulations.

Should there be any contradiction between this document and the Act, the Act must take preference except where explicitly stated.

Similarly where this document is silent on a specific health & safety requirement, the Act must be used as the minimum requirement.

Should you be unclear about anything set out in this document, please contact this office.

Ensuring you of our best intentions and service at all times.

André Burger
Occupational Health and Safety Agent
SACPCMP – PrCHSA/028/2015

The first mention of Occupational Safety can be found in the Old Testament:

Deu 22:8 "When thou buildest a new house, then thou shalt make a battlement for thy roof, that thou bring not blood upon thine house, if any man fall from thence.”
HEALTH AND SAFETY SPECIFICATIONS FOR
DESIGN, SUPPLY AND INSTALLATION SERVICES FOR BAGGAGE CAROUSELS AT CAPE TOWN
INTERNATIONAL AIRPORT

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1. INTRODUCTION AND BACKGROUND

1.1 Background to the Health and Safety Specifications (also termed These Specifications)

The Construction Regulations places the onus on the Client to prepare a baseline risk profile and health & safety specifications highlighting hazards not successfully eliminated during design. The Client also has the opportunity to set the tone and standard of occupational health & safety on the construction site.

1.2 Responsibility and Accountability

It is imperative to understand the process of determining legal accountability as the OHS Act is the only criminal Act still administered by the Department of Labour. It assumes that the CEO is overall accountable even though he/she may delegate some of his/her responsibilities. This principle is entrenched in Section 37(1) of the Act and is set out below for your benefit. This is generally referred to as the REASONABLE MAN TEST.

SECTION 37: Acts or omissions by Employees or Mandataries

(1) Whenever an employee does or omits to do any act which it would be an offence in terms of this Act for the employer of such employee or a user to do or omit to do, then, unless it is proved that -

(a) in doing or omitting to do that act the employee was acting without the connivance or permission of the employer or any such user;

(b) it was not under any condition or in any circumstance within the scope of the authority of the employee to do or omit to do an act, whether lawful or unlawful, of the character of the act or omission charged; and

(c) all reasonable steps were taken by the employer or any such user to prevent any act or omission of the kind in question, the employer himself shall be presumed to have done or omitted to do that act, and shall be liable to be convicted and sentenced in respect thereof; and the fact that he issued instructions forbidding any act or omission of the kind in question shall not, of itself, be accepted as sufficient proof that he took all reasonable steps to prevent the act or omission.

1.3 Purpose of the Health and Safety Specifications

The purpose of the H&S specifications document is to assist in achieving compliance with the Occupational Health & Safety Act 85/1993 (OHS Act), its Regulations and the Construction Regulations (CR’s) in order to prevent or as far as possible reduce incidents and injuries. Note that the CR’s 2014 were promulgated on the 7th February 2014 and are enforceable on this project. These specifications should act as the basis for the drafting of the Principal Contractor and Contractors’ construction phase health & safety plans.

The health & safety specifications document sets out the requirements to be followed by the Principal Contractor and its sub-contractors, as well as any Direct Contractors that might be appointed with the aim that the health & safety of all persons (including the public) potentially at risk may receive the same priority as other facets of the project e.g. cost, programme, environment, and quality.

1.4 Implementation of the Health and Safety Specifications (Drafting of the Contractors’ Health & Safety Plans)

This health & safety specifications document forms an integral part of the contract and the Principal Contractor and its Contractors appointed are expected to make use of it when compiling their project-specific construction-phase health & safety plans. The Principal Contractor must forward a copy of these specifications to all Contractors at their bidding stages so that they can in turn prepare health & safety plans relating to their specific operations.
2. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM ELEMENTS

2.1 Scope of the Project

The purpose of the Enablement Works Phase of the CTIA-T2 Redevelopment is to provide temporary facilities to operate the airport for the duration of the Main Works contract.

A high-level summary if the scope of works entails the following:

- **Services Relocation**
  - Temporarily divert existing services
  - Services relocation from the service yard as well as existing T2 IT services, wireroom & core room relocation
  - Construction of a new services culvert in which services will be permanently relocated
  - Divert services into newly constructed services culvert

- **T1 Western Façade extension**
  - Construction works to alter the existing building envelope on the Western Façade to increase internal space
  - Installation of new plant & services

- **T1 Refurbishment**
  - Ground floor International arrivals, immigration, baggage claim, duty free, customs and support service alterations including link / connection to T2
  - Airside bag loading alterations to accommodate new code F baggage carousels
  - Refurbishment of Transit Lounge on 1st Floor

- **T1-P1 Link Bridge**
  - Construction of the temporary sterile passenger bridge / passage at grade to Parkade 1
  - Construction of ramp over and access under the pedestrian passage to the future basement

- **Airside Facilities**
  - T2 Airside accommodation for airside services that will be affected by the T2 demolitions

- **P2 Storage & Delivery yard**
  - Parkade 2 service delivery area including storage for delivery to CTB (existing service yard will be demolished)

- **P1 Temporary Modular accommodation & Passenger Arrivals facilities**
  - Construction of temporary accommodation in Parkade 1 (P1) ground floor for offices, retail, customs, meeters & greeters that will be affected by the T2 demolition and T1 refurbishment
  - Decanting of the existing tenants into the temporary accommodation
  - Temporary fit-out including 1) furniture, fittings & equipment (FF&E), operational services & equipment (OS&E), information communication & security technology (ICST) and signage

- **T2 Demolition**
  - Demolition and carting away of obsolete service yard buildings
  - Protection of existing services to remain operational during construction
  - Complete demolition and carting away of the existing Terminal 2

2.2 Interpretations

2.2.1 Application

This specifications document is a legal compliance document compiled in terms of the OHS Act and is therefore binding. The document must be read in conjunction with other relevant legislation including: The Occupational Health & Safety Act 85/1993; Construction Regulations 2014; Asbestos Regulations 2002; SANS 10085-2004 (scaffold code); SANS 10142 (The wiring of premises); SANS 10400 (Building Code); SANS 1200 all other Regulations and Codes incorporated into the OHS Act; the geo-science technical report; the asbestos inventory report; the civil and structural engineers’ specifications documents; all architects and engineers drawings, specifications, notes and guidelines; the client's/operator’s rules and procedures; project tender documentation; all other relevant guidelines and best practise notes.
2.2.2 Definitions

The definitions as listed in the OHS Act 85/1993 and Construction Regulations (2014)

- CHSA = Construction Health & Safety Agent
- Contractor includes a Principal Contractor / Direct / Sub-contractors.
- Contractor’s Construction Manager as defined in the Construction Regulations 2014 [CR 8(1)] as the Construction Manager. This is not the Client’s Project Construction Manager / site representative.
- Directs – Any Contractor appointed directly by the construction Client.
- Principal Agent = P/Agent = Client Representative.
- Principal Contractor will include any Contractor appointed directly by the Client on the project.
- Where the term Principal Contractors (plural) is used this refers to all Directs appointed on the project, which Directs are all Principal Contractors in their own right.

2.3 Minimum Administrative Requirements

2.3.1 Notification of Intention to Commence Construction Work & Construction Work Permit

The requirement for a construction work permit will be applicable due to the contract value being in excess of R40 mil. The CHSA (Construction Health & Safety Agent) will have to make the necessary application. Note that a 30 day waiting period is necessary as legislated and is triggered from the date that all the required documentation including the P/Contractor’s approved health & safety plan and the formal appointment of the successful P/Contractor is handed to the Provincial Director of the Department of Labour.

Contractors may need to notify the Provincial Director of the Department of Labour in writing of their intention to undertake construction work on this project. A copy of this notification (Annexure 2) must be held in the Principal Contractor’s health & safety file on site. The notification of construction work must be e-mailed to: fezeka.ngalo@labour.gov.za. Contractors must ensure that a reference number or similar confirmation of receipt is available as proof of notification.

2.3.2 Assignment of the Principal Contractors’ / Contractors’ Responsible Persons to Manage, Supervise and Co-ordinate Health and Safety on Site

The Principal Contractor must make supervisory appointments as well as other relevant appointments in writing (as stipulated by the OHS Act and Construction Regulations). See attached Annexure ‘B’ for more detail on which health & safety management appointments are relevant on this project.

2.3.3 Competence of the Principal Contractors’ / Contractors’ Appointed Competent Persons

The Principal Contractor and Contractors’ competent persons for the various risk management portfolios must fulfil the criteria as stipulated in terms of the definition ‘Competent Person’ in accordance with the Construction Regulations. Proof to be available that relevant training as well as information on the OHS Act and relevant Regulations was received relevant to the specific portfolio.

2.3.4 Compensation for Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The Principal Contractor must have in its possession a letter of good standing issued by its Compensation Assuror as proof of registration. Contractors must also hold proof of workman’s compensation assurance registration in the form of a letter of good standing and forward a copy to the Principal Contractor before they begin work on site. Contractors must be in good standing at all times while carrying out work on site.

2.3.5 Health and Safety Organogram

The Principal Contractor must prepare an organogram outlining its site health & safety management structure including all appointed risk management competent persons. In cases where appointments have not yet been made, the organogram shall reflect the intended positions. The organogram must be updated when there are
changes in the Site Management Structure and dated accordingly. The organogram merely serves as a quick reference to who is responsible for what risk portfolio in what area on site.

2.3.6 Preliminary Hazard Identification and Risk Assessments (HIRA’s), Activity-Specific Risk Assessments, and Risk Assessment Reviews

The Principal Contractor must cause preliminary hazard identification and risk assessments (baseline HIRA) to be performed under the leadership of a competent person as part of its project H&S Plan. The hazards/hazardous activities/operations foreseen, together with written safe work procedures must form part of the construction-phase health and safety plan submitted for assessment, comment, and approval to the Client. An assessment of the risks associated with each hazardous activity must also be conducted by making use of a recognised risk rating system/programme/matrix. These risk assessments must include:

a) A list of hazards identified as well as potentially hazardous tasks and situations;
b) The risks (probability of injury / damage), based on the list of hazards and tasks;
c) A set of safe work procedures to be implemented with the aim of eliminating or if this is not possible, reducing and/or controlling the risks as far as reasonably practicable;
d) A monitoring and review procedure of the risk assessments as they change i.e. how will the risk assessments be reviewed, when will they be reviewed and by whom.

The Client has included a baseline health & safety risk assessment for the construction work foreseen, and has included this herein below (annexure ‘G’). The baseline risk profile must be utilised by the P/Contractor and Contractors when compiling their own baseline risk assessment document as part of their H&S Plan submissions.

The Principal Contractor must ensure that contractors inform, instruct and train their workers regarding any hazards, the associated risks and the related safe work procedures to be implemented before any work commences and thereafter at regular intervals as the risks change and as new risks develop. This training should be carried out in the form of toolbox health & safety talks. Contractors must conduct their own toolbox talks (training on activities and risk assessments) and submit proof of these talks in the form of attendance registers to the Principal Contractor at least weekly or before new activities begin. Every worker on site must undergo such toolbox health & safety talks with the attendance registers kept in the Contractor’s health & safety file.

Contractors must conduct their own hazard identifications and risk assessments specific to their operations and forward a copy to the Principal Contractor. The Principal Contractor when required must report on the status of its Contractors’ risk assessments to the Client/H&S Agent at monthly audits.

The implementation of a hazard identification risk assessment (HIRA) look-ahead programme is required on this project with the aim of identifying hazards and hazardous activities well before they are undertaken. Such programme should serve to ensure that safe work procedures are planned and implemented and that workers are properly informed of the hazards and safe work procedures before they are exposed to the risks. Annexure ‘D’ of this specifications document serves as a pro-forma in this regard.

It is also required that the site health & safety officer carries out regular planned task/job observations (PTO’s) with the aim of ensuring that activities are being carried out as per the documented risk assessments and method statements. It is advised that at least two PTO’s are carried out and documented per week.

It must also be emphasized that Designers as defined in the Construction Regulations have the duty of identifying design hazards, assessing the risks, eliminating such risks by means of substitution of similar measures, or clearly alerting Contractors where design related hazards cannot be eliminated.

Any design hazards perceived by the designer to have an impact on construction health & safety must be brought to the attention of P/Contractor with the aim of ensuring that all necessary health & safety measures can be priced and properly implemented thus minimising the chance of injury and property damage.

2.3.7 General Record Keeping

The Principal Contractor must keep and maintain all the necessary Health and Safety records to demonstrate compliance with these Specifications, with the OHS Act 85/1993, and with the Construction Regulations. The Principal Contractor must also ensure that all records of incidents/injuries, emergency procedures, training,
planned maintenance inspections, monthly contractor audits, etc. are kept in the health & safety file(s) held in the site office. The Principal Contractor must also ensure that its Contractors keep their own health & safety files, maintain the files and make them available on request (the file must include the Contractor’s health & safety plan and all relevant records). Such 'Contractor health & safety files' must be audited by the Principal Contractor at least every 30 days with audit reports kept as proof.

2.3.8 Injury / Incident Reporting and Investigation

Injuries are to be categorised into: first aid; medical; disabling (lost shift/s); and reportable (Section 24). When reporting injuries to the Client/H&S Agent, these categories must be used. The Principal Contractor must investigate all injuries, with an annexure 1 investigation report being completed and filed for all injuries requiring treatment over and above first aid. The Principal Contractor must report on the 4 categories of injuries at monthly project progress meetings with the P/Agent. Contractors must investigate injuries and incidents involving their employees and forward a copy of the ‘annexure 1’ investigation report to the Principal Contractor concerned forthwith. The Principal Contractor must report all injuries to the Client/Safety Agent in the form of an injury report, at least monthly (at audits). Note that the P/Contractor must conduct its own independent incident investigation where a sub-contractor or other person is involved – a detailed investigation report must be compiled and made available to the H&S Agent.

All incidents reportable in terms of the provisions of Section 24 of the OHS Act must be reported to the local Dept. of Labour in the prescribed manner (Dept. of Labour contact number: Cape Town 021 441 8000 / 021 441 5500).

2.3.9 Duties of Manufacturers and Suppliers (Section 10 of the OHS Act)

Any person who designs, manufactures, imports, sells or supplies any article for use at work shall ensure, as far as is reasonably practicable, that the article is safe and without risk to health when properly used and that it complies with all prescribed requirements.

Any person who erects or installs any article for use at work on or in any premises shall ensure, as far as is reasonably practicable, that nothing about the manner in which it is erected or installed makes it unsafe or creates a risk to health when properly used.

The above remains the responsibility of the P/Contractor who must ensure that manufacturers and suppliers comply with the provisions of the OHS Act.

2.3.10 Permits

Permits may include the following and must be co-ordinated by the P/Contractor or other responsible authority:

- Work in confined spaces.
- Closing of public and private roadways and walkways within the airport precinct.
- Diversion/closing of emergency exits/corridors.
- Way-leaves for working in close proximity to underground and overhead services.
- Hot work permits.
- Excavation permit (an ACSA requirement in order to ensure that all necessary underground services have been identified).
- Work on existing electrical installations within the airport precinct.
- Roof work including work on existing airport roofs.

2.3.11 Consolidation of Health & Safety Documentation

It is the duty of the Principal Contractor to ensure that all documentation required to be kept or generated during the construction stage is consolidated into one set of documents that must be handed over to the Client upon completion of the construction work. These consolidated health & safety file(s) should include all instructions/guidelines/specifications/information from the design team that will be required for the continued safe operation and maintenance of the new structure(s) and buildings or part(s) thereof.

The P/Contractor must hand over the consolidated file(s) to the Principal Agent or directly to the Client and keep proof of this ‘handover’. A copy of the proof must also be forwarded to the CHSA for record purposes.
2.3.12 Offences and Penalties

Penalties may be imposed on the Principal Contractor and Contractors for ongoing non-compliance with the provisions of the Client’s health & safety specifications, the Principal Contractor’s health & safety plan, and site health & safety procedures and rules, including: Consultants rules, procedures, and specifications; Client and CHSA-specific rules/protocols. The P/Contractor can also impose penalties on its sub-contractors and on other Directs within its area of responsibility. Non-compliances identified during CHSA audits, inspections, surveys and visits will be categorised into one of four levels based on frequency of incident and severity of incident. These will be as follows:

**Life threatening situation** – a prohibition notice/order will be issued by means of a written instruction in the site instruction book or an explanation/detail in an audit report/e-mail. The activity in question must then be ceased immediately and corrective measures taken to the satisfaction of the H&S Agent after which permission will be given to resume the activity. A penalty can also be imposed on the P/Contractor or other Contractor as the discretion of the CHSA.

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.
2.4 Principal Contractor, Contractors and Sub-contractors

2.4.1 Principal Contractors and Contractors’ Requirements

The Principal Contractor must ensure that all Contractors appointed by it comply with these Specifications as well as with the OHS Act, the Construction Regulations, and other relevant legislation including project-specific rules and guidelines documentation that may relate to the activities directly or indirectly. A Contractor when appointing other Contractors as ‘Sub-contractors’, shall mutatis mutandis ensure compliance as if it was the Principal Contractor.

The Principal Contractor may only allow a Contractor to begin work on site after receiving a suitable health & safety plan which must include a project-specific hazard identification, risk assessment and safety & health procedures documentation. The Principal Contractor must audit each of its contractors at least every 30 days, with audit reports kept in the health & safety file on site. The audit must include an administrative assessment of H&S documentation as well as a physical inspection of the contractor’s site activities and operations.

A Principal Contractor must stop any Contractor from carrying out construction work that is not in accordance with the Principal Contractor’s and/or its Contractor’s health & safety plan or if there is an immediate threat to the health and safety of persons.

- A Principal Contractor shall take all reasonable steps necessary to ensure co-operation between all contractors including other Principal Contractors to enable each of those contractors to comply with the provisions of the Construction Regulations;
- A Principal Contractor shall take all reasonable steps to ensure that each contractor’s health and safety plan is implemented and maintained on the construction site: Provided that the steps taken shall include periodic audits at intervals mutually agreed upon between the Principal Contractor and contractors, but at least once every month;
- A Principal Contractor must ensure that where changes are brought about to the design and construction, that sufficient health and safety information and appropriate resources are made available to contractors so as to allow them to execute the work safely;
- A Principal Contractor must ensure that every contractor is registered and in good standing with a recognised compensation fund or with a licensed compensation insurer prior to work commencing on site;
- A Principal Contractor must ensure that potential contractors submitting tenders have made provision for the cost of health and safety measures during the construction process;
- A Principal Contractor shall discuss and negotiate with the contractor the contents of the health and safety plan and shall finally approve that plan for implementation;
- A Principal Contractor shall hand over a consolidated health and safety file to the client upon completion of the construction work and shall include a record of all drawings, designs, materials used and other similar information concerning the completed structure;
- A Principal Contractor may only appoint a contractor to perform construction work when such Principal Contractor is reasonably satisfied that the contractor he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely.

Please note that a labour broker is not deemed to be an Employer in terms of the Occupational Health and Safety Act, and workers supplied by these entities must be treated as if they were your own employees. So called “Labour Only” Contractors will be deemed to be employees of the Principal Contractor and all aspects pertaining to their activities in relation to the OHS Act must be managed by the Principal Contractor concerned. No Mandatory Agreements may be entered into with such Labour Only Contractors unless all legal requirements have been met by the Labour Only Contractor concerned.

2.4.2 Principal Contractor / Contractor Competency Assessment

The Principal Contractor must be reasonably satisfied that the contractors it intends to appoint have the necessary competencies and resources to safely conduct the work they will be appointed for. This should be established at tender stage and before appointments are made. One of the preferred ways
of determining whether a contractor is competent is to ask for a previous safety plan as compiled for another similar project. Once the contractor is appointed, but before it begins work on site a site-specific safety plan must be discussed and negotiated with the Principal Contractor. Such health & safety plan must be approved for implementation by the Principal Contractor.

2.4.3 Pricing for Occupational Health & Safety Compliance

All parties bidding for work on this construction project must ensure that they have made sufficient provision for the cost of complying with this Specifications document as well as with the OHS Act and incorporated Regulations as a minimum requirement in their tender documentation. It must also be taken into consideration that time is money, which implies that sufficient time must be allowed for the implementation of the minimum OHS standards. No additional claims will be entertained at a later stage should a compliance requirement be prescribed in the OHS Act, incorporated regulations or in this Specifications document unless due to design changes which would require additional resources. The professional quantity surveyors must develop a strategy in this regard to ensure that H&S costs have received sufficient consideration. Contractors must make use of Annexure ‘H’ herein below as a guide when pricing health & safety on this project. Health & safety costs must be clearly set out in the tender submission by each and every contractor.

Designers are also required to issue a written reports setting out the health and safety information about the design of the relevant structure that may affect the pricing of the construction work (including the demolition works which would need input from the structural engineer). Such reports must be issued before tender and included in such tender document.

2.4.4 Contractors’ Health & Safety Plans

1. Introduction:
   - The Construction Regulations aims to improve overall management and co-ordination of Health, Safety and Welfare throughout the Construction Stage and reduce the large number of serious and fatal injuries and cases of ill health which occur every year in the Construction Industry.
   - In terms of the Construction Regulations, a Principal Contractor is required to develop a Health and Safety Plan before work commences work and review it throughout the construction phase. The degree of detail required in the Health and Safety Plan and the time and effort in preparing it should be in proportion to the nature, size and level of Health and Safety risks foreseen on the project. Larger projects such as this on, or those involving significant hazards and risks will need substantially more detail.

2. What should the construction health & safety plan cover?

The Construction Health and Safety Plan should set out the arrangements and procedures for ensuring the Health and Safety of personnel carrying out the construction work as well as other persons who may be affected by such work.

The health & safety plan should set out:
   - The project-specific baseline risk assessments taking into account the Client’s baseline HIRA;
   - The arrangements and procedures for managing Health and Safety of the construction work including supervision and safety officer involvement.
   - The monitoring systems for checking that the Health and Safety Plan and H&S procedures are being properly followed by the P/Contractor and Contractors.
   - The Health and Safety Risk Assessment strategy and rating system to be used on this project including the activity look-ahead strategy.
   - The safety officer duties and time to be dedicated to this project based on the assessment of project complexity (full time on site for the P/Contractor on this project).
   - Safe work procedures for minimising the risks posed by the hazards identified.
   - Special attention must be given to: public protection health & safety measures (staff, patients, visitors); hoarding; signage; demolition work; earthworks; waste/rubble control; existing services including internal and underground services/utilities; work in fall risk positions; formwork and support work operations; temporary electrical installations and the safety of the existing installations; hazardous chemicals
substances and flammables; noise; dust; mechanical lifting; hot works; fire prevention and fire-fighting; emergency evacuation; roof work (structure and covering – existing and new).

- The H&S Plan must include a fall protection plan detailing the specific fall related hazards and safety measures that will be implemented including roof work fall protection.
- Regular liaison between parties on site i.e. meetings; information sessions.
- Consultation with the work force i.e. toolbox talks; risk assessment training.
- The exchange of design information between the Client, Designers, and Contractors on site.
- Selection and control of Contractors i.e. selection criteria; inspections; audits, etc.
- Site health & safety induction and on-site training i.e. inductions; toolbox talks.
- Welfare facilities, first aid, emergency planning and fire prevention strategies.
- The reporting and investigation of injuries and incidents including near misses i.e. what the intended system will be.
- Site specific rules and procedures including the company disciplinary code – enforcement of discipline on site (P/Contractor personnel and contractor personnel).

The Health and Safety Plan will then need to be reviewed and updated as the project develops, as information becomes available pertaining to new risks and as information becomes available from the Contractors carrying out specific activities on your behalf. Unforeseen circumstances or variations to planned work may also arise and must be dealt with by reviewing the health & safety plan (and activity-specific risk assessments) and updating the health & safety procedures set out in the plan (and risk assessments).

2.4.5 Contractors’ Health & Safety File(s)

Such Files must contain at least the following documentation / records:

- H&S Plan, risk assessments, HIRA look-ahead programmes, fall protection plan;
- Notification of Construction work and copy of construction permit when applicable;
- Copy of the OHS Act and Regulations;
- Emergency plan and telephone numbers;
- H&S inductions records, HIRA training, H&S information session records (toolbox talks);
- Management appointments and management organogram for the project;
- Proof of competence – various personnel and operators;
- Inspection registers – various project-specific planned maintenance inspections, load test certificates, service records, etc;
- Injury and incident investigation reports and first aid dressing book;
- Safety officer inspection reports – weekly reports and planned job observations;
- Audit report – monthly subbie audits;
- Contractor H&S Plan assessments and approvals;
- Material safety data sheets – haz chem;
- Safety meeting minutes and attendance registers;
- Medical assessment certificates – workers.

2.5 Client identified Hazards and Potentially Hazardous Situations

2.5.1 H&S Agent-identified Hazards / Hazardous Activities

The following items have been identified by the H&S Agent as potential hazards associated with this construction project and must be incorporated in the Principal Contractor’s and Contractors’ health & safety plans where applicable to that contractor’s work. Note that these hazards/activities do not include the usual hazards/activities which should be foreseen by the specific Contractor involved. Also pay attention to annexure ‘G’, the CHSA’s assessment of the construction related risks associated with the hazards identified.

1. Traffic and pedestrian accommodation along Parking Garage approach roads.
2. The management of construction materials on public roadways and walkways.
3. The protection of members of the public including ACSA personnel/staff and visitors to their premises, and visitors to the shopping precinct on the premises. ACSA staff will need to be accommodated throughout the construction stage(s) thereby co-ordinating the ongoing operations of the premises.

4. Detection, identification and location of existing internal and underground electrical services before demolitions/excavations and the making safe of all electrical installations.

5. Demolition operations including strip out of salvageable materials and equipment.

6. Existing fragile roof sheets and other coverings.

7. Asbestos work – removal of existing asbestos containing materials. A detailed asbestos inventory report was made available from the client.

8. Exposed edges and openings – existing buildings and bridge structure during demolitions.

9. Noise relating to demolitions and other construction activities.

10. Dust and noise relating to demolitions, earthworks, and other construction activities.

11. Lifting machines, equipment, tackle – mobile cranes, truck-mounted cranes.

12. Erection, alteration, and dismantling of external façade scaffolds above and adjacent to public walkways, adjacent buildings (ACSA), and roadways.

13. Working on and from scaffolding – various trades. External façade scaffolds and internal scaffolds.


15. Working in fall risk positions where safe platforms cannot be provided e.g. demolitions and roof work (removal of existing and installation of new – office block and warehouse).

16. Temporary electrical installations during the construction stage – builders supply, cables and installations.

17. Existing electrical installations within the buildings.

18. Existing high voltage electrical cables running through the property.

19. Existing underground and internal services such as sewer, water, telecoms, network cabling, etc.

20. Hazardous chemicals and substances such as: asbestos fibres, solvents, cement, grout, fuels, oils, etc. Contractors to identify and set out SWPs.

21. Fire hazards due to oxy-acetylene cutting of steel during demolitions, welding, use of petrol, electrical installations and electrical tools, torch-on water proofing, etc.

22. Ergonomic hazards such as: work above shoulders; repetitive work; manual lifting; etc.

23. Noise and dust control. Noise and dust control will therefore need to remain a priority.

24. Waste management, especially the disposal of waste and rubble from elevated areas. Waste chute management.

25. Roof work including roof supporting structure.

26. Strong summer trade winds from the SE predominantly (October to March) and in the winter months from the NW (May to September) which could impact on elevated works, scaffolding, tower crane operations and roof work.

27. Heavy winter rainfall during the winter months – May to September.

28. Commissioning and testing of the permanent electrical installation towards the end of the construction stage.

29. Interaction with potential Direct Contractors and tenant contractors towards the end of the project.

30. Specialist installations such as high level shelving systems, etc.

31. Placement and building of temporary offices.

These hazards should be used as a starting point by the Principal Contractor and its Contractors so as to elaborate on their own hazard identifications and risk assessments in terms of Section 8 of the OHS Act and General Safety Regulations 2(1).

2.5.2 Unforeseeable Hazards

Principal Contractors must immediately notify Contractors as well as the Client/Safety Agent, in writing, of any hazardous or potentially hazardous situations that may arise during the performance of construction activities so that the necessary precautions may be taken before such work begins.
2.6 Site Operational Requirements

2.6.1 Health and Safety Representative(s)

At least one health & safety representative is required by every Contractor who has more than 20 employees on a site. Where the total workforce on site is more than 20, the Principal Contractor will need to appoint an H&S representative. Principal Contractor must ensure that Health and Safety Representative(s) are appointed under consultation with the employees. The H&S representatives must be competent to carry out their functions. The appointments must be in writing. The Health and Safety Representatives should carry out monthly inspections, keep records of the inspections and report all findings to the Responsible Person or safety officer forthwith and at monthly health & safety committee meetings.

2.6.2 Health and Safety Meetings

The Principal Contractor must ensure that project health and safety meetings are held monthly with minutes kept. Meetings must be chaired by the Principal Contractor’s Responsible Person [CR 8(1) person] or suitable CR 8(2) Person if the CR 8(1) is not available. Further, all CR 8(2), 8(7) and 8(8) appointees must attend such monthly meetings. All Contractor CR 8(7) Supervisors must be in attendance. Project H&S meetings will be required as soon as the site team exceeds 20 persons and then every month thereafter.

All sub-contractors’ Responsible Persons and Health & Safety Representatives must attend the Principal Contractor’s monthly health & safety meetings.

The following topics must be tabled at meetings: management appointments and risk management portfolios; sub-contractor legal compliance issues; injuries and incidents; hazards and risk assessments (present and foreseen); health & safety procedures; method statements for upcoming activities; planned inspections and registers/record keeping, etc. The meeting chairperson must sign off and date the minutes.

2.6.3 Health and Safety Training

2.6.3.1 H&S Induction

The Principal Contractor will need to ensure that all site personnel including all Contractors undergo a site-specific health & safety induction training session before any worker starts work on the project (termed a ‘site-wide’ H&S induction session). A record of attendance must be kept in each contractor’s health & safety file. Note that all contractors also need to induct their own personnel as to their activity-specific hazards, risks and safe work procedures.

2.6.3.2 H&S Awareness

The Principal Contractor must ensure that, on-site, periodic toolbox health & safety talks take place at least once every week or more often depending on the particular contractor’s risk assessment programme requirements. All site personnel including all sub-contractors must attend health & safety talks at such intervals and keep proof thereof. These talks should deal with risks relevant to the construction work at hand i.e. they should be based on the job-specific risk assessments and safe work procedures. Records of attendance must be kept in the health & safety file. All contractors’ employees must attend health & safety awareness toolbox talks carried out by their own supervisors, the attendance registers must be copied to the Principal Contractor together with information on the topics/risks discussed at the session.

2.6.3.3 H&S Competence

All competent persons must have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control and/or carry out. This must be assessed on a regular basis e.g. training, evaluation, periodic audits, progress meetings, etc. Principal Contractor is responsible to ensure that Competent Contractors are appointed to carry out construction work on site.
2.6.4 Health & Safety Audits, Monitoring and Reporting

The Principal Contractor is obligated to conduct monthly audits (at least once every 30 days) on all Contractors appointed by it and keep audit reports in its health & safety file. Contractors have to audit their sub-contractors and keep records of these audits in their health & safety files, made available on request where such sub-contractors will be on site for longer than a month. **The principal contractor has to submit the audit criteria intended to be used on sub-contractors together with the H&S plan for approval by the Client.** The H&S Agent will conduct monthly audits on the Principal Contractor’s health & safety management plan to ensure that contractors are working in accordance with the agreed safety & health requirements/procedures. Refer to attached Annexure ‘C’ for more details regarding these audits. Further site inspections and visits will also take place.

In addition to the agreed Client H&S audits on the Principal Contractor, the H&S Agent will require a formal written feedback report to be compiled by the Principal Contractor. This will be the official response to the H&S Agent’s report and must be submitted within 5 working days from receipt of the audit report. This report should outline the steps the Principal Contractor has taken or will be taking in order to comply with the noted deviations.

In line with the principle of “anticipated/foreseeable activities and risks”, a written report serving as a schedule for upcoming HiRA’s must be included in the Principal Contractor’s progress report, tabled at the monthly site progress meeting(s) with the Client. See attached Annexure ‘D’ for more detail in this regard.

The purpose of this requirement is to ensure that the Principal Contractor applies the same management principles to health & safety as is already applied to quality, productivity and budget.

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

2.6.5 Medical Fitness of Personnel

Contractors must ensure that all personnel (previously CR 2003: only workers working at heights, crane operators, construction vehicles and mobile plant, and workers using cradles) undergo medical fitness assessments. Such assessments must be conducted by a **certified occupational health practitioner** as required by the Construction Regulations. Should a questionnaire be used as an assessment tool then such questionnaire must be administered by a **certified occupational health practitioner**. Proof of these medical fitness assessments must be available on site in the site H&S file.

**Note that the CR’s 2014 require all Contractor personnel to undergo medical assessments based on the work they undertake (not merely work in elevated positions).**

2.6.6 Emergency Procedures

The P/Contractor will need to prepare an Emergency Procedure once the site hoarding has been established on site. Such emergency procedures must be set up in close reference with the CTIA emergency evacuation plan/procedures. The procedure/plan must take into consideration the risks and potential incidents posed by the work to be carried out on this project.

The procedure must detail the response plan including the following key elements:

- Drawing detailing the escape routes and exits;
- List of key competent personnel;
- Details of emergency services;
- Actions or steps to be taken in the event of the specific types of emergencies;
- Rescue plans including access of emergency personnel to the injured person.
All emergency evacuation routes and doors must be left unobstructed at all times. Should such existing escape routes need to be altered / worked in, alternative escape routes need to be made available and clearly sign-posted to the satisfaction of the fire consultant. Escape routes from the existing ACSA buildings may not terminate inside the construction site.

Emergency procedure(s) must include, but shall not be limited to: fire; injury to employees; damage to material/equipment/plant; use of hazardous substances; injury to members of the public, etc. The Principal Contractor must advise the Client in writing forthwith, of any emergency situations, together with a record of action taken/action to be taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and made available to site personnel. The emergency plan may need to be reviewed from time to time as conditions/environment changes. At least one evacuation drill must be scheduled during the first quarter of the construction phase.

The P/Contractor must co-ordinate its emergency evacuation plan with that of ACSA CTIA protocols so as to ensure the effective evacuation of the entire precinct (ACSA staff, visitors, and the construction site personnel and visitors) where necessary.

2.6.7 First Aid Management

All Contractors with more than 5 employees shall supply their own first aid box. Contractors with more than 10 employees must have their own trained, certified first aider on site at all times. The Principal Contractor will however need to have a first aid box together with splints, eye wash and a burn kit available in its site office or other suitable place on site. A first aider will be required to be available on site as soon as the total workforce exceeds 10 inclusive of sub-contractor personnel. Copies of valid certificates are to be kept on site. The Principal Contractor must ensure that any contractor working after hours has the necessary first aid and first aider on duty.

2.6.8 Personal Protective Equipment (PPE) and Clothing

Contractors must ensure that all site workers are issued with and wear the appropriate PPE as indicated in their risk assessments. The Contractors must make provision and keep adequate quantities of SANS approved PPE on site at all times according to their risk assessments. Safety harnesses are mandatory wherever work takes place in an elevated area where safe working platforms or ladders are not possible. The Client and CHSA requires 100% fall protection to be implemented and maintained by all contractors working in fall risk positions. Eye protection must be worn by those working grinders, skill saws, high pressure water cleaners and the like. Even those workers in close proximity to these operations will also be required to wear such eye protection. Roofers should be issued with UV rated eye protection due to glare from roof sheets. Hard hats will be required by those working in areas where there is a risk of head injury due to falling/striking objects. Hard hats are foreseen to be applicable to all persons entering the construction site at all times from site handover until the completion of all construction activities. Safe footwear will be required as decided upon after a risk assessment has been carried out by the respective contractor. Hand protection must be taken into consideration when assessing the risks associated with certain activities with the aim of minimising the risk of hand injuries. Hearing protection is required where noise zones are envisaged and/or where activities emit noise higher than 85dB(A). Respiratory protection is required during activities where dust and other airborne vapours/gases/fibres are emitted. High visibility vests will have to be worn by contractors working in close proximity to construction vehicles and mobile plant. Crane riggers and banks men will also need to be visible to operators. Asbestos PPE is required during asbestos demolition and removal work. Visitor PPE must be available in the site office and must at least consist of hard hats and high visibility vests (ten of each is advised).

2.6.9 Fire Prevention and Fire-Fighting

The Principal Contractor and its Contractors must provide adequate, regularly serviced fire-fighting equipment located at strategic points on site and at the site camp, specific to the classes of fire likely to occur and in accordance with a site-specific fire risk assessment to be conducted by the P/Contractor during site
establishment. The appropriate notices and signs must be posted up as required. Wherever ‘hot work’ is taking place, additional fire extinguishers must be on hand. Contractors are responsible for ensuring compliance with the ACSA hot work procedures and must be in possession of a hot works permit issued by the P/Contractor. ‘Hot work’ includes all work that generates a spark or flame and may therefore result in a fire. The Principal Contractor will need to do the necessary fire risk assessments specific to its works and ensure that sufficient fire-fighting equipment is available in case of emergency.

Should the P/Contractor be unsure of the fire-fighting equipment required on this project or if a dispute arises as to the adequacy of the site fire arrangements and procedures, the local fire chief of local authority must be contacted and must pronounce on the matter.

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 time by his/her employees.

2.6.10 Site Hoarding and Access Control

All construction work must be fenced off with controlled access points provided (this means locked access gates and access control personnel to be located at entrances to the construction work areas), preventing access to unauthorised persons. Where fencing is necessary, such fencing must be at least 1.8m high ‘Ready Fence’ panels or similar, erected in a vertical position and adequately secured from displacement. It is further required that the fencing is fitted with shade cloth to assist with dust containment. The P/Contractor will need to ensure that the site is fenced off and enclosed during demolitions as per the requirements set out herein.

Contractor access to the construction work areas will be limited to the specified access routes as agreed with the Client and must be strictly enforced by the P/Contractor. Contractor employees will be required to carry access tags and hard hat stickers (must display name of person, company name, ID number, and photo) indicating their authority to enter the construction zone. Such access tags/stickers must also serve as proof of H&S induction attendance — no tag/sticker, no entry.

All access points to site must carry the necessary signage and site manager’s (and safety officer) contact numbers.

The P/Contractor must provide separate access gates for personnel and vehicles/plant and provide separate walkways and vehicle ways on site, thus ensuring a low risk of injury due to vehicles.

The P/Contractor is hereby reminded about the need to accommodate the existing precinct’s personnel and vehicles including forklifts as the premises will remain operational during construction. Adequate space must therefore be allowed for vehicle/forklift and separate safe personnel pedestrian access around the construction work zones.

It is required that the site office and H&S induction room be located in what is considered as a ‘green zone’ thus preventing exposure of personnel and site visitors to hazards before they are inducted and are handed their personal protective equipment.

The Client and its agents reserve the right to search and scrutinise all persons, bags, toolboxes, and vehicles at any time. Workers must obey any and all security instructions at all times.

2.6.11 Occupational Health and Safety (OHS) Signage

H&S notices and signs should include but not be limited to: ‘construction work - no unauthorised entry’, ‘beware of overhead work’, ‘hard hat area’, ‘report to site office for H&S induction’, ‘beware of demolition work’, ‘beware of drop-off edges and openings’, ‘beware of construction vehicles and mobile plant’. These signs are to be posted up at all entrances to the construction work zones. Signage must also be posted up at strategic locations to warn the public (ACSA personnel and forklift truck operators) of any diversions, alternative through-ways and other irregularities caused by the construction work. H&S warning signs are also required as per legislation e.g. electrical hazards, no smoking and no open flame, asbestos work, fall hazards, scaffolding (safe/unsafe) and other potential risk areas/operations such as exposed edges and openings where persons
are at risk of falling. Emergency escape signage must also be posted up. Health & safety signage must be well maintained including weekly inspections, cleaning, replacement and repair.

2.6.12 Public and Site Visitor Health & Safety

Public walkways and roadways must be kept clean and free of excessive construction materials so as to prevent any negative impact on the public. Public roadways and walkways will have to be cleaned on a regular basis – daily inspections to be conducted by the Principal Contractor with action to be taken without delay (daily). No loading/offloading or other construction activities may take place outside the designated construction site unless authorised by the Client's P/Agent.

The P/Contractor will have to assess all public areas adjacent to the site where potential risk of public injury and property damage is possible e.g. traffic back-ups in Airport precinct; pedestrian access across the front of the premises and ACSA staff and visitor movement within the precinct; noise; dust; and must then provide suitable safety/health measures to the satisfaction of the H&S Agent and the Client. A detailed traffic and pedestrian management plan will need to be compiled by the P/Contractor including drawings and procedures documents and the sequencing/phasing thereof as the construction project moves through the various sections.

Public protection will therefore have to be a priority and all measures taken to eliminate fall related risks to members of the public. The demolition of the existing buildings will need to be undertaken with all the necessary public protection protocols being followed eliminating any risk of injury to the public and exposure of the public to such health and safety hazards.

Site visitors must be briefed on the hazards they may be exposed to as well as what measures are in place or should be taken to minimise these hazards. The Construction Regulations require that a record of these ‘inductions’ be kept on site. It will be the duty of the Principal Contractor to manage all ‘site-wide’ H&S inductions including site visitors.

Visitor hard hats and high visibility vests must be made available in the site office or other suitable location before visitors are exposed to construction dangers (10 no. of each).

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.

2.6.13 Night Work (Before and After Normal Hours)

The Principal Contractor must abide by the working time prescriptions set out by the Client. The Principal Contractor must ensure that adequate lighting is provided to allow for work to be carried out safely at all times in all areas.

First aid facilities and supervision must be present during after-hours work.

2.6.14 Transport of Workers

The Principal Contractor and sub-contractors may not transport persons:

- together with goods or tools unless there is an appropriate area or section to store the tools or equipment;
• in a non-enclosed vehicle, e.g. truck unless there is a canopy (properly covering the back and top) with suitable seating area. Workers shall not be permitted to stand or sit at the edge of the transporting vehicle;
• in bakkies unless they are closed/covered and have the correct number of seats for the passengers being transported.

2.6.15 Construction Health & Safety Officers

The Principal Contractor will need to appoint a full-time safety officer, to be based on site.

The Demolitions Contractor will need to appoint at least a part-time health & safety officer (in terms of Construction Regulation 8.5) who will need to be located on site at least 2.5 days per week.

The scaffolding contractor will need to appoint a part-time safety officer who will be to spend one day on site per week.

The roof work contractor will need to appoint a part-time safety officer who will need to spend 2.5 days per week on site.

All other sub-contractors need to appoint part-time safety officers who will need to spend time of site as discussed, negotiated and agreed between such subbie, the P/Contractor, and the CHSA. Such safety officers must visit site at least once per week. The CHSA reserves the right to increase the time allotment of subbie safety officers, based on poor performance.

The following health & safety officer related duties will be required to be carried out:

a) Health & safety audits and inspections including administrative and physical audits of all Contractors’ health & safety plans, files and activities, and record findings in the form of audit reports to be kept in the health & safety file;

b) Weekly inspection reports – site hazard survey findings recorded and actions taken recorded;

c) Assess, and finally approving sub-contractor H&S plans;

d) Maintain and co-ordinate the Principal Contractor’s health & safety management plan and file;

e) Investigate near misses, incidents and injuries;

f) Co-ordinate the function of reviewing the hazard identifications and risk assessments;

g) Assisting with method statements and safe work procedures and checking whether the responsible persons follow these safe work procedures;

h) Enforcing discipline on the site and checking on compliance with safety procedures, standards and rules;

i) Co-ordinating health & safety induction training and two-weekly safety awareness sessions;

j) Implement and enforce the site hot work permit system;

k) Ensure that public protection protocols are adequate and well maintained;

l) Conduct planned job observations to check whether workers are carrying out activities in accordance with the safe work procedures;

m) Fire risk assessments and enforcement;

The appointed H&S Officer will need to be competent in terms of training, experience, knowledge of construction and health & safety and will need to be registered as a safety officer in terms of the SACPCMP requirements.

2.7 Physical Requirements

2.7.1 Existing Structures

Any existing structures that may be affected by demolition and/or building work must be deemed safe by means of a structural engineering survey and report compiled by a competent person (consulting structural engineer) and forwarded to the Client and Principal Contractor concerned before any persons are exposed to any risks. The consulting engineer must design and specify the necessary temporary supports and bracing to ensure the integrity of any building during alterations and
additions. Inspections of these existing structures must be conducted from time to time by the consulting structural engineer to ensure compliance with the recommendations and procedures of the same competent person. All relevant health & safety information must be brought to the attention of the Principal Contractor and contractors by the relevant parties forthwith.

2.7.2 Demolition Operations

Any Contractor carrying out demolition work must ensure that prior to any such work being carried out, and in order also to ascertain the method of demolition to be used, a structural engineering survey of the structure to be demolished must be carried out by a competent person and that a method statement on the procedure to be followed in demolishing the structure is developed. It is required that a detailed demolitions method statement be included as a tender returnable document for assessment by the consulting structural engineer appointed to the project.

In addition to CR14 the following measures must also be adhered to:

- The Contractor must appoint a competent person in writing to supervise and control all demolition work on site;
- No demolition work may be carried out until the risk of injury and property damage has been identified, assessed for risk, and such risk of injuries and property damage has been eliminated, and proven to the consulting structural engineer and/or similar engineer i.e. appointed by the demolitions contractor;
- The Contractor must ensure that any partly demolished structure does not pose a safety risk to workers or members of the public;
- Should the Contractor be in doubt about the safety of a partly standing structure, the structure must be demarcated at a reasonable distance and sign posted, warning persons of the risk until such structure is made safe;
- The Contractor must ensure that no persons work, move or stand under any partly demolished overhanging material, which has not been adequately shored, braced or supported;
- Any support work must be designed to withstand the load being imposed on it, the design must be held on site;
- Where the stability of an adjoining structure, building or road may be negatively impacted, the Contractor must take all necessary steps to ensure the stability thereof;
- The Contractor must ascertain the location and nature of electricity, water, gas or other similar services, which may be affected by the work being performed. A safe method of removal or work around these services must be drawn up;
- Safe and convenient access must be provided to all work areas – scaffolding, ladders, etc.;
- While demolition is taking place, all unauthorised persons must be kept well away from the operations;
- The Demolition Contractor's safety plan must include what applicable personal protective equipment and clothing is required. The minimum being leather gloves; steel toecap boots; eye protection where the risk of eye injury exists i.e. cutting, grinding, hot work, impact work; hearing protection for operators and other workers exposed to noise over 85dB(A); and fall prevention and/or arrest equipment when the risk of falling exists.
- The suppression of noise and dust is important due to worker exposure as well as sensitivity to neighbouring premises.
- Asbestos work must be undertaken by a registered asbestos contractor and co-ordinated by a registered Approved Asbestos Inspection Authority (AAIA).

2.7.3 Detection and Location of Underground and Internal Services/Utilities

The P/Contractor must ensure that all existing internal and underground services are known before starting any demolitions work on site. The presence of an underground high voltage electrical cable has been confirmed, the position which is known and indicated on As-built drawings. Where Way Leaves are required, they must be applied for by the P/Contractor and will serve as indications of the relevant services. Should the location of services (electrical, water, gas, sewer, etc.) not be known, are deemed to be inaccurate, or if it is suspected that services might be present, the Client must mandate the Contractor to make use of the necessary detection equipment in order to accurately
identify services before starting with any trenching under the building or under roadways/walkways, or before demolition work.

2.7.4 Earthworks (Including Trenching, Excavations and Civil Services)

The Principal Contractor and relevant Contractors must make provision in their tender for the shoring of excavations where the soil conditions warrant it or if this is not possible batter back such excavations to a safe angle, termed the safe angle of repose.

The Principal Contractor has the following options: first option is to shore or brace the excavation, should this not be practical then such excavation must be battered back to the safe angle of repose (second option), should the first two options not be deemed necessary by the contractor, then permission must be given in writing by the appointed competent excavation supervisor (third option). Where uncertainty pertaining to the stability of the soil exists, the decision of a professional engineer or professional technologist competent in excavations shall be decisive. Such permission must be in writing.

The following requirements must be adhered to:

- Excavations/trenches are inspected before every shift and a record of these inspections is kept;
- Safe work procedures have been communicated to the workers;
- The safe work procedures are enforced and maintained by the Principal Contractor’s and Contractors’ responsible persons at all times;
- Excavations next to permanent or temporary roadways - ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it is likely to cause its collapse and thereby endangering the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing;
- Ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken that may be necessary to ensure the stability of such building, structure or road as well as the safety of persons;
- Cause convenient and safe means of access to be provided into every excavation in which persons are required to work and such access shall not be further than 6m from the point where any worker within the excavation is working;
- Ascertain the location and nature of electricity, water, or other services which may in any way be affected by the work to be performed. The necessary steps must then be taken to render the circumstances safe for all persons involved. Should you as the contractor not be sure of the exact location of electrical services, detection equipment must be used as well as a system of hand excavation as per a written risk assessment and method statement;
- Cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or where the safety of persons may be endangered, to be-
  - (i) adequately protected by a barrier or fence of at least one meter in height and as close to the excavation as is practicable; and
  - (ii) provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor;
- Cause warning signs to be positioned next to an excavation within which persons are working or carrying out inspections or tests.

2.7.5 Edge Protection – Falls from Elevated Positions

The Principal Contractor must ensure that all exposed edges and openings are guarded and demarcated at all times to prevent persons and/or vehicles and mobile plant from falling into such openings.

Contractors have the following options when contemplating the protection of openings, decking and slabs edges:

1. A physical barrier at the edge of the opening/slab (elevated decks and floors), which must be strong enough to carry the weight of a person in the process of falling (wire and danger tape/netting will not be deemed sufficient). Barriers must be of timber or scaffold tubes at a height of one meter above the ground or floor level and supported at intervals stipulated by the temporary works designer;
2. Scaffold complete with a fully boarded platform at the same level of the edge with a handrail and toe board, could serve as a fall protection measure;
3. Orange barrier netting as per the requirements of 2.7.4 herein above – excavation edges. The site itself (work zone) must also be enclosed by a solid fencing system.

The Principal Contractor’s fall protection plan must detail all foreseen fall protection procedures. Contractors will need to do the same.

The placement of edge protection at deck/floor edges must be co-ordinated so as to minimise the time that such edge protection is not in place.

The removal of edge protection from decks/floors and the subsequent replacement thereof at the finished floor edge must be systematically co-ordinated by the Principal Contractor so as to minimise the time that edge protection is not in place.

Guard rail edge protection around elevated decks, floors, and openings must be designed and signed off by the temporary works designer for the falsework on the project in question as confirmation that the falsework has actually been erected as per the designer’s requirements and specifications.

2.7.6 Deliveries, Waste Removal, Stacking/Storage of Materials

The Principal Contractor and other relevant contractors must ensure that there are appointed stacking supervisors and all materials, plant and equipment is stacked and stored safely on the site. No construction materials or equipment may be stacked or stored in public areas unless authorised by the client and fenced off as per the client’s requirements. Waste materials must be kept within designated construction zones and removed on a regular basis. All spoil and materials must be stacked and stored far enough away from the edges of excavations.

The Principal Contractor will be responsible for co-ordinating and managing this function. Flagmen will be required where delivery vehicles need to reverse into on-coming traffic lanes. A detailed traffic and pedestrian management plan will need to be compiled by the P/Contractor including drawings and procedures documents and inclusive of vehicle and pedestrian movement/management within the ACSA precinct.

2.7.7 Traffic/Vehicle and Pedestrian Accommodation

The Principal Contractor must ensure that all the necessary traffic/vehicle and pedestrian accommodation safety measures are taken into account to ensure the safety of personnel and members of the public (including site visitors) both on site and adjacent to site. Such measures must be in accordance with recognised practises and to the approval of the Client and the local municipality and traffic authority.

The P/Contractor must place the necessary emphasis on safe pedestrian walkways and routings throughout the construction stage. The site is located in a populated area with a roadway and pedestrian walkway bordering the site and must detail the vehicle and pedestrian movement within the precinct as well.

Traffic and pedestrian accommodation drawings must be available on site as a source of reference and to assist with daily inspections and enforcement and inclusive of vehicle and pedestrian movement/management within the ACSA precinct.

2.7.8 Fire Prevention and Fire-Fighting Capabilities

The Principal Contractor and its Contractors must provide adequate, regularly serviced fire-fighting equipment located at strategic points on site. Such extinguishers should be suitable for all classes of fire foreseen. The appropriate notices and signs must be posted up as required. The Principal Contractor will need to conduct a preliminary fire risk assessment of the site and office compound before starting work at the particular site.

Should any questions arise as to the validity of such fire risk assessment conducted by the P/Contractor, the local Fire Department’s fire prevention division must be consulted for assistance with such site fire risk assessments to ensure that the necessary fire-fighting equipment is adequate during the construction phase.

The P/Contractor must allow for at least three such fire prevention officer inspections. Such fire risk assessment will have to be reviewed at least monthly and after any incident and/or before any new hot work activity. Wherever "hot work' is taking place, additional fire extinguishers must be on hand. Contractors are responsible for ensuring compliance with hot work procedures and must be in possession of method statements detailing the safe working procedures.

*Hot work* includes all work that generates a spark or flame.
2.7.9 Fall Protection / Scaffolding / Working in Fall Risk Positions

Working at heights includes any work that takes place in a fall risk position. The Principal Contractor must submit a risk-specific fall protection plan in accordance with the Construction Regulations before this work is undertaken.

All scaffolding must comply with the requirements of SANS 10085-2004. Scaffolding must be declared safe for use by a competent scaffold inspector who must complete the scaffold register and tag the scaffold accordingly. All scaffolds must be tagged either ‘safe’ or ‘unsafe’. Inspections must then be carried out weekly, after bad weather, after any alterations, after an incident, and before dismantling. The Principal Contractor must keep all scaffold inspection registers on site. **The Principal Contractor must also appoint one of its own supervisory members to supervise/co-ordinate scaffolding on site (P/Contractor scaffold co-ordinator).** All persons involved with the erection/alteration/dismantling of scaffolding must be certified as either a scaffold general worker who may only work on ground level, a scaffold erector who may work in elevated positions, an erection scaffolding, a scaffold team leader, a scaffold inspector, or a scaffold supervisor. The necessary certifications must be available on site.

Working in fall risk positions requires the preparation of a fall protection plan (FPP). Contractor FPP’s must be compiled, and submitted to the P/Contractor for assessment and final approval well before any elevated work may be undertaken by such contractor. The plan must include all relevant fall related risk assessments and safe work procedures. All persons working in elevated positions must be evaluated for physical fitness – such evaluation may only be performed by a certified occupational health practitioner. The Principal Contractor and Contractors must explain their methodologies in this regard in their H&S Plans. All persons working in elevated positions must be informed of the risks and safety measures (in other words all workers must be trained on the fall protection plan, in the form of a toolbox safety talk) and records of this training/information session must be kept on site.

Work from fall risk positions may only be conducted as if it were being conducted from a safe ladder or safe scaffold. All openings, edges, and the like must be adequately guarded. Workers must be properly inspected and maintained. Workers must be trained in the use and maintenance of the fall prevention and arrest equipment/devices. Safety belts as a method of fall arrest are prohibited. Full body harnesses must be worn. Where lifelines or other devices are required, such devices must be detailed in the fall protection plan of the Contractor concerned and approved by the P/Contractor before such work begins. Workers must have the opportunity to be secured from falling at all times, ensuring **100% fall protection on this project is a minimum requirement.**

All scaffolding platforms above 2m from the ground must be complete with guardrails and toe boards and must be fully boarded as per the requirements of general-purpose scaffold platforms (5-board platforms). Mobile scaffolds may not exceed 3 x their minimum base width in height and must be adequately boarded as per their loading requirement. Mobile scaffolds and static frame towers must be erected as per the manufacturers’ requirements (copies of these erection specifications/data sheets must be available to the scaffold erectors and scaffold supervisor on site). A copy of the scaffold code of practise must be available on site (SANS 10085-2004).

Temporary gangways/elevated access walkways must comprise of at least three scaffold boards (675mm wide) with guardrails on either side when such walkways are above 2m from the ground. Such gangways and other platforms must be supported from below, preventing excessive loading and platform collapse. Loading of scaffolds with materials, personnel and equipment must be in accordance with the maximum loadings as specified by the consulting engineers. The P/Contractor and contractors must be clear on the maximum loadings before carrying out any activities where maximum loadings are in question. Special scaffolds must be designed by an engineer and erected in accordance with a design drawing. Such special scaffolds must be inspected and signed off before use.

Should there be any roof top plant situated on roof slabs or renewable energy equipment located on roofs, the associated fall hazards must be identified and the safety measures implemented and enforced. **The Contractor-specific fall protection plans must set out these details to the satisfaction of the P/Contractor.**
Strategic entrances into/under construction zones (such as into the buildings being demolished and into the new office block and warehouse while under construction) must be clearly designated and crash decks/catch nets provided above these designated entrances/walkways where there is a risk of falling objects/materials, minimising the chance of objects falling onto persons entering/exiting below.

This project is located in a built-up area with public walkways, roadways and buildings bordering the construction work zones. Public protection will therefore have to be a priority and all measures taken to eliminate fall related risks to members of the public. The demolition of the existing buildings will need to be undertaken with all the necessary public protection protocols being followed eliminating any risk of injury to the public and exposure of the public to asbestos fibres. The new building will need to be enclosed by external scaffolding or similar fall protection systems at all times from ground level to above roof height and enclosed with shade cloth, toe boards and fitted with aprons (aprons to be fitted as per the scaffold code and to be fitted during the erection of the scaffolding, not after the scaffold is complete) as per the scaffold code. This is to ensure that there is no risk of construction related materials and equipment from exiting the building. Further to the above, a temporary forklift and pedestrian route will need to be provided for which route will allow for movement through a construction work zone. This route will need to be adequately protected including overhead protection based on the level of risk i.e. construction of new warehouse – steel structure and roofing.

2.7.10 Roof work

A roof work safety plan must be compiled by the roof work contractors (roof structure contractor and roof covering contractor) prior to such work being undertaken. Such roof work safety plans must be forwarded to the H&S Agent at least two weeks before the roof supporting structural steel work is programmed to begin. External scaffolding needs to be erected and remain in position to above roof height until completion of the roof work and associated activities so as to ensure elimination of fall risks (objects and equipment falling onto members of the public). Life line systems during roof work must be designed and fitted by a registered fall prevention systems contractor or person and not merely by the appointed roofing contractor. A part-time safety officer must be designated by the roof work contractor to be located on site 2.5 days per week.

The roof work safety plan must include the following:

- How the roof work is planned to be erected or worked on;
- What hazards (tasks and tools) are associated with the work;
- That the roof workers are competent (trained, experienced, knowledgeable);
- That no work is carried during inclement weather or where conditions are hazardous to workers;
- That fragile material/areas are demarcated and sign posted;
- That suitable platforms are provided where fragile materials exist;
- Safe access systems/procedures;
- Public protection safety measures and fall prevention (objects and equipment);
- The safety and health measures that will be implemented to ensure the safety and health of roof workers as well as persons working below the roof work i.e. fall prevention systems.

A 100% fall prevention strategy must be implemented and enforced which must include a combination of safety harnesses, life lines, specified attachment points, safe access, competent personnel, supervision, tool/equipment drop prevention. This is of equal importance for the demolition contractors as well as the building work contractors.

2.8 Plant, Machinery and Equipment

2.8.1 Construction Vehicles & Mobile Plant

“Construction Plant” includes all types of plant including but not limited to: demolitions plant, lifting machines, equipment and tackle, earthworks plant, construction vehicles, compaction plant, concrete pumps, etc.
The Principal Contractor must ensure that such plant complies with the requirements of the OHS Act, Construction Regulations and any manufacturers’ specifications. The Principal Contractor must inspect and keep records of inspections on construction vehicles and mobile plant used on site. Only authorised/competent persons in the possession of the necessary training certificates and in possession of a certificate of medical fitness may operate construction vehicles and mobile plant. Appropriate PPE and clothing must be provided and maintained in good condition at all times. Reverse alarms and reverse lights must be installed on construction vehicles i.e. trucks, digger loaders, etc. Any vehicle or mobile plant using any public road must be roadworthy and carry a license proving this. Likewise any operator of such construction vehicle or mobile plant will have to carry the necessary driver’s license.

2.8.2 Vessels Under Pressure (VuP) and Gas Bottles

The Principal Contractor must comply with the Pressurised Equipment Regulations (PER), including:
- Providing competency and awareness training to the operators/users;
- Providing the relevant PPE and clothing;
- Inspecting equipment regularly (every 3 months) and keeping records of these inspections;
- Providing appropriate fire-fighting equipment (Fire Extinguishers) on hand;
- Ensuring that oxygen and acetylene bottles are secured in an upright position, do not show signs of corrosion or damage and have flash back arrestors fitted on both torch & bottle ends of hoses.
- Operators must be competent and proven as such.

2.8.3 Hired Plant and Machinery

The Principal Contractor must ensure that any hired plant and machinery used on site is safe for use and complies with the minimum legislated requirements. The necessary requirements as stipulated by the OHS Act and Construction Regulations shall apply. The Principal Contractor shall ensure that operators hired with machinery are competent and that competency and medical certificates are kept on site in the health & safety file. Any load test requirements and inspections in terms of legislation must be complied with and copies of load test certificates and inspections must be kept in the health & safety file. All relevant contractors must ensure the same when they hire plant and machinery.

2.8.4 Lifting Machines, Tackle and Lifting Equipment

The Principal Contractor must ensure that lifting machinery and tackle are inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (regulation 20). There must be a competent lifting machine inspector (registered with the Department of Labour, Gazette number 27305) and a competent lifting tackle inspector designated who must inspect the equipment, taking into account that:
- All lifting machinery and tackle has a safe working load clearly indicated;
- Regular inspection and servicing is carried out by a certified, competent person (3-monthly inspections and records for tackle and 6-monthly inspections and records for lifting machines);
- Records are kept of inspections and of services;
- There is proper supervision in terms of guiding the loads, which includes a trained banks man to direct lifting operations and check lifting tackle and attachments daily;
- Rigging of loads is done in accordance with acceptable safe work practices;
- Guy ropes (tag lines) are connected to every load due to the restricted nature of the site within a busy environment and above public areas;
- Trained banks men are designated and appointed to rig and control loads – one on the discharge and one receiving end, per crane;
- A crane manager/supervisor is appointed to ensure that all crane and lifting related procedures are managed and enforced;
- Annual load test certificates for lifting machines are in place;
- Load test institutions are registered with the Department of Labour;
- Lifting machine inspectors are certified by the Engineering Council of South Africa;
- The operators are certified to operate the specific machine (valid certificate to be on site);
- The operators are physically fit to work and in possession of a medical certificate of fitness to be available on site.
- No ‘sugar/sand blasting grit bags’ are permitted on this site. These bags are only designed/ permitted to carry sugar/dry sand and may only be used once after which they have to be disposed of as per the manufacturer’s specifications.

2.8.5 Ladders and Ladder Work

The Principal Contractor must ensure that all ladders are: inspected daily with monthly records kept; in good safe working order; the correct height for the task; extend at least 1m above the landing; fastened and secured; and at a safe angle. Stepladders must be safe for use, must be the correct height for the task and the top two rungs may not be used. Records of inspections must be kept in a register on site. Contractors using their own ladders must ensure the same. Take note of the ladder regulation promulgated under the General Safety Regulations. Access to the warehouse structural steel and roof should be by means of a cherry picker or scaffold tower, and not by means of extension ladders as far as possible.

2.8.6 General Machinery

The Principal Contractor must ensure compliance with the Driven Machinery Regulations and General Machinery Regulations, as well as the electrical machinery Regulations, which includes carrying out risk assessments on the machines, inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE and relevant clothing, and training those who use machinery.

2.8.7 Electrical Installations and Portable Electrical Tools

The consulting engineers will ensure as far as possible that the P/Contractor is made aware of the positions of all electrical installations and other services. The Principal Contractor must notify the engineer concerned should it not be sure of the location of any particular service. This is especially pertinent to the Demolitions Contractor who will need to ensure that all electrical installations are ‘made safe’ before demolition work begins. An installation electrician will need to prove this by means of the necessary documentation and written lock-out procedures, tags, and the like.

The Principal Contractor and contractors must comply with the Electrical Installation Regulations, the Electrical Machinery Regulations and the Construction Regulations.

The Principal Contractor must keep a copy of the Certificate of Compliance (CoC) for its temporary electrical power supply and installation. A revised CoC is required whenever the installation is altered or changed in any way. All temporary electrical installations must be inspected at least weekly by a competent person appointed in writing with records kept.

The testing and commissioning of the permanent electrical installation must be done under the management of a written method statement and detailed set of safety requirements and must only be put into use after a CoC has been issued to the P/Contractor for that section/area.

Portable electrical tools and equipment must be visually inspected daily by a competent person (trained by an electrician or suitable person to carry out visual inspections on electrical tools and extension leads) before use, with records kept as proof.

2.9 Occupational Health

2.9.1 Industrial Hygiene (exposure to physical and chemical stress factors)

Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem and all Contractors must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. Prevent inhalation, ingestion, and adsorption through the skin of hazardous chemical substances.

2.9.1.1 Noise induced hearing loss is a highly underrated occupational condition. Occupational noise emitted by construction machinery and power tools must be controlled as far as
possible by implementing engineering solutions such as noise dampening, regular maintenance, servicing and inspection, screening off the noise, and reducing the number of persons exposed. Personal protective equipment such as earmuffs and earplugs must also be used in conjunction with engineering controls so as to reduce noise exposure to below the acceptable levels. Each and every contractor is required to identify sources of noise which could impact on its personnel, to then assess the levels of noise, followed by implementing the necessary control measures to reduce the noise to acceptable levels. This must be clearly set out in the Contractor’s hearing conservation programme contemplated in the NIHL Regulations.

2.9.1.2 Ergonomics is the study of how workers relate to their workstations. We advise the Principal Contractor and Contractors to take this into consideration when conducting risk assessments, thereby improving the worker-task relationship, which will in turn improve productivity and reduce chronic conditions such as back strains, joint problems and mental fatigue, amongst others.

2.9.1.3 Inhalation of dust (silica, etc.), fumes, vapours, and other hazardous chemicals/particulates/fibres (asbestos). Asbestos containing materials have been identified by an AAIA inspection of the externals and during the assessment of the internal spaces e.g. roof sheeting, gutters, downpipes, barge boards, toilet cisterns, and vinyl floor tiles. See the asbestos inventory report for more details. Chemical stressors identified by the Contractors on this project must be managed by the respective contractors who must also prevent exposure to workers/visitors other than their own employees.

2.9.2 Hazardous Chemical Substances (HCS)

The Principal Contractor must provide the necessary training and information as far as the use, transport, and storage of HCS. The Principal Contractor and contractors must ensure that the use, transport, and storage of HCS are carried out as prescribed in the HCS Regulations. The Principal Contractor and contractors must ensure that all hazardous chemicals on site have been assessed for risk (written risk assessments for each hazardous chemical) and have Material Safety Data Sheets (MSDS) available 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 MSDS’s and how to treat HCS incidents appropriately. Copies of the MSDS’s must be kept in the first aid box and in the store. All containers must be clearly labelled. Flammable substances must be stored separately, away from other materials, and in a well-ventilated area (appropriate cross ventilation). A competent person should be appointed to be in control of this portfolio. Stores must be well ventilated, preventing the build-up of flammable and toxic gases/vapours. No bulk storage of chemicals and similar substances are permitted on this premises – maximum of 40 litres per substance. Should substances have to be held in larger quantities, the contractor concerned will have to notify the local fire department which will have to conduct the necessary inspection and assessment of the site and report accordingly. Plant and machinery may only be serviced and repaired in designated areas where control measures can be effectively implemented to prevent spills, leaks and other environmental contamination. Drip trays must be used.

2.9.3 Welfare Facilities

The Principal Contractor must ensure that sufficient toilets (1 toilet per 30 workers), hand washing facilities, soap, toilet paper, and hand drying material are made available at the site in accordance with the Construction Regulations. Workers must not be exposed to hazardous materials/substances while eating and must be provided with adequate, sheltered eating areas complete with benches and tables. Stores may not double up a change rooms or mess areas. Adequate undercover facilities must be made available for workers.
2.9.4 Asbestos Work

Any asbestos work must be carried out as per the requirements as set out in the Asbestos Regulations (no. R155, 2002). Asbestos containing materials (ACM’s) have been identified by an AAIA during a site inspection of the externals and during the assessment of internal spaces.

ACM’s were identified as follows: roof sheeting, downpipes, gutters, barge boards, toilet cisterns, vinyl floor tiles.

Any products identified by the Contractor as possibly containing asbestos, not identified as part of the initial risk assessment must be reported to the Client’s Agent forthwith so that the necessary safety/health measures can be prescribed before such products are cleaned, worked on or removed.

Should asbestos work be required, an asbestos plan of work will be required from the appointed Asbestos Contractor (registered with the Dept. of Labour) and approved by the appointed Approved Asbestos Inspection Authority (AAIA). The plan of work must include but not be limited to discussing the following:

a) The provision of suitable respiratory equipment and clothing for all asbestos workers who could be exposed to fibres;

b) The prevention of dry cutting or drilling, a suitable wet method must be used while removing/working on the asbestos products;

c) The prevention of dry brushing, scraping or sanding of asbestos products;

d) The safe disposal of asbestos waste;

e) The proper storage of asbestos products while on site.

2.9.5 Alcohol and other Drugs

No alcohol and/or other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on prescription medication must inform his/her superior, who shall in turn report this to its Principal Contractor forthwith. Any person suffering from any illness/condition that may have a negative effect on his/her /anyone else’s health or safety performance must report this to his/her superior, who shall in turn report this to its Principal Contractor forthwith. Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately, to report back the next day for a preliminary inquiry. The Contractor concerned must follow a full disciplinary procedure and a copy of the disciplinary action must be forwarded to its Principal Contractor for its records.

2.10 Duties of Designers

A designer must ensure that he/she complies with the requirements of the Construction Regulations. Designers have a duty both to assist in health and safety during construction as well as post construction to ensure safe occupation of the structures concerned. This will include informing the Principal Contractor in writing of any known or anticipated dangers or hazards relating to the construction work, and making available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered.

Designers must ensure that the following information is included in a report and made available to the Principal Contractor:

i) The health & safety information pertaining to the design of the relevant structure(s) that may affect the pricing of the construction work.

ii) The loading the structure is designed to withstand; and

iii) The geotechnical science aspects where appropriate.

With reference to this contract, a written report will be required from each Designer addressing the information set out above and below (in terms of Construction Regulation 6), specific to the particular discipline. The Construction Regulations (CR’s) requires Designers (see definition of Designer in CR 1) to make certain information available to the Client (H&S Agent) and Contractors with the aim of ‘designing out hazards’ as far as possible. The aim of the report(s) would be to address the various headings (set out below) as best possible in an effort to make as much information available to the contractors so that they can improve their H&S management on the actual site.
Items to be addressed by Designers in terms of CR 6:
1. Anticipated or known dangers or hazards (known at this stage) relating to the construction work, foreseen by the Designer, including the relevant information required for the safe execution of the work. This must also include health & safety information about the design which could have an influence on the pricing of the work.
2. Dangerous substances/materials foreseen which cannot be avoided during this particular type of construction.
3. Dangerous procedures foreseen which cannot be avoided.
4. Hazards and risks relating to the subsequent maintenance of the structure/building foreseen and resulting safe work procedures advised.
5. Site inspections to verify whether construction of the relevant structures are being carried in accordance with the designs. How will this be handled by you and your team on the project?
6. The stoppage of contractors where required (by the Designer) - the envisaged protocol to be followed to stop an activity or process on site. How will this be handled by you and your team on the project?
7. The application of ergonomic principles during design - how has and will this be implemented by the respective Designers?
8. Design of temporary works if applicable on this portion of the project e.g. formwork and support work, back propping, etc. You may merely need to refer to the temporary works designer as being a separate entity, appointed by the Contractor.
9. The loading that a structure can withstand and/or is designed to withstand - details on this must be included. Please pay special attention to the definition of ‘structure’ in Construction Regulation 1.
10. Geotechnical-science aspects where appropriate. You may merely have to refer to the geo-tech report and make this available to me and to the Contractors.

Note that no guidance notes have yet been made available from the Department of Labour and the above list therefore represents the Agent's interpretation of the Regulations.
PRIMARY HEALTH AND SAFETY COMPLIANCE
DESIGN, SUPPLY AND INSTALLATION SERVICES FOR BAGGAGE CAROUSELS AT CAPE TOWN INTERNATIONAL AIRPORT

ANNEXURE A

The Principal Contractor and its Contractors must submit compliance with Annexure ‘A’ before commencing with work on site. Compliance with Annexure ‘A’ must be maintained and proven to the H&S Agent at audits.

<table>
<thead>
<tr>
<th>HSS Item No.</th>
<th>Requirement</th>
<th>Legal Reference</th>
<th>Compliance required:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Health &amp; Safety Plan (H&amp;S plan)</td>
<td>Constructions Regs.</td>
<td>Within two weeks of receipt of these Specifications and before work commences.</td>
</tr>
<tr>
<td>A2</td>
<td>Notification of Intention to Commence Construction Work</td>
<td>Complete Schedule 1 (Construction Regs)</td>
<td>At least seven days before commencement of construction work. Applicable to Direct Contractors i.e. contractors appointed by the client other than the Principal Building Contractor.</td>
</tr>
<tr>
<td>A3</td>
<td>Application for Construction Permit as the main building works contract will be of a value exceeding R40 Mil.</td>
<td>Construction Regs</td>
<td>To be undertaken by the CHSA for the main contract which exceeds R40 mil in value.</td>
</tr>
<tr>
<td>A4</td>
<td>Assignment of Responsible Persons to Supervise Construction Work</td>
<td>OHS Act ~ Section 16(2) appointee ~ Construction Manager, Alternate Manager; Assistants, and Activity Supervisors.</td>
<td>Before commencement on site</td>
</tr>
<tr>
<td>A5</td>
<td>Appointment of Construction Safety Officers</td>
<td>Construction Regs</td>
<td>The Principal Contractor will need to appoint a full-time safety officer, to be based on site. The Demolitions Contractor will need to appoint at least a part-time health &amp; safety officer (in terms of Construction Regulation 8.5) who will need to be located on site at least 2.5 days per week. The scaffolding contractor will need to appoint a part-time safety officer who will be to spend one day on site per week. The roof work contractor will need to appoint a part-time safety officer who will need to spend 2.5 days per week on site. All other sub-contractors need to appoint part-time safety officers who will need to spend time of site as discussed, negotiated and agreed between such subbie, the P/Contractor, and the CHSA.</td>
</tr>
</tbody>
</table>

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| A6 | Health and Safety Organogram showing all H&S management portfolios and positions | Client Requirement | Together with H&S plan |
| A7 | Compensation for Occupational Injuries and Diseases – proof of registration | COIDA | Before commencement on site |
| A8 | Preliminary Hazard Identification and safe work procedures – baseline HIRA | Construction Regs. | Together with H&S plan |
| A9 | Fall protection plan (first draft) as defined in the Construction regulations | Construction Regs. | Together with H&S plan |
| A10 | Risk assessments and method statement required before work starts. See ‘annexure D’ below. Certain HIRA’s and method statements will be required at the outset. | Construction Regs. | Before particular activity begins e.g. demolitions method statement and structural engineering survey: See annexure ‘D’ below for guidance on ‘primary method statement compliance’. |
| A11 | Provide the criteria you intend to use when assessing Contractor H&S Plans as well as when conducting monthly audits on your Contractors | Construction Regs. | Together with H&S plan |
| A12 | Provide the methodology that you will be using when it comes to the stopping of dangerous activities on site | Construction Regs. | Together with H&S plan |
| A13 | Provide the criteria that you will be using to assess the competence and resources of Contractors in terms of H&S | Construction Regs. | Together with H&S plan |
**Baseline HIRA and Health & Safety Specifications**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSS</td>
<td>health &amp; safety specifications</td>
</tr>
<tr>
<td>OHS Act</td>
<td>occupational health &amp; safety Act</td>
</tr>
<tr>
<td>CR</td>
<td>construction regulations</td>
</tr>
<tr>
<td>COIDA</td>
<td>compensation for occupational injuries and diseases Act</td>
</tr>
</tbody>
</table>

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ASSIGNMENT OF PRINCIPAL CONTRACTOR’S AND CONTRACTORS RESPONSIBLE PERSONS

ANNEXURE B

The Principal Contractor must make all the management appointments as set out below. Compliance with annexure ‘B’ to be maintained and proven to the safety agent at audits (Further appointments could become necessary as the project progresses).

<table>
<thead>
<tr>
<th>Item</th>
<th>Appointment</th>
<th>Legal Reference</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>CEO Assignee</td>
<td>OHA Act, Section 16(2)</td>
<td>A competent person to assist the CEO in achieving compliance with the OHS Act – P/Contractor’s / Contractor’s Responsible Person.</td>
</tr>
<tr>
<td>B2</td>
<td>Construction Manager and Alternate Manager, Demolitions Supervisor, Asbestos Contractor Supervisor, Structural steel and roof work supervisors</td>
<td>CR 8</td>
<td>A full time competent person to supervise and be responsible for health &amp; safety related issues on site. The person is appointed by the Section 16(2) assignee. A competent person to be appointed to manage the demolitions contract. A competent person to supervise all asbestos removal work. Competent persons to supervise these trades as a priority.</td>
</tr>
<tr>
<td>B3</td>
<td>Assistant Construction Manager</td>
<td>CR 8</td>
<td>A full time competent person(s) to assist the CR 8(1) appointee with daily supervision of construction work safety. One of the CR 8(2) appointees must be designated to fulfil the role of the CR 8(1) when such person is not on site. Make this clear in the appointment letter.</td>
</tr>
<tr>
<td>B4</td>
<td>Section and Activity Supervisors</td>
<td>CR 8(7) and 8(8)</td>
<td>The appointment of supervisors specific to trades, activities, sections, areas on site. The various risk assessments must detail the supervision requirements.</td>
</tr>
<tr>
<td>B5</td>
<td>Health &amp; Safety Representative(s)</td>
<td>Section 17</td>
<td>A competent person(s) to be appointed to represent the workforce in H&amp;S matters. Reps may attend safety meetings, conduct monthly site audits, attend incident/injury investigations and make recommendations as far as H&amp;S goes.</td>
</tr>
<tr>
<td>B6</td>
<td>Incident Investigator</td>
<td>GAR 9</td>
<td>A competent person to head up the investigation team and co-ordinate incident/injury investigations on site.</td>
</tr>
<tr>
<td>Item</td>
<td>Appointment</td>
<td>Legal Reference</td>
<td>Requirement</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>B7</td>
<td>Risk assessment co-ordinator</td>
<td>CR 9</td>
<td>A competent person to co-ordinate the drafting/reviewing/distribution of risk assessments on behalf of the Principal Contractor. The same applies to Contractors.</td>
</tr>
<tr>
<td>B8</td>
<td>Fall protection plan developer; fall protection plan supervisor/manager</td>
<td>CR 10</td>
<td>A competent person to co-ordinate the drafting/reviewing/distribution the fall protection plan. The same applies to Contractors. The FPP supervisors and managers are all the appointed supervisors and managers.</td>
</tr>
<tr>
<td>B9</td>
<td>First Aider(s)</td>
<td>GSR 3</td>
<td>A certificated person to address first aid situations and take charge of injuries.</td>
</tr>
<tr>
<td>B10</td>
<td>Excavation inspector and supervisor</td>
<td>CR 13</td>
<td>Competent persons must be appointed first of all supervise excavations on site and then a person to undertake the daily inspections of the excavations.</td>
</tr>
<tr>
<td>B11</td>
<td>Scaffolding inspector</td>
<td>SANS 10085 – 2004; CR 16</td>
<td>A competent person to inspect scaffolding before use and every time after bad weather, etc.</td>
</tr>
<tr>
<td>B12</td>
<td>Scaffold supervisor (P/Contractor employee and a scaffolding contractor employee)</td>
<td>SANS 10085 – 2004; CR 16</td>
<td>A competent P/Contractor employee to supervise all scaffolding on site, ensuring that scaffolds are safe for use, inspected, extended/altered, repaired when required and that all trades are co-ordinated and authorised to work on such scaffolds.</td>
</tr>
<tr>
<td>B13</td>
<td>Scaffolding erector</td>
<td>SANS 10085 – 2004; CR 16</td>
<td>A competent person(s) to erect scaffolding – leader of the scaffold team.</td>
</tr>
<tr>
<td>B14</td>
<td>Ladder inspector</td>
<td>GSR 13A</td>
<td>A competent person to inspect ladders daily and ensure they are safe for use, keeping monthly record.</td>
</tr>
<tr>
<td>B15</td>
<td>Temporary electrical installations inspector</td>
<td>CR 24</td>
<td>A competent person to inspect all temporary electrical installations. Including weekly inspections and record keeping.</td>
</tr>
<tr>
<td>B16</td>
<td>Portable Electrical Tool Inspector</td>
<td>CR 24</td>
<td>A competent person to co-ordinate / inspect portable electrical tools, leads and plugs.</td>
</tr>
<tr>
<td>B17</td>
<td>Fire-fighting equipment inspector</td>
<td>CR 29</td>
<td>A competent person to co-ordinate &amp; inspect fire-fighting equipment. Including ad-hoc checks and monthly inspections with records kept.</td>
</tr>
<tr>
<td>B18</td>
<td>Construction vehicles &amp; mobile plant supervisor</td>
<td>CR 23</td>
<td>A competent person(s) to co-ordinate the safety of all construction vehicles &amp; mobile plant. Ensuring that daily inspections are done and records kept, that safety measures are in place, that operators are certified and authorised to operate and that maintenance and services are carried out when required.</td>
</tr>
<tr>
<td>Item</td>
<td>Appointment</td>
<td>Legal Reference</td>
<td>Requirement</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>B19 (a)</td>
<td>Formwork, support work, back-propping, bracing supervisor (Temporary works supervisor)</td>
<td>CR 12</td>
<td>A competent person to supervise all formwork &amp; support work erection &amp; dismantling as well as back-propping/bracing of existing building and structures. This person must also ensure that the equipment is safe and that all the necessary inspections (pre, during, post &amp; every day thereafter) are carried out &amp; records kept by the competent inspectors. Design drawings must be issued and site inspections carried out.</td>
</tr>
<tr>
<td>B19 (b)</td>
<td>Temporary works designer(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B20</td>
<td>Lifting machine and lifting tackle supervisor</td>
<td>DMR 18</td>
<td>A competent P/Contractor employee to co-ordinate the management of lifting machines and tackle, ensuring that such equipment is safe for use at all times, inspected when necessary and repaired when required. The operators, banks men and contractors to liaise with this person. Competent banks men to be appointed – two per crane (one bottom, and one on elevated floors/decks). A competent inspector to be sourced, to undertake the 3-monthly legal compliance safety inspections.</td>
</tr>
<tr>
<td></td>
<td>Banks men</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lifting tackle inspector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B21</td>
<td>Stacking supervisor</td>
<td>CR 28</td>
<td>A competent person to supervise all stacking and storage operations.</td>
</tr>
<tr>
<td>B22</td>
<td>Construction safety officers, emergency co-ordinator, public protection inspector, traffic/pedestrian officer</td>
<td>CR 8(5)</td>
<td>A competent person to fulfil the functions as set out in these HSS. Note the requirements herein above for the Demolitions Contractor safety officer, Main Building Works safety officer, sub-contractor safety officers, etc.</td>
</tr>
</tbody>
</table>
## GENERAL COMPLIANCE REQUIREMENTS

### ANNEXURE C

The Principal Contractor and Contractors must comply with but not be limited to the requirements tabled below: Prove compliance with annexure ‘C’ at audits conducted by the safety agent.

<table>
<thead>
<tr>
<th>Item</th>
<th>What</th>
<th>When</th>
<th>Output</th>
<th>Reviewed by Client Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Construction-phase Health &amp; Safety Plan</td>
<td>Monthly review</td>
<td>Principal Contractor to indicate the status of Contractors’ health &amp; safety plans.</td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>Health &amp; Safety File(s)</td>
<td>Open file when construction begins and maintain throughout.</td>
<td>Have file on hand at audits. Contractors to report on their file at monthly health &amp; safety audits by the Principal Contractor.</td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td>OHS Act and relevant Regulations</td>
<td>Monthly review</td>
<td>To be kept in the health &amp; safety file on site.</td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>Health &amp; Safety Induction training</td>
<td>Every worker before he/she starts work.</td>
<td>Attendance registers to be kept.</td>
<td></td>
</tr>
<tr>
<td>C5</td>
<td>Awareness Training (Tool Box Talks)</td>
<td>At least every fortnight</td>
<td>Attendance registers to be kept.</td>
<td></td>
</tr>
<tr>
<td>C6</td>
<td>Health &amp; Safety Meetings</td>
<td>Monthly</td>
<td>Meeting minutes to be kept.</td>
<td></td>
</tr>
</tbody>
</table>
| C7   | Health & Safety Reports | Weekly (safety officer) | Reports covering:  
- Incidents / injuries and investigations  
- Non-conformances by employees & Contractors  
- H&S inspection findings incl. photos. | |
| C8   | Audits on contractors | Monthly | Report covering  
- H&S File/Plan  
- WCA status  
- Appointment letters  
- Section 37(2) agreements  
- Risk assessment & safe work procedures  
- Physical site inspection  
- Any other contractor specific requirements. | |
| Item | What | When | Output | Reviewed by Client Date:
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C9</td>
<td>Emergency procedures</td>
<td>Monthly evaluation of procedure</td>
<td>Compile written procedure as well as tel. numbers.</td>
<td></td>
</tr>
<tr>
<td>C10</td>
<td>Activity-specific risk assessments &amp; fall protection plan</td>
<td>Updated and signed off at least monthly.</td>
<td>Documented risk assessments to be available. 14 day look-ahead programme to be implemented.</td>
<td></td>
</tr>
</tbody>
</table>
| C11  | General Inspection records | Daily | Report OHS Act compliance:  
  - *Excavations and trenches.*  
  - Portable electrical tools.  
  - Construction vehicles, *demolition plant*, mobile plant, piling plant, lifting machines incl. tower crane(s).  
  - *Traffic and pedestrian accommodation* (on and off the precinct).  
  - Public protection - signage, notices and hoarding/scaffold aprons, walkway gantries, forklift routes and pedestrian walkways.  
  - Guard rail edge protection and protection of openings and fragile coverings.  
  - Formwork, support work, decking edge protection, back-propping.  
  - Explosive actuated fastening devices.  
  - Life line systems.  
  - Materials hoist. |  |
| C12  | General Inspections | Weekly |  
  - *Scaffolding, crash decks, aprons, catch nets, pavement gantries, shade cloth, waste chutes.*  
  - Cantilever loading platforms.  
  - Temporary Electrical Installations.  
  - Worker welfare facilities. |  |
<table>
<thead>
<tr>
<th>Item</th>
<th>What</th>
<th>When</th>
<th>Output</th>
<th>Reviewed by Client Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>C13</td>
<td>General Inspections</td>
<td>Monthly</td>
<td>• Fire-fighting equipment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Ladders.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• First aid equipment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Emergency evacuation systems.</td>
<td></td>
</tr>
<tr>
<td>C14</td>
<td>General Inspections</td>
<td>3-monthly</td>
<td>• Lifting tackle.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Oxy-acetylene cutting &amp; welding sets.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Fall prevention and arrest equipment.</td>
<td></td>
</tr>
<tr>
<td>C5</td>
<td>General Inspections</td>
<td>6-monthly</td>
<td>• Lifting machines.</td>
<td></td>
</tr>
<tr>
<td>C16</td>
<td>Load tests / performance tests</td>
<td>Annually / once erected, before use</td>
<td>• Lifting machines.</td>
<td></td>
</tr>
<tr>
<td>C17</td>
<td>List of Contractors</td>
<td>List to be updated weekly</td>
<td>Compile a list of Contractors: Name, supervisor, company tel. numbers and trade.</td>
<td></td>
</tr>
<tr>
<td>C18</td>
<td>Workman’s Compensation</td>
<td>Ongoing</td>
<td>Compile a list of Contractors’ workman’s compensation proof of good standing.</td>
<td></td>
</tr>
<tr>
<td>C19</td>
<td>Construction site rules &amp; Section 37(2) Mandatory Agreements</td>
<td>Ongoing</td>
<td>Compile a list of all signed up Mandataries. Proof of agreement documents to be kept in H&amp;S file.</td>
<td></td>
</tr>
<tr>
<td>C20</td>
<td>Medical assessments or as otherwise prescribed. Competence of personnel and operators.</td>
<td>Annual assessments</td>
<td>Proof to be available in the form of certificates of fitness. Certificates of competence required for various operators and personnel as per the CR’s and Codes.</td>
<td></td>
</tr>
</tbody>
</table>
METHOD STATEMENTS REQUIRED PRIOR TO COMMENCEMENT

ANNEXURE D

The hazardous operations listed below have been identified by the Client’s H&S Agent as being pertinent at the outset of the project and must be managed by the Principal Contractor in the form of the preparation of risk assessments and method statements before such work begins. The onus remains on the Principal Contractor to conduct risk assessments and compile method statements for all hazardous tasks (Construction Regulations). Contractors appointed by the P/Contractor will be required to conduct the necessary risk assessments and method statements and forward these to the P/Contractor for approval before such works/activities begin.

<table>
<thead>
<tr>
<th>No.</th>
<th>RISK ASSESSMENT DOCUMENTATION</th>
<th>DATE APPROVED</th>
<th>DATE LAST REVIEWED</th>
</tr>
</thead>
</table>
| 1.  | Site set-up, public protection and traffic/pedestrian management plans *(required from the P/Building Contractor)*:  
- Incl. site camp and office set-up; hoarding of site and access control systems; deliveries and rubble removal; signs and notices; pedestrian walkways, roadways and other public areas adjacent to site (the protection thereof).  
- Existing electrical installations. Identifying the equipment, clearly marking the locations, managing plant and demolition equipment. |              |                  |
| 2.  | Identification and location of existing services within the buildings to be demolished and services under and adjacent to the site/building. |              |                  |
| 3.  | Structural engineering survey and demolition method statement to be compiled by the relevant persons before demolition works may begin. To include the initial strip-out of the building and removal of existing roofing. |              |                  |
| 4.  | Asbestos work plan compiled by the registered asbestos contractor and approved by the AAIA. |              |                  |
| 5.  | Emergency procedures & fire management:  
- Fire prevention strategies – fire risk assessment to be made and written risk assessment to be compiled.  
- Collapse and undermining of neighbouring structures.  
- Injuries/incidents – procedures  
- Hazardous chemical spills and the like, including storage procedures.  
- Asbestos exposure.  
- Compare and co-ordinate with ACSA procedures. | |       |
<table>
<thead>
<tr>
<th>No.</th>
<th>RISK ASSESSMENT DOCUMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Temporary electrical installation: Set up and management protocols.</td>
</tr>
<tr>
<td>7.</td>
<td>Fall protection plan and associated fall related risk assessment documentation.</td>
</tr>
<tr>
<td>8.</td>
<td>Guard rail edge protection to decks and floors as well as protection of service ducts and other openings and edges. The Main Building Contractor’s modus operandi in this regard.</td>
</tr>
<tr>
<td>9.</td>
<td>H&amp;S induction strategy to be implemented on site.</td>
</tr>
</tbody>
</table>
CONSTRUCTION HEALTH & SAFETY COSTS TO BE INCLUDED IN THE PRINCIPAL CONTRACTOR’S AND CONTRACTORS’ PRICE

CONTRACTOR NAME: .................................................................

ANNEXURE E

In terms of the Construction Regulations (2014), it is the Client’s duty to ensure that the cost for health & safety has been provided for by the Principal Contractor, before appointment. Acting on behalf of our Client, we require the following health & safety costs to be provided for by the Contractors.

It must be made very clear that these are just some of the health & safety costs to be included in your tender price. It is the duty of the Principal Contractor and its Contractors to ensure that all aspects of the Occupational Health & safety Act 85/1993 and Construction Regulations are catered for.

<table>
<thead>
<tr>
<th>No.</th>
<th>ITEM</th>
<th>DETAILS</th>
<th>PRICE budgeted by Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Personal protective equip. (PPE)</td>
<td>1.1 Safe footwear.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2 Hard hats.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3 Reflective vests.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.4 General PPE as required (hearing protection, eye protection),</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.5 Fall protection systems – harness and life line systems for demolitions, formwork teams, structural steel and work on roofs and roof slabs). All as per risk assessments by P/Contractor and Contractors.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.6 Lockable, clean areas to store PPE.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.7 Visitor PPE – hard hats and reflective vests (10 of each).</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>H&amp;S induction training</td>
<td>2.1 The P/Contractor to induct all workers, any Direct contractors, and visitors –</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2 A competent induction officer to be designated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.3 Induction venue (chairs and table) to be available on site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.4 Induction ID card system to be implemented and enforced on site.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>First aid management</td>
<td>3.1 First aid box, splints and eye wash.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2 First aider by P/Contractor as soon as total workforce exceeds 10.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>One first aider for every group of 50.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Public protection</td>
<td>4.1 Shade cloth all external scaffolding at all times and fit aprons at the required intervals during the erection and dismantling of the scaffolding.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.2 Protection of areas above/alongside the adjacent properties and public areas.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>--------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.3 Traffic and pedestrian accommodation including within the ACSA precinct.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5(a) Demolition operations and asbestos work</strong></td>
<td>Asbestos work plan, asbestos PPE, registered asbestos contractor, registered Asbestos Inspection Authority (AIA), air monitoring, final inspection of the area to declare the site clean and free of asbestos fibres.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5(b) Excavations and relevant operations.</strong></td>
<td>Daily inspections, including possible inspections by a geo-tech engineer when required.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **6 Access control, security and public protection of pavement walkways** | **6.1 Access gate(s) – separate access for pedestrians and vehicles.**
**6.2 Chains and locks.**
**6.3 Signage and notices (as per minimum requirements).**
**6.5 Gate access control officer/person to be supplied by the Principal Contractor to sign persons in and out and direct such visitors to the site office for induction among other duties.**
**6.6 General area lighting for safety and security reasons.** |
| **7 Traffic and pedestrian management - roadways and public areas adjacent to the work zones** | **7.1 Traffic signs and delineators as per traffic plan.**
**7.2 Pedestrian accommodation – Fencing on its own will not be adequate based on the confined nature of the precinct.** |
| **8 H&S officers** | **8.1 Monthly rate for a part-time demolitions safety officer (2.5 days per week on site) and a full-time Main Building Contractor site safety officer.** This person must comply with the requirements of the Construction 2014 (SACPCMP registered).
**8.2 Scaffolding Contractor safety officer – 1 day per week.**
**8.3 Subbies' safety officers, part-time – one site visit per week as a minimum.**
**8.4 H&S administration – files and paperwork.**
**8.5 Consolidated H&S documentation at end of the project including all sub-contractor documentation**
**8.6 Desk, computer, office, telephone, printer, email and internet access.**
**8.7 Camera and cell phone.** |
| **9 Fire-fighting equipment** | **9.1 Fire extinguishers as per fire risk assessment by P/Contractor.**
**9.2 Possible fire risk assessments by Fire Prevention Officer – local fire dept. Allow for three inspections.** |

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| 10 | Electrical compliance | 10.1 Assessment of existing electrical installations on the premises to be demolished and make safe and isolate.  
10.2 Temporary electrical connection and supply in compliance with SANS 100142.  
10.3 Temporary electrical boards in compliance with SANS 100142. CoC’s and weekly inspections required.  
10.4 Electrical works to be under the control of a registered installation electrician.  
10.5 Temporary lighting for work areas.  
10.6 Dustless grinding machines for chasing walls.  
10.7 Detect, locate and identify the existing underground high voltage equipment and cabling running through the property. |
| 11 | Temporary access and work platforms | 11.1 Ladders.  
11.2 Scaffolding – including sufficient boards (fully boarded platforms, access ladders, toe boards, bracing, ties, signage, etc. All in compliance with SANS 10085-2004.  
11.3 Trained scaffold inspectors, erectors, scaffold general workers, supervisor, safety officer.  
11.4 Safe access to elevated decks and floors and roof by means of scaffold access towers not ladders – based on number of persons to access these areas. |
| 12 | Welfare facilities | 12.1 Toilets (1 toilet per 30 workers). Separate toilets for women.  
12.2 Soap  
12.3 Change area separate from eating areas. Tables and benches sufficient number for personnel, including subbies.  
12.4 Drinking water.  
12.5 Toilet paper.  
12.6 Lockable containers for PPE.  
12.7 Electrical supply and plug points for cooking and hot water.  
12.8 Lights.  
12.9 Showers (2 no.) minimum. **Also required by the asbestos team.** |
<p>| 13 | Guarding of exposed elevated edges and openings as well as the excavation edges | 13.1 Edge protection must be in the form of a solid barrier fitted at 500mm and 1000mm above each edge where there is a drop of more 1m and must be in accordance with a competent temporary works designer’s specifications. Where there is no external scaffold at the edge in question, fence panel mesh must be fitted to a height of 1m, secured to the guard rails to act as a catch net/screen. |</p>
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.2</td>
<td><strong>Danger tape is prohibited as a form of edge protection.</strong></td>
</tr>
<tr>
<td>14</td>
<td><strong>Medical assessments of personnel</strong></td>
</tr>
<tr>
<td>14.1</td>
<td>All construction personnel must be certified medically fit by a registered occupational health practitioner.</td>
</tr>
<tr>
<td>14.2</td>
<td>Hearing tests to form part of the medical assessments and must be carried out at least every two years or more often depending on previous audiogram.</td>
</tr>
<tr>
<td>15</td>
<td><strong>Personal fall prevention systems</strong></td>
</tr>
<tr>
<td>15.1</td>
<td>Required for steel structures during demolition, roof structures, roof coverings, and other areas where barriers cannot be fitted.</td>
</tr>
<tr>
<td>15.2</td>
<td>Life line systems must be designed and fitted by a certified rope access contractor/person.</td>
</tr>
<tr>
<td>15.3</td>
<td>Daily inspections to be carried out.</td>
</tr>
<tr>
<td>15.4</td>
<td>Life line system relocation to be carried out by the certified rope access contractor.</td>
</tr>
<tr>
<td>16</td>
<td><strong>Scaffolding</strong></td>
</tr>
<tr>
<td>16.1</td>
<td>All external scaffolds must be fitted with aprons/fans at height of 6.5m and every 20m thereafter from the time of erection of the scaffolding.</td>
</tr>
<tr>
<td>16.2</td>
<td>Entire external scaffolds must be shade clothed to full height (1m above the top work platform).</td>
</tr>
<tr>
<td>16.3</td>
<td>All necessary scaffold personnel to be certificated and appointed and to be on site full-time – a designated, competent subbie.</td>
</tr>
<tr>
<td>16.4</td>
<td>100% compliance with the Scaffold Code 10085-2004.</td>
</tr>
<tr>
<td>17</td>
<td><strong>Supervision</strong></td>
</tr>
<tr>
<td>17.1</td>
<td>P/Contractor to appoint a full-time construction manager designated to this project.</td>
</tr>
<tr>
<td>17.2</td>
<td>Assistant managers to be appointed.</td>
</tr>
<tr>
<td>17.3</td>
<td>Section and activity supervisors to be appointed.</td>
</tr>
<tr>
<td>17.4</td>
<td>Each sub-contractor needs to appoint a full-time site supervisor to be on site while their work is taking place.</td>
</tr>
<tr>
<td>17.5</td>
<td>P/Contractor to have a supervisor on site during after-hours and all subbie work.</td>
</tr>
<tr>
<td>18</td>
<td><strong>Mobile crane, truck-mounted crane.</strong></td>
</tr>
<tr>
<td>18.1</td>
<td>Dedicated trained banks men to be appointed – one at bottom and one at elevated area per crane.</td>
</tr>
<tr>
<td>18.2</td>
<td>Guide ropes to be available and to be used for each and every load.</td>
</tr>
<tr>
<td>18.3</td>
<td>Inspection of all lifting tackle and attachments once every three months by a certified individual. Records to be available as proof.</td>
</tr>
<tr>
<td>18.4</td>
<td>Full inspections of all lifting machines once every 6 months or more often depending on the...</td>
</tr>
<tr>
<td>Company:</td>
<td></td>
</tr>
<tr>
<td>Authorised person:</td>
<td></td>
</tr>
<tr>
<td>Signature:</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
</tr>
</tbody>
</table>

manufacturer’s requirements. LMI to undertake the inspections

18.5 Annual load test of all lifting machines.
The Principal Contractor must report the health and safety status of the upcoming activities to the H&S Agent at audits in writing using the following advised format.

### 14 Day Look-ahead programme – Hazard Identification Risk Assessment (HIRA)

<table>
<thead>
<tr>
<th>No.</th>
<th>Activity description and location on site and contractor responsible</th>
<th>When is activity due to start (date)?</th>
<th>Risk assessment (HIRA) &amp; method statement to be done by (date)?</th>
<th>HIRA done and in file (date)</th>
<th>Workers trained / informed of the SWP’s (date done)</th>
<th>Comments by contractor if required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.</td>
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<td>3.</td>
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<td>4.</td>
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<td>5.</td>
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<td>6.</td>
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<tr>
<td>7.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
Why is it so important to identify hazards, assess the potential risks associated with the hazards and implement effective safe work procedures (SWP’s) to eliminate the risks?

1. It is a legal requirement that every Employer (Company) creates a safe and healthy working environment for its workers – Section 8 of the OHS Act (Occupational Health & Safety Act 85/1993).
2. It is the duty of Employers (Companies and their managers/supervisors) to identify the hazards/hazardous activities which could potentially cause harm to their workers and to other persons e.g. site visitors, members of the public outside the site and other contractors (Construction Regulations 2014).

**Definitions that you need to understand:**
Danger: means anything which may cause injury or damage to persons or property e.g. a machine; electrical installation; portable electrical tool; etc.
Hazard: means a source of or exposure to danger e.g. operating a machine; working with/on electricity on site; operating or being close to an angle grinder.
Risk: means the probability that injury or damage will occur. In other words what injuries/damage could result from exposure to the particular danger (hazard) and what the chances/probability are (usually indicated by a rating level e.g. high, medium, low)
Finally, in the case of an injury or property damage, if you cannot prove that an assessment of risk was undertaken, you could be found guilty of contravening the OHS Act and/or Construction Regulations which is a criminal offense. As a supervisor/manager you have the implied duty and responsibility to identify hazards, determine what could potentially go wrong, and then put the necessary safety/health measures/procedures in place. This means you have to carry out a formal hazard identification and risk assessment (in writing). Then you need to inform your workers of the hazards, risks and safe work procedures. Finally you have the legal duty of enforcing these safe work procedures – you need to check that the procedures are in fact being implemented by the workers.

Make use of the above spreadsheet table to identify up-coming activities/hazards so as to be ahead of the construction programme at all times – this is called effective planning for injury/property damage prevention.
The redevelopment of the CTIA Terminal 2 will involve the demolition of various existing buildings and structures, including existing infrastructure and associated buildings.

An asbestos inventory assessment has been conducted by Safenet Africa and will be available to the contractor.

The earthworks to follow will be a partial underground tunnel for access to the parking garage.

A. INHERENT CONDITIONS

The premise for the drafting of a baseline health & safety risk assessment is to identify the existing, inherent conditions at the construction site location, and to understand the impacts these conditions could have on the construction design methodology, the intended construction methods and processes, and the pricing of the construction contract(s).

A1. Site Location:

The construction work zones will be located inside an existing operational international airlines.
Existing buildings to be demolished including open plan public area.
Existing internal structures to be demolished including glass facade

Existing external buildings to be demolished

Inclusive of LPG storage facility
Existing main entrance into the precinct.
A2. Local Climatic Conditions:

The following average climatic conditions must be used to plan such work as: earthworks and trenching, tower crane use, scaffolding, decking and support work, concrete pours, placement of structural steel and roof sheeting among other elevated, exposed activities.

Rainfall in mm

![Rainfall Bar Chart]

Average precipitation (rain/snow) in Cape Town, South Africa. Copyright © 2019 www.weather-and-climate.com

Rainfall days per month

![Rainfall Days Bar Chart]

Average rainy days (rain/snow) in Cape Town, South Africa. Copyright © 2019 www.weather-and-climate.com
Wind speed

Note that the prevailing winds in the Cape Town region are predominantly from the SE during the summer months which brings sunny, hot weather and from the NW in winter which brings cloudy, rainy conditions. Both the SE and NW winds are strong and can easily gust at speeds exceeding gale force.

A3. Access to Emergency Services:

The site is located close to various existing hospitals and emergency services. The P/Contractor must locate the nearest doctor, hospital, fire station, and City Council services departments (water, electricity, sewerage, etc.) at the outset and when taking site. The P/Contractor must notify the local emergency services of the site layout, site entrance point, etc. The input from the local fire prevention officer may be required from time to time wrt determining the adequacy of fire prevention measures and the associated fire fighting capabilities necessary to protect the construction works and the existing buildings within the ACSA precinct. All emergencies must be closely co-ordinated with the onsite ACSA emergency services. Emergency response (Fire Watch Tower): +27 (0)21 937 1211/1249. SAPS: +27 (0)21 927 2900
A4. The Establishment of a Site Office Compound and Laydown Area as well as Traffic & Pedestrian Management:

The main site office compound will need to be positioned inside the construction zone in the airport precinct as far as possible to allow for easy, effective, and safe access from the main gate to the office compound where H&S induction can be carried out before persons are exposed to construction dangers. Similarly, sub-contractors’ offices and stores would need to be located in such a position that they can enter and exit without personal protective equipment and clothing (entering site in the morning and leaving in the evening).

The laydown area will need to be planned in such a way as to cater for separation of materials and equipment, the safe stacking of materials on compacted, level ground, and to make the necessary provision for the management and separation of waste products and rubble.

The establishment of adequate ‘stacking space’ for construction vehicles on airport premises must be planned into the site laydown and site entrance/exit design so as to minimise the risk of stacking of vehicles on public roadways and obstructing pedestrian walkways in the process. It may be necessary to incorporate a separate entrance and exit gate for vehicles. A totally separate pedestrian/personnel access gate(s) must be provided so as to ensure that vehicles and personnel are separated due to the associated risks involved. This separation must also be planned for the various construction work zones as the construction phasing progresses.

A traffic and pedestrian management plan will need to be compiled by the P/Contractor and will need to be reviewed and revised regularly.

All construction work zones must be fenced off by means of 1.8m high fencing with controlled access gates (a person to be stationed at each access gate to control entry and exit and to control vehicles and personnel movement. Shade cloth is required to be fitted to all fencing to assist with dust control.

A5. Making Use of Local Labour

The requirements for employing local labour has a potential impact on health & safety management from a competence (experience, knowledge, training, qualifications) perspective requiring contractors to undertake the necessary assessments and verifications of such local personnel so as to ensure that the necessary competencies are met specific to the job descriptions set out.

A6. Construction Work within an Operational Precinct

The works will need to be co-ordinated in such a way that ACSA staff, visitors, patrons, maintenance contractors and the like are catered for wrt undertaken their work in a safe and healthy manner with construction related impacts being at all times below the acceptable limits.
Such safety measures must include safe access ways for vehicles and pedestrians; fall protection systems including scaffolding screens, catch nets, crash decks, overhead gantry systems, apron fans and the like so as to afford a 100% fall protected environment adjacent to construction work zones.

The provision of a safe access way through one of the work zones is a contract requirement and must allow for the safe movement of forklifts and pallet trucks and must include a separate walkway for staff. Such access way would need to be complete with an overhead crash deck structure due to the overhead demolition/stripping operations and the future construction of the new warehouse.

A7. Asbestos Work

Asbestos containing materials have been identified by an appointed AAIA of which a report is available. The assessment identified such asbestos containing materials as: Water Tanks.

Asbestos work may only be carried out by an appointed, registered asbestos contractor under the co-ordination of an Approved Asbestos Inspection Authority (AAIA). Such asbestos work must be carried out before the demolitions of the buildings is carried out ensuring the proper separation of the materials.

A8. Baseline Health & Safety Hazard Identification – Inherent Conditions:

<table>
<thead>
<tr>
<th>No.</th>
<th>Danger / Hazard</th>
<th>Yes/No</th>
<th>Risk rating</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Will the works be adjacent to, under, over public roadways?</td>
<td>✓</td>
<td>H</td>
<td>The construction work will take place adjacent to busy roadways and the associated pedestrian walkways both on and adjacent to the ACSA precinct. Operational airport</td>
</tr>
<tr>
<td>2</td>
<td>Will the work be adjacent to, under, over public walkways?</td>
<td>✓</td>
<td>H</td>
<td>Pedestrian volumes are foreseen to be high, both within and outside the ACSA precinct and must therefore be taken into account when planning vehicle access gates and compiling the traffic/pedestrian management plan.</td>
</tr>
<tr>
<td>3</td>
<td>Will the works be adjacent to, under, over public transport routes e.g. railways, taxi rank, bus stops, public cycle routes?</td>
<td>✓</td>
<td>H</td>
<td>All existing access to the airport remains operational</td>
</tr>
<tr>
<td>4</td>
<td>Could poor visibility be a factor i.e. misty conditions, lack of street lights, bend in the road on approaches?</td>
<td>x</td>
<td>-</td>
<td>No abnormal conditions predicted.</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td></td>
<td></td>
<td>Answer</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>--------</td>
</tr>
<tr>
<td>5</td>
<td>Are there discernible walkway tracks/routes crossing the proposed site?</td>
<td>x</td>
<td>-</td>
<td>N/A – the premises is an operational airport; however all construction activities will be hoarded off.</td>
</tr>
<tr>
<td>6</td>
<td>Will the works be adjacent to neighbouring buildings and structures in close proximity?</td>
<td>√</td>
<td>H</td>
<td>The buildings will remain operational and the necessary public protection requirements need to be implemented by the P/Contractor i.e. fall protection, traffic and pedestrian accommodation, fire prevention, noise and dust, electrical safety, etc.</td>
</tr>
<tr>
<td>7</td>
<td>Will the works be adjacent to other construction projects/contracts?</td>
<td>x</td>
<td>-</td>
<td>N/A</td>
</tr>
<tr>
<td>8</td>
<td>Will the works be adjacent to, above, under electrical services e.g. high voltage electrical installations?</td>
<td>√</td>
<td>H</td>
<td>High voltage electrical services have been identified to be running through a servitude through the ACSA precinct Engineers to be consulted</td>
</tr>
<tr>
<td>9</td>
<td>Are there other existing services close to or within the foreseen construction site e.g. sewerage, storm water, water, gas, telecoms?</td>
<td>√</td>
<td>M</td>
<td>All to be indicated on As-built drawings.</td>
</tr>
<tr>
<td>10</td>
<td>Could existing storm water management be negatively influenced by the works?</td>
<td>√</td>
<td>M</td>
<td>The earthworks and future building works would require the management of storm water to be included in the construction management plan with the aim of preventing roadway and pedestrian walkway flooding and soiling.</td>
</tr>
<tr>
<td>11</td>
<td>Will the works be adjacent to, over water environments?</td>
<td>x</td>
<td>-</td>
<td>N/A</td>
</tr>
<tr>
<td>12</td>
<td>Will heritage legislation be triggered and are archaeological findings likely?</td>
<td>x</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>13</td>
<td>Are there any existing buildings and/or structures on the proposed site / work zones?</td>
<td>√</td>
<td>H</td>
<td>Various existing buildings need to be demolished. The presence of asbestos containing materials (ACMs) has also been confirmed.</td>
</tr>
<tr>
<td>14</td>
<td>Has a structural survey of such existing buildings / structures been undertaken?</td>
<td>x</td>
<td>H</td>
<td>None that I know of: The consulting structural engineer has requested that tenderers undertake their own</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Action</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------------------------------</td>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Is the site located in a corrosive environment i.e. close to the ocean?</td>
<td>X</td>
<td>M N/A</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Is there an asbestos inventory report available and has asbestos be identified?</td>
<td>√</td>
<td>L Asbestos containing materials have been identified. Water Tanks. See the AAIA report for further information.</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Apart from asbestos, are any other hazardous materials foreseen e.g. lead, medical waste, sources of radiation, explosive environments, oxygen deficient environments, etc.?</td>
<td>X</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Has contaminated ground been identified?</td>
<td>X</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Is a geotechnical investigation report available?</td>
<td>X</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Does the geotechnical investigation report specify the angles of repose specific to the ground conditions?</td>
<td>X</td>
<td>Not sure Contractor to consult the geotech report and civil engineers for guidelines</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Existing topography wrt inclines, drop-offs, holes, fall hazards?</td>
<td>X</td>
<td>The existing terrain is level and compacted. No existing fall hazards have been identified which are easily accessible to personnel.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Is the presence of dangerous fauna and flora foreseen?</td>
<td>X</td>
<td>No such identified.</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Is there a fire risk foreseen?</td>
<td>√</td>
<td>H There is a risk of fire due to hot works and associated activities during demolitions and stripping of existing steel products i.e. oxy-acetylene gas cutting and grinding. Hot works are also foreseen during the construction of the new buildings.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Is the site isolated and far from emergency services?</td>
<td>X</td>
<td>The site is in a built-up area and close to emergency services. Consult with the ACSA emergency unit</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Is the presence of unrest and crime probable?</td>
<td>√</td>
<td>L The construction work areas will be within an existing precinct with security and fencing in place.</td>
<td></td>
</tr>
</tbody>
</table>
26 Will or has an environmental impact assessment (EIA) been triggered? x - N/A

Danger = anything which may cause injury or damage to persons or property.
Hazard = means a source of exposure to danger.
Risk = Means the probability that injury or damage will occur.
Risk rating = Refer to the risk rating matrix herein below.

B. CONSTRUCTION RELATED ACTIVITIES & SITUATIONS TRIGGERING SIGNIFICANT RISKS

Apart from the inherent conditions identified above, an assessment of the construction methods foreseen has also been made with the aim of assessing the baseline risks associated with such methods.

Contractors must ensure that they include an assessment of the activities listed below in their health & safety plans and preliminary risk assessment documents. This list is not exhaustive and only includes the activities foreseen by the client’s construction H&S agent (CHSA) as posing a substantial risk of injury and/or property damage. The risk ratings (E, H, M, L) are an indication of the perceived risk (injury and/or property damage) assessed by the CHSA based on: severity of injury/damage and likelihood of injury/damage.

The following health & safety control categories must be considered by Contractors and Designers depending on the level of risk (E, H, M, L):

1. Eliminate the hazard (remove the activity altogether)
2. Substitute the hazard (replace the activity with a suitable alternative)
3. Supervision: 3(a) Trade/activity-specific supervision; 3(b) Section/area-specific supervision
4. Written method statement (step-by-step sequence of events incl. the H&S interventions)
5. Engineering controls (barriers, screens, guards, covers, electronics, public protection, etc.)
6. Training: 6(a) H&S Induction; 6(b) HIRA training session; 6(c) Competence training; 6(d) OHS Act training; 6(e) Daily safety task instructions (DSTi’s)
7. Planned task observations (PTO’s)
8. Inspections and records/registers (preventative maintenance)
9. Sign and notices
10. Personal protective equipment (PPE)

Which H&S control categories to consider based on the risk rating category:

- Extreme risk: make use of all categories: 1 – 10
- High risk: 3 – 10
- Moderate: 3, 4, 5, 6(a), 6(b), 7, 8, 9, 10
- Low: 3(b), 6(a), 9, 10

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B1. Baseline Health & Safety Hazard Identification – Construction related activities and conditions Inclusive of designers’ hazards identified:

<table>
<thead>
<tr>
<th>No.</th>
<th>Danger / Hazard</th>
<th>Risk rating prior to control measures</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Traffic and work in close proximity to roadways.</td>
<td>H</td>
<td>The construction work will take place adjacent to busy roadways both within and outside the ACSA precinct. A detailed traffic and pedestrian management plan will need to be complied to the satisfaction of the P/Agent and CHSA.</td>
</tr>
<tr>
<td>2</td>
<td>Pedestrian access.</td>
<td>H</td>
<td>Pedestrian volumes were assessed to be substantial and would need to be well managed both within and outside the ACSA precinct. A detailed traffic and pedestrian management plan will need to be compiled to the satisfaction of the P/Agent and CHSA.</td>
</tr>
<tr>
<td>3</td>
<td>Construction vehicles and mobile plant use including demolitions, earthworks, etc.</td>
<td>M</td>
<td>The use of mobile plant and construction vehicles will be extensive and will need to be very well managed with emphasis on personnel/public vs. plant/vehicle movement on and off site. Site access control and traffic management on public roads will be imperative.</td>
</tr>
<tr>
<td>4</td>
<td>Small plant e.g. petrol generators.</td>
<td>M</td>
<td>Environmental management systems would need to be implemented by the contractors to minimise spills and the like and to ensure the proper management of fuels. Fire risks also need to be managed.</td>
</tr>
<tr>
<td>5</td>
<td>Existing electrical installations and equipment.</td>
<td>H</td>
<td>The protection of all existing electrical installations as well as the underground high voltage cabling must be done under the supervision of a qualified electrician. COC will be required after partial demolition and continued use of existing electrical installations</td>
</tr>
<tr>
<td>6</td>
<td>Temporary electrical installations to the site.</td>
<td>M</td>
<td>Contractor to ensure the safe installation and ongoing management of temporary electrics throughout the construction stage including the appointment of a specialist electrical contractor with project dedicated electrician.</td>
</tr>
<tr>
<td>7</td>
<td>Provide access to site (various work areas), to the site office, and access on site.</td>
<td>M</td>
<td>The P/Contractor is to ensure safe access to the site office and on the actual site. The intention must be to provide a safe,</td>
</tr>
</tbody>
</table>
### 'green' zone between the site entrance and the induction/site office.
Site access must be controlled by means of a full-time person(s) preventing unauthorised access to the work zones. The work zones must be fenced off as per the requirements of this H&S Spec.

#### Earthworks and trenching.

The use of earthworks and trenching plant will be extensive and will need to be very well managed with emphasis on personnel vs. plant/vehicle movement on and off site. Site access control and traffic management on public roads will be imperative. Excavations and trenching will need to be in accordance with the geo-technical science report and all excavations will need to be battered back to a safe angle as determined by the consulting geo-tech engineer.

#### Demolition work.

Demolitions need to be done as per an accepted method statement, accepted by the consulting structural engineer. The removal of large roof sheets and structural steel components will result in high risk activities including the risk of strong winds and rainy conditions.

#### Asbestos work.

Asbestos containing materials have been identified and need to be removed before demolitions can commence. No lagging has been identified. Work may only be carried out by a registered asbestos contractor and under the co-ordination of an AAIA. Refer to asbestos removal plan – Safenet Africa

#### The erection, alteration and dismantling of external scaffolding.

The Scaffold Code to be adhered to. Fall prevention a priority. 100% fall prevention must be achieved and maintained. The scaffold team must all be trained. No scaffold personnel may be permitted to take part in scaffold erection work unless they are qualified as at least a scaffold general worker. Scaffold supervisor to be on site. Public protection must remain paramount throughout due to the close proximity of the existing staff and visitors.

#### The use of extension ladders and step ladders.

Ladders to be the correct length for the job i.e. must be able to extend 1m above the landing being served. Step ladders must be long enough to prevent the use of the top two steps.
<table>
<thead>
<tr>
<th></th>
<th>The use of portable electrical tools such as angle grinders, cut-off saws and electrical extension leads.</th>
<th>M</th>
<th>Trained operators to make use of electrical tools. The correct PPE to be worn. Work benches and safe locations to be identified on site to allow for the safe use of electrical tools.</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Formwork and associated support work structures (including back-propping) – erection, alterations, dismantling thereof.</td>
<td>H</td>
<td>A temporary works designer will need to be appointed by the P/Contractor to oversee the formwork work designs and to undertake certain inspections to sign off the formwork and support work structures. Edge protection guard rails must be fixed to all decking and other formwork where there is a risk of falls.</td>
</tr>
<tr>
<td>15</td>
<td>Delivery and off-loading of materials and equipment to site.</td>
<td>M</td>
<td>Fall prevention systems to be catered for. Stacking and storage areas to be managed and maintained. Stacking supervisor to be appointed as well as the various appointed supervisors/foremen to take charge of this function within their work zones.</td>
</tr>
<tr>
<td>16</td>
<td>Work in fall risk positions where safe platforms cannot be provided e.g. structural steel installations to warehouse building.</td>
<td>H</td>
<td>Personal fall prevention equipment must be provided. Fall prevention must be in the form of life line systems erected and maintained by registered rope access personnel. The use of cherry pickers in place of mobile scaffolds based on the 15m height of the warehouse roof.</td>
</tr>
<tr>
<td>17</td>
<td>Lifting machine use e.g. tower cranes, mobile cranes, truck-mounted cranes.</td>
<td>H</td>
<td>Trained operators and banksmen to be positioned both at rigging and receiving level of building (per crane). A lifting machine manager to be appointed by the P/Contractor to manage all lifting machines, tackle and personnel associated therewith.</td>
</tr>
<tr>
<td>18</td>
<td>Hot works e.g. oxy-acetylene gas cutting during demolitions, welding, grinding/cutting of steel/rebar, water proofing, etc.</td>
<td>H</td>
<td>A hot work permit system needs to be implemented by the P/Contractor. A fire risk assessment must be carried out at the outset on site and regularly thereafter.</td>
</tr>
<tr>
<td>19</td>
<td>Noise</td>
<td>M</td>
<td>Designers to take into account the impact of noise wrt construction activities e.g. grinding and cutting of concrete, brick walls for electrical cabling, core drilling, etc.</td>
</tr>
<tr>
<td>20</td>
<td>Dust in the form of cement and clay dust.</td>
<td>M</td>
<td>This is foreseen while carrying out the onsite mixing of cement, cutting into concrete and brickwork, and the like.</td>
</tr>
<tr>
<td>21</td>
<td>Ergonomic impacts</td>
<td>M</td>
<td>Ergonomics is the study of how a person relates to his or her work station/activity. The decision to make use of certain construction methods should take this into account.</td>
</tr>
<tr>
<td>22</td>
<td>Strong winds.</td>
<td>H</td>
<td>Strong winds can be expected during certain times of the year and will impact on roof work, crane use, concrete pours, and finishing trades.</td>
</tr>
<tr>
<td>23</td>
<td>Heavy rains.</td>
<td>H</td>
<td>Heavy rains will impact on in particular: earthworks, concrete pours, crane operations, scaffold work, roof work, and the like.</td>
</tr>
<tr>
<td>24</td>
<td>Rainwater, Drainage and Water reticulation piping in main building to be plugged off.</td>
<td>L</td>
<td>Contractor to supply method statement on capping of the Rainwater, Drainage and Water reticulation piping to include subsidence hazard identification in line with installation phasing.</td>
</tr>
<tr>
<td>25</td>
<td>Brazing of refrigerant piping</td>
<td>M</td>
<td>All brazing shall be done in strict accordance with the Technical specification and standards referenced therein.</td>
</tr>
<tr>
<td>26</td>
<td>Installing heavy-gauge fire rated ducting.</td>
<td>M</td>
<td>Heavy gauge ducting will be identified on the drawings using a unique colour. Heavy gauge ducting will be identified on the drawings using a unique colour.</td>
</tr>
<tr>
<td>27</td>
<td>Works on the roof level plant area</td>
<td>H</td>
<td>Staging of works to ensure façade / railing is complete or provision of temporary railings. Staging of works to ensure façade / railing is complete or provision of temporary railings.</td>
</tr>
<tr>
<td>28</td>
<td>Installing vertical ducting in riser shafts</td>
<td>H</td>
<td>Installing vertical ducting in riser shafts</td>
</tr>
<tr>
<td>29</td>
<td>Insulating Material on equipment, ducting and piping.</td>
<td>M</td>
<td>Technical specification forbids the use of asbestos based insulating materials or any other material which may be hazardous to human health. Technical specification forbids the use of asbestos based insulating materials or any other material which may be hazardous to human health.</td>
</tr>
<tr>
<td>30</td>
<td>Routine maintenance</td>
<td>M</td>
<td>Access route onto roof to be indicated on architectural drawings.</td>
</tr>
<tr>
<td>31</td>
<td>Physical inspection of damper blades and sealing surfaces.</td>
<td>M</td>
<td>All fire dampers shall be powered from the electrical DB's provided by the HVAC contractor (i.e. one point to lock out). Ensure that fire dampers are isolated before inspecting or working on them.</td>
</tr>
<tr>
<td>32</td>
<td>Standard equipment commissioning, Specialist Equipment (e.g. VRF Units and Chillers)</td>
<td>M</td>
<td>Manufacturer’s commissioning procedures are to be followed. A representative of the manufacturer shall perform the commissioning to ensure that this is done.</td>
</tr>
<tr>
<td></td>
<td>Working at Heights</td>
<td></td>
<td>Approved scaffolding, cherry picker’s, scissor jacks, ladders to be used. Trained personal to operate equipment. PPE (including harness’) to be procured by appointed Contractor and used where necessary. Appointed Contractor HSE representative to ensure safe working procedure and requirements are met/monitored.</td>
</tr>
<tr>
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<td>---</td>
</tr>
<tr>
<td>33</td>
<td>Working on Temporary Formwork</td>
<td>H</td>
<td>Approved scaffolding, cherry picker’s, scissor jacks, ladders to be used. Trained personal to operate equipment. PPE (including harness’) to be procured by appointed Contractor and used where necessary. Appointed Contractor HSE representative to ensure safe working procedure and requirements are met/monitored.</td>
</tr>
<tr>
<td>34</td>
<td>Working within High Voltage areas and Transformer Rooms:</td>
<td>H</td>
<td>Access Control to rooms to be put in place by HSE and Electrical Contractors. Safe working procedures will need to be drawn up and implemented for operation and control of the medium and low voltage equipment. This will need to be completed by the end User who shall employ a competent person for this purpose. Switching to be undertaken by Authorised Personnel and Qualified Operators. PPE to be procured by appointed Contractor and used where necessary. Appointed Contractor HSE representative to ensure safe working procedure and requirements are met/monitored.</td>
</tr>
<tr>
<td>35</td>
<td>Trenching &amp; Excavation</td>
<td>H</td>
<td>Barricading of all trenches along public and workers access. Application of shoring or implementation of angle of repose to prevent trench collapses. PPE to be procured by appointed Contractor and used where necessary. Appointed Contractor HSE representative to ensure safe working procedure and requirements are met/monitored.</td>
</tr>
<tr>
<td>36</td>
<td>Existing Services</td>
<td>H</td>
<td>The bulk of the project will be undertaken in a live working environment, consequently all equipment shall be treated as “Live”. Application and issue of Working Permits. Safe working procedures. Defined handover procedures from Client to Contractor facilitating authorised access and work.</td>
</tr>
<tr>
<td>37</td>
<td>Working in areas with dust, gas, concrete etc.</td>
<td>M</td>
<td>Access Control to areas/rooms to be put in place by HSE and Relative Contractors. PPE to be procured by appointed Contractor and used where necessary.</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appointed Contractor HSE representative to ensure safe working procedure and requirements are met/monitored. Standby diesel generator installations, with the associated diesel storage shall facilities shall be designed in compliance with the statutory regulations which govern the storage and conveyance thereof.</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Lifting Heavy Equipment:</td>
<td>M</td>
<td>Appointed riggers with competency certificates. Approved trolley jacks and lifting used. Trained personal to operate equipment. Maintenance records of all lifting equipment to be available. PPE to be procured by appointed Contractor and used where necessary. Appointed Contractor HSE representative to ensure safe working procedure and requirements are met/monitored.</td>
</tr>
<tr>
<td>40</td>
<td>In so far as access for maintenance and replacement of plant is concerned, the following will be assessed:</td>
<td>M</td>
<td>Internal and external lighting of the facility will be designed in accordance with the statutory regulations governing this with respect to minimum lighting level and its associated uniformity, and will be placed accordingly. Where at height, access thereto will need to be purposefully arranged. Removal and installation of plant via adequate sized service corridors and doorways. Free and safe working space around equipment and plant.</td>
</tr>
<tr>
<td>41</td>
<td>Appointed Contractor to provide record of:</td>
<td>L</td>
<td>AECOM is appointed for normal services, in that we will inspect the site once every two weeks or additionally as and when required by the Client. Inspection Procedure to be determined and incorporated by Client and Contractor. Hold points to be stipulated on QCP’s Material Submittals and Approvals. Visual Inspection Checklist. Cable Test Results. Cable Management Schedules. Asset Schedule. Redlined Drawings. As-built drawings.</td>
</tr>
<tr>
<td>42</td>
<td>Installation of scaffolding for fixing of ceiling mounted devices:</td>
<td>L</td>
<td>Approved scaffolding, cherry picker’s, scissor jacks, ladders to be used. Trained personal to operate equipment. PPE (including harness’) to be procured by appointed Contractor and used where necessary. Appointed Contractor HSE representative to ensure safe working procedure and requirements are met/monitored.</td>
</tr>
<tr>
<td>43</td>
<td>Contractor must refer to the design risk reports from the various designers: AECOM; Edifice; Design Scape</td>
<td>H</td>
<td>Must be attached with this H&amp;S Spec for tenderers information</td>
</tr>
</tbody>
</table>

Danger = anything which may cause injury or damage to persons or property. 
Hazard = means a source of exposure to danger. 
Risk = Means the probability that injury or damage will occur. 
Risk rating = Refer to the risk rating matrix herein below.
<table>
<thead>
<tr>
<th>Consequence of occurrence (Severity)</th>
<th>Likelihood of occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5 - Very likely</td>
</tr>
<tr>
<td></td>
<td>The threat is expected to occur (once per week, say)</td>
</tr>
</tbody>
</table>
| A - Disastrous                      | -Single or multiple fatality.  
- Virtual complete loss of plant, system, structure(s).  
- Permanent widespread ecological damage, not able to be remediated. | Extreme | Extreme | Extreme | Extreme | High |
| B - Critical                        | -Disabling injury (LTI) resulting in a Section 24 injury or occupational illness i.e. amputation, loss of consciousness, etc.  
- Extensive damage to plant or system – section 24 incident.  
- Heavy ecological damage, costly, lengthy remediation. | Extreme | Extreme | Extreme | High | High |
| C - Serious                         | -Any lost time injury (LTI) resulting in one or more consecutive days off work.  
- Significant damage to plant or system.  
- Major ecological damage but able to be remediated. | Extreme | High | High | Moderate | Moderate |
| D - Significant                     | -A medical treatment injury (MTI) i.e. any injury resulting in a worker requiring medical treatment other than first aid, but not being booked off work.  
- Damages impact on budget and program.  
- Localized ecological damage, easily remediated. | High | High | Moderate | Low | Low |
| E - Minor                           | -Minor First Aid Injury or an injury not requiring treatment.  
- Minor damage to plant or system.  
- Negligible ecological damage, may or may not require any remediation. | Moderate | Moderate | Low | Low | Low |
Annexure H: Temporary Works Inspections Flow Chart

**Designer - CR 12(1)**
TW designed by a competent person appointed in writing—Drawing available on site signed by designer

**Check equipment – CR 12(3)(e)**
All equipment checked for suitability prior to being used—show proof of the same (competent person)

**TW Designer CR 12(1)**
To inspect and approve the erected TW on site as build according to his drawing/design—CR 12(1)
Can be a separate person but must carry a CR 12(1) appointment

**TW Inspector CR 12(3)(f)**
Pre-Load authorization to be given can be in writing (Say prior to load steel, compressor concrete pump, etc.)—CR 12(3)(f)

**Supervision CR 12 (3)(a)**
Erect the TW on site under supervision of this competent person

**TW INSPECTOR CR 12(3)(f)**
1. Inspect prior to placement of concrete, inclement weather, additional loads
2. During Placement of concrete
3. Daily after placement until it is stripped out.
   ✓ This will include back propping if applicable

**TW SUPERVISOR CR 12(3)(a)**
1. When concrete has acquired sufficient strength give written permission that TW may be stripped
Construction Regulation 5(1)(h) requires the Client to assess every Principal Contractor’s competence and resources to carry out the work in question safely and without negative effects to the health of its personnel and/or other persons who could be affected by the construction work in question.

It is with this in mind that the following questions are posed. It is requested that the respondent answers all the questions below and provides the necessary supporting documentation.

1. **Company profile or similar**, detailing such information as: years in existence; experience and qualifications of senior company officials; support systems e.g. plant yard, maintenance workshops, in-house plant, etc.

2. **CIDB** (Construction Industry Development Board) grading if any.

3. **Registration with any industry associations** e.g. SAFCEC or MBA.

4. **Previous contracts of similar scope and complexity to the one in question.** Note that your appointment as the Principal Contractor will include the oversight and co-ordination of other trades based on the specific scope of work set out in the tender. Have you managed such trades before?

5. **A copy of a preliminary risk assessment document and health & safety plan compiled for a similar project within the past two years which was approved by a Client’s Health & Safety Agent. Proof required.**

6. **An H&S audit** conducted on a sub-contractor within the past two years – audit report required.

7. The contents of a typical company **health & safety file** – index page will do (must carry company logo or similar).

8. **What calibre of construction manager and foreman would you envisage placing on this project – experience, qualification, knowledge, and training?** It is understood that you may not have these persons earmarked at this time however a mere indication of the competence of such person will do.

9. Does your company employ a safety officer or do you consult with an outside safety consultant? Are these persons registered with the SACPCMP (South African Council for Project & Construction Management Professions) – proof will be required?

10. **Proof of valid workman’s compensation** will be required in the form of a letter of good standing. **Public liability insurance** will also need to be proven.

11. **Incidents/Accidents** - Provide your company incident/injury stats for the past two years.
MOBILE SCAFFOLDING AND SCAFFOLD TOWERS:

To follow is a list of requirements to be complied with. These requirements are not only site-specific, but are required by law on all sites.

1. Mobile scaffolds may only be used on level surfaces.
2. The castors/wheels must be the same size, have locking pins and manually operated brakes.
3. Frame scaffolds must be erected with base ledgers / foot ties to prevent the feet from spreading apart.
4. Plan bracing is critical on all mobile scaffolds and towers.
5. Always follow the manufacturers / supplier’s specifications for erection. Your foreman should have a copy of the erection procedures and specification sheet on site.
6. Always plan your scaffold before erection and ensure that you have the correct material before starting.
7. The maximum height of a mobile scaffold and static tower is calculated as follows:
   Max. Height = 3 x minimum base width.
8. Scaffold platforms must be properly boarding with guardrails and toe boards where the risk of falling materials exists.
9. When moving a mobile scaffold, all materials and persons must be removed.
10. Mobile scaffolds must be inspected on a weekly basis while they are erected. The results of the inspection must be recorded in a scaffold register, held by the foreman.
11. Scaffolding erectors must be trained in the erection procedures of their specific type of scaffolding.
12. Safe access must also be provided to all working platforms.
13. Where safe platforms cannot be provided then safety harnesses must be provided and used by workers.

SCAFFOLDING IS GOVERNED BY SANS CODE 10085-1: 2003 AND IS INCORPORATED INTO THE OCCUPATIONAL HEALTH & SAFETY ACT 85/1993
# ANNEXURE K

## Project: Enabling Works for ACSA CTIA_T2

### Acknowledgement of receipt:

I, ___________________________________________ representing ___________________________________________________________ Principal Contractor / Contractor have received the Health and Safety Specifications in good order and shall ensure that the Principal Contractor / Contractor and its personnel comply with all obligations / requirements / specifications in respect thereof. This document is legally binding in terms of Regulation 5 of the Construction Regulations (2014).

__________________________________                 ______________________
Signature of Principal Contractor / Contractor                Date

__________________________________                  ______________________
Signature of Client / Client’s Agent                                 Date

Comments: