PART C3: SCOPE OF WORKS

C3.1 SCOPE OF WORKS

NEC3 Engineering and Construction Contract June 2005

( amended June 2006 and April 2013)

Scope of Works compiled in accordance with SANS 10403 where reference is made to Annex A of SANS 1921-1:2004

Project title: REFURBISHMENT OF THE DROP OFF CANOPY & RELATED ROOF SUPPORTS (TERMINAL & RETAIL BUILDING) AT KING SHAKA INTERNATIONAL AIRPORT (KSIA)

Bid no: DIA 6136/2019/RFP Project Code: N/A

SECTION 1 (SANS 10403)

1. DESCRIPTION OF THE WORKS

1.1 EMPLOYER’S OBJECTIVES

The objective is to:

- Refurbishment of the existing drop off canopy, related roof supports (Structural Steel Components at the Terminal Building & Retail Building).
- Achieve >40 years remaining useful life of the said infrastructure with the necessary maintenance input over its lifecycle.

Non-Disclosure

All information including design information regarding this project may not be shared with 3rd parties without written consent of ACSA Procurement and ACSA Legal. All parties and companies involved in this project may be required to sign a non-disclosure at appointment.

1.2 OVERVIEW OF THE WORKS

A significant amount of deterioration to the structural supports at KSIA terminal building have been identified. The intent is to restore full functionality to the support structure. Further to the structural component, general refurbishment will be required to restore and improve on the overall aesthetics of the canopy.

1.3 EXTENT OF THE WORKS

The contract comprises structural remediation of the drop off canopy & related steel structures, remediation of rainwater disposal systems and a general refurbishment to the existing canopy - intended to restore and enhance
aesthetics. The construction work is to be priced as **night works** (work executed after operational hours). The following list is provided as an outline of the scope of work:

The remedial work should take place in a phased manner, with focus placed on the listed areas according to their priority. The listed areas are sorted according to priority from the highest to least critical area.

**Phase 1 & 2**

- Terminal Drop off (Western Façade external structure)
- Terminal Southern Façade (external structure)
- Terminal Northern Façade (external structure)
- Retail Building (external structure)

**General**

(a) Provision of traffic management plan; traffic accommodation to be done during construction. Plan to include daily / weekly notification of planned works for publication to social media platforms.

(b) Detailed inspection of structure by specialised and registered professional to validate structural integrity of the structure. Inspection required on the inside of the hollow sections to confirm whether or not corrosion is developing from the inside. Some column members contain rainwater downpipes which may contribute to corrosion due to the deterioration of the pipe.

(c) Provide temporary bracing and props that is to be installed to the canopy structure prior to repairs being undertaken.

(d) Provide suitable scaffolding, staging and screening that is to be erected prior to performing the remedial work.

(e) All services (security cameras, speakers, lights, trolleys etc.) influenced by the construction work need to be temporarily relocated. The intended function of these services needs to be active during construction and interruptions need to be minimised.

(f) Ensure that broken/damaged cladding and louvres are repaired/ replaced where necessary.

(g) All residuals/dust/airborne particles produced as a result of construction work (water jetting, grinding, sanding, painting, sand blasting etc.) to be kept to a minimum. Measures to be put in place in order to suppress the settling of particles on surrounding buildings; minimise airborne particles from settling and negatively influencing the aesthetics of these elements. All surrounding buildings and features to be covered to a reasonable extent. All surfaces which are affected should be cleaned after each shift.

(h) Provide a maintenance plan indicating frequency and maintenance input required to prolong the life of the refurbished infrastructure.

(i) Refurbish bird netting (Western façade)

(j) “King Shaka International Airport” sign to be refurbished

**Steel refurbishment**

(k) Ensure all areas with flaking paint and corroded metal be mechanically wire brushed and ground down to shiny steel

(l) Ensure all corroded welds are rewelded to restore integrity.

(m) Ensure that all corroded bolts, washer plates and fixings are replaced with hot dipped galvanised grade 8.8 bolts and washers to match existing sizes.

(n) Ensure that all de-rusted areas be painted with an approved coating system as stipulated in the specification.

(q) Should the contractor identify sections that are severely corroded and that pose high risk, these sections should be cut out and replaced with new (size as per original design). Shop drawings are to be provided by the contractor for approval. High risk sections are elements where the thickness of the element has reduced to such an extent that the structural integrity of the structure is compromised and routine maintenance methods won’t be able to rectify the issue. Hollow sections should also be assessed on the inside and the feasibility of replacing such sections are to be evaluated.

**Rainwater system refurbishment**

(q) Replace all shutter ply boards with marine ply to match existing or superior support to the approval of ACSA.

(r) Replace gutters along length of terminal building to match existing fibre glass gutters or equal approved.

(s) Provide new 250mm diameter downpipes inside the circular steel columns to prevent contact between water and metal on the inside of the truss support.

(t) Ensure that the sprinkler system is inspected for leaks and/or deterioration over the drop off canopy and report on findings and remedial action.
Electrical

(u) Ensure that damaged and/or broken electrical fixtures and fittings are repaired/replaced
(v) Provide a proposal on improvements to enhance the overall lighting and aesthetics where necessary

**Phase 3**
- Terminal Building – Eastern façade
- Terminal Building Corridors – All exposed structural supports
- Refurbish bird netting (Eastern façade)
- “King Shaka International Airport” sign to be refurbished

Activities for Phase 3 are similar to that given for Phase 1 & 2

1.4 LOCATION OF THE WORKS

The site is located at the Terminal Building & Retail Building of King Shaka International Airport:

- Phase 1: Western, Northern, Southern façade external structure
- Phase 1: Rainwater gutter
- Phase 2: Retail building external structure and rainwater gutter
- Phase 3: Eastern façade

1.5 TEMPORARY WORKS

Temporary access is required for the works. Due to operational constraints, all areas to remain operation for the duration of the works. The contract is to provide for temporary access platforms, scaffolding and related structures
& equipment that will facilitate the safe execution of the works. Disruption to Airport operations will not be tolerated. All temporary works to be removed upon completion.

1.6 TRAFFIC ACCOMODATION

Continual movement of traffic will need to be maintained. No stopping of traffic will be tolerated. The contractor should plan and erect all scaffolding or any temporary works in such a manner to allow for traffic to flow freely.

2 ENGINEERING

2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Responsibilities for design and related documentation (as per SANS 1921-1:2004 Strategy C – Design and build):

<table>
<thead>
<tr>
<th>Activity</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain the necessary approvals from relevant authorities and submit documents to relevant authorities</td>
<td>Contractor</td>
</tr>
<tr>
<td>Provide design concept and associated concept drawings</td>
<td></td>
</tr>
<tr>
<td>Provide preliminary working drawings</td>
<td></td>
</tr>
<tr>
<td>Provide detailed design and related construction drawings</td>
<td></td>
</tr>
<tr>
<td>Design temporary works</td>
<td></td>
</tr>
</tbody>
</table>

2.2 EMPLOYER’S DESIGN

Structural condition assessment report is provided to guide the remediation.

2.3 DESIGN BRIEF

The appointed contractor will require professional services to provide detailed scope, assessments and designs for the execution. These services include but is not limited to the services of a Professional Structural Engineer, Professional Electrical Engineer, Specialist services engineer and a temporary access engineer. (Please note that the structural engineer and health and safety professional are to be site based for the duration of the contract. Should these key individuals delegate the responsibility to other staff under their supervision, then the subordinate shall be appointed in writing and legally empowered to act on behalf of the key individual). These services will need to align to the scope of work provided by ACSA and is to be subject to the approval of ACSA’s appointed representatives.

2.4 DRAWINGS

All drawings will be distributed to site meeting attendees on their request. Non-Disclosure agreement will be signed.

2.5 DESIGN PROCEDURES

High Level Overview:

- ACSA to appoint a contractor based on a “Design & Build” strategy.
- The contract will be appointed based on a NEC 3 – Option A – Priced contract with activity schedule. The activity schedule is provided by the employer for ease of pricing.
- The contract includes a professional team who will specify and design the remedial works.
- All specifications and designs to be approved by ACSA representatives in writing prior to execution.
- Quality assurance checks shall be performed by ACSA representatives with each key activity.
- Only once approved, can the contractor proceed with the works.

3 PROCUREMENT
3.1 PREFERENTIAL PROCUREMENT PROCEDURES

This bid will be subject to the implementation of the Preferential Procurement Regulations, 2011 pertaining to the Preferential Procurement Policy Framework Act, Act Number 5 of 2000.

3.2 RESOURCE STANDARD PERTAINING TO TARGETED PROCUREMENT

- NOTE: This project will be adjudicated as exceeding R 1,000,000.00
- A minimum BBBEE level 4 will be required
- A minimum CIDB grading of 6 SL (The development, extension, installation, renewal, removal, renovation, alteration or dismantling of structural steelwork and scaffolding) will be required.

3.3 SCOPE OF MANDATORY SUBCONTRACT WORK

Access to restricted areas will be needed for the successful completion of the works. The contractor will need to make provision for the appointment of "Avsec Certified" security personnel to be present for the duration of the activities in restricted areas.

3.4 PREFERRED SUBCONTRACTORS/SUPPLIERS

See specification for preferred suppliers. Similar approved suppliers may be used.

3.5 SUBCONTRACTING PROCEDURES

All agreements entered between the main contractor and sub-contracting entities are strictly between the contracting parties. The main contractor will remain accountable for the full implementation of the works.

4 CONSTRUCTION

4.1 APPLICABLE SANS 2001 STANDARDS FOR CONSTRUCTION WORKS

The Contractor is referred to the "Model Preambles to Trades - 2008", any "Supplementary Preambles", the Electrical Specifications and Mechanical Specification for full descriptions of materials and methods referred to in these Bills of Quantities/Lump Sum documents, insofar as they apply. The Contractor is advised to study the "Standard Preambles to all Trades", any "Supplementary Preambles", the Electrical Specifications and Mechanical Specification, before pricing Bills of Quantities/Lump Sum documents.

Where the description in the Bills of Quantities/Lump Sum documents differ from those in the Standard Electrical Specifications, the descriptions in the Bills of Quantities/Lump Sum documents are to apply. No claim whatsoever will be allowed in respect of errors in pricing due to brevity of description of items in the Bills of Quantities/Lump Sum documents which are fully described when read in conjunction with the relevant Preambles and/or Specifications. Suppliers of materials and the like, whose quality systems apply with one or more of the SABS/SANS ISO 9000 Series should be used whenever possible in the absence of a particular SABS/SANS Specification Standard Mark.

Wherever the words "shall be deemed to be included in the description", "shall be stated" or other words having the same effect, appear in the Standard System, it shall be deemed that all descriptions in these Bills of Quantities/Lump Sum documents incorporated such inclusions and statements whether specifically stated or not.

Whenever reference is made to "Sub-Contractor", "Nominated Sub-Contractor" or the like in the specifications included or referred to in these Bills of Quantities/Lump Sums documents, it shall be deemed to mean "Contractor" as defined.

The Contractor is hereby informed that where SABS/SANS Specifications are referred to in these Bills of Quantities/Lump Sums documents and Specifications thereto, then ONLY the Specification of Work Clauses will apply. The method of measurement and payment clauses will NOT apply to this Contract.

4.2 APPLICABLE NATIONAL AND INTERNATIONAL STANDARDS

The Contractor is referred to the following documents whether attached to this document or not:

- Specification for HIV/AIDS Awareness (CIDB)
- Specific Construction, Safety, Health and Environmental
- Model Preambles for Trades 2008
- General Electrical Specification
- SABS 064: "Preparation of steel surfaces for coating"
- SABS 763: "Hot-dip (galvanized) zinc coatings"
4.3 PARTICULAR / GENERIC SPECIFICATIONS
See C3.2 Particular Specification for the specification of:
- Corrosion protection
- Electrical/lighting works

4.4 CERTIFICATION BY RECOGNIZED BODIES
- Engineering Council of South Africa: Registered Professional Structural Engineer

4.5 AGRÉMENT CERTIFICATES
Not applicable

4.6 PLANT AND MATERIAL PROVIDED BY THE EMPLOYER
Not applicable

4.7 SERVICES AND FACILITIES PROVIDED BY THE EMPLOYER
A designated area will be allocated to the appointed contractor on appointment for site establishment where the necessary offices, ablution and storage facilities shall be erected by the contractor.

4.8 OTHER SERVICES AND FACILITIES
The Contractor shall provide any artificial lighting which may be necessary or required for the proper execution of the works, and provide electric power and water required by all Sub-Contractors, Nominated Sub-Contractors and Sub-Contractors appointed directly by the Administration.

The Contractor shall give all notices and pay all fees in connection with temporary electrical and water connections and shall connect temporary Electrical and Water meters for and pay for all current and water consumed.

The Contractor is advised that the permanent light fittings and water points of any kind installed in the Works are not to be used to provide temporary lighting and supplement water requirements for construction purposes.

4.9 MANAGEMENT OF WATER
Contractor to provide a water conservation plan for the duration of the works.

5 MANAGEMENT

5.1 APPLICABLE SANS 1921 STANDARDS
Bidders are referred to:
SECTION 2: SPECIFICATION DATA ASSOCIATED WITH SANS 1921-1:2004 IN THIS DOCUMENT

5.2 RECORDING OF WEATHER
The Contractor shall keep record of abnormal climatic conditions to facilitate the adjudication of claims for extension of the contract period. Refer to Contract Data for claimable rain days related to delays.

5.3 KEY PERSONNEL
As stipulated in the tender data, the four key resources required in managing and delivery of the project are the Structural Engineer, Contracts Manager, Site Agent and Health and Safety Officer. The bidder must ensure that the required resources are compliant in terms of Construction Regulation (2014) pertaining to competency, skills, responsibility and professional registration. The Bidder must ensure that the key resources have a comprehensive understanding and applicability of the NEC Contract Agreement stipulated in the contract data. The employer’s
expectation is that the key resources have the necessary experience in Design, Managing, scheduling, planning and delivery of the works.

5.4 MANAGEMENT MEETINGS

In order to facilitate the smooth functioning of the Works and to ensure the closest co-operation between all the parties concerned, the Employer will call for regular meetings to be held on the site, at which a senior member of the Contracting firm and the General Foreman of the Works will always be required to be present. In addition to the above, other persons will be required to attend these meetings as and when their presence is necessary, e.g., Consultants in all disciplines, representatives of the various Sub-Contractors, etc.

Proper minutes of these meetings will be kept by the Employer’s appointed representatives and copies will be circulated to all persons attending the meetings and to others who need to be kept informed.

5.5 FORMS FOR CONTRACT ADMINISTRATION

Written correspondence to managed in terms of the NEC contract. ACSA may supply templates for populating as may be needed in the execution of the contract.

5.6 ELECTRONIC PAYMENTS

The Contractor shall provide all required information to the Employer to facilitate electronic payments upon request. Note: Payments will be in compliance to ACSA’s finance guidelines.

5.7 DAILY RECORDS

The Contractor shall keep daily records of people and equipment employed as well as a site diary in respect of work performed on the site. At the end of each week the Contractor shall provide the principal agent with a written record, in schedule form, reflecting the number and description of tradesmen and labourers employed by him and all sub-contractors on the works each day. At the end of each week the Contractor shall provide the principal agent with a written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools, currently used on the works.

5.8 BONDS AND GUARANTEES

The Contractor shall within 14 calendar days of award, to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data.

5.9 PAYMENT CERTIFICATES

Requirements will be in accordance with the employer’s prescriptions.

5.10 PERMITS

The Contractor is advised that, in the case of an existing building or institution, all security measures in force will remain in operation and he must acquaint himself and his Employees with them as he and his Employees will at all times be subject to these measures.

The Contractor will on no account extend his operations beyond the confines of the building site as indicated by the Employer and must ensure that all his Employees are made aware of these limits. Any Employee disregarding this instruction and found outside the limit of the building site without authority, shall be redeployed immediately and shall not again be employed on this Contract.

The Employer will accept no responsibility whatsoever for damage to or the loss of plant, materials, etc., from the site. The Contractor is to provide Department of Labour permits and ACSA working permits for persons working on site.

Access to Building

Location of the project site is on the Landside and Airside of the airport. However, the service provider will be required to apply for airport access permits and other work permits prior and during execution of the project.
In the process of applying and obtaining airport access permits, the permit office is required in terms of the National Keypoint Act to conduct criminal verification for all employees working at the airport. The Bidder will thus be required to ensure that the Human Resources assigned to this project have no existing or pending criminal records. No permits will be issued to individuals with criminal records (Civil, Traffic Infringement, etc).

5.11 PROOF OF COMPLIANCE WITH THE LAW

The following certificates must be provided before first delivery is taken:

- HIV/STI Report (Bound into this document)
- Electrical Compliance Certificate
- Plumbing Compliance Certificate
- Lightning Certificate
- waterproofing guarantee certificates
- Electrical and Mechanical test certificates
- Plumbing and drainage pressure test certificates
- Fire Compliance Certificate
- SANS 10400-A:2010 compliance certificates
- Latest National Building Regulation

5.12 INSURANCE PROVIDED BY THE EMPLOYER

As per the Employer's insurance schedule

SECTION 2

SPECIFICATION DATA ASSOCIATED WITH SANS 1921-2004

Clause The requirements for drawings, information and calculations for which the Contractor is responsible are:

Numbers

4.2.1 The responsibility strategy assigned to the Contractor for the works is:

Strategy C (Design and Build)

4.2.2 The structural engineer to be appointed by contractor.

4.2.3 Drawings & other info are to be submitted in accordance with the contractor’s programme

4.3 The planning, programme and method statement are to comply with the following:

- Be based on night work
- Show critical path activities and their dependencies
- Indicate slack on each activity
- Indicate milestone dates for each activity
- Indicate phased implementation as per SoW

4.12.2 Samples of materials

The work is to be executed with materials as provided in the specification or similar, and in the most substantial and workmanlike manner under the inspection of the Employer and to his satisfaction.

The Contractor shall furnish, without delay, such samples as called for or may be called for by the Employer, who may reject all materials or workmanship not corresponding with the approved sample.
The samples of materials, workmanship and finishes that the Contractor is to provide and deliver to the employer are:

1. Structural components sample.
2. Coating sample.
3. Light fitting sample.

4.12.2 Fabrication drawings that the contractor is to provide to the employer are:

Shop drawings to be provided wherever applicable

4.12.3 Office accommodation, equipment, accommodation for site meetings and other facilities for use by the employer and his agents are:

N/A

4.14.6 The requirement for provision and erection of signboards are:

Supply, erect, maintain and remove at completion a painted notice board, as per drawing available from offices of the employer’s Agent. Only the official notice board is to be displayed on the site and no Sub-Contractor's boards will be permitted. The Contractor, at his own cost, may provide a board on which all sub-contract firms' names may be sign written. The notice board is to be to the approval of the Employer and is to be maintained in first class condition and placed where directed at the entrance to the site and remain there for the duration of the Contract.

4.17.1 Requirement for the termination, diversion or maintenance of existing services:

Should the Contractor come in contact with any cables or pipes during construction, immediate notification must be made to the Employer and all work in the vicinity of such cables, pipes, etc., shall cease until authority to proceed has been obtained from the Employer. Should the Contractor damage cables or pipes resulting in a disruption of services to an existing institution such damage shall be repaired immediately.

4.17.3 Services which are known to exist on the site:

- Electrical infrastructure
- Mechanical infrastructure
- Fire prevention infrastructure
- I.T (Information Technology) infrastructure
- CCTV camera system
- Public announcement (speaker) system

The contractor should make sufficient provision for the protection of existing services. Should any service be damaged or interrupted, the cost of repair will be on the contractor's own account.

4.17.4 Requirement for detection apparatus

Appropriate equipment to be used for the inspection, detection and testing of corrosion and paint application on steel members.

No equipment required for the detection of underground services.

4.18 Additional health and safety requirements are:

By the submission of a bid, any Bidder will, if awarded the contract to which this bid document relates, be deemed to be the mandatory as envisaged by Section 37 (2) of the Act. As a mandatory the successful Bidder will be deemed to be the “principal contractor” and an employer in his/her/their own right with duties as prescribed in the Act and accordingly will be deemed to have agreed to be solely responsible for ensuring that in connection with the service to which this bid document relates, all work will be performed...
and machinery and plant used in accordance with the Act. Should the Contractor, for whatever reason be unable to perform as required by the Act, the Contractor undertakes to inform the Employer accordingly.

Bidders are advised that it is a Condition of this Bid that a ‘Construction Phase Safety, Health and Environmental Plan’ that specifically relates to the project for which bids are being submitted and must be prepared by the Bidder and submitted with the other bid documents at the time of bid. Failure to do so will invalidate the bid.

Bidders are therefore advised to study the ‘Construction Safety, Health and Environmental Specification’ which is issued as part of this bid document, the Model Preambles to Trades - 2008, any project Specification included in this bid document and any and all drawings which are referred to and issued as part of this bid document before preparing their own project specific ‘Construction Phase Safety, Health and Environmental Plan’. Bidders are also advised that such a plan which is submitted with a bid but is incomplete or considered inadequate by the Employer or his Representative will invalidate the bid.

The Contractor will be deemed to have satisfied himself with his obligations in terms of the Act and to have allowed for all costs arising from compliance with the Act as no claim for extra costs arising from compliance with, and obligations in terms of the Act will be entertained.

Attached hereto is the Baseline Risk Assessment and Health and Safety Specification according to Clause 5(1)(a) and 5(1)(b) of the Act.
C3.2 Particular Specification

Project title: REFURBISHMENT OF THE DROP OFF CANOPY & RELATED ROOF SUPPORTS (TERMINAL & RETAIL BUILDING) AT KING SHAKA INTERNATIONAL AIRPORT (KSIA)

CORROSION PROTECTION

1. SCOPE

1.1. This specification covers the requirements for protective coating of iron and steel structures against corrosion and must be read in conjunction with the main specification as well as the following (latest editions):

- SABS 064 "Preparation of steel surfaces for coating"
- SABS 763 "Hot-dip (galvanized) zinc coatings"
- SABS 1091 "National colour standards for paint"
- BS 5493 "Code of practice for protective coating of iron and steel structures against corrosion"

2. TYPES OF CORROSION PROTECTION TO BE USED

2.1. The coatings specified in this specification are chosen according to BS 5439, Table 3, part 9, to ensure that the condition of the surface will be at least RE2 on the European scale of degree of rust, after 10 years in an environment of frequent salt spray, chemicals and polluted coastal atmosphere. During the 10 years, the normal maintenance painting will be done.

2.2. The paint manufacturer shall guarantee the paint for at least 10 years.

2.3. Should a tenderer wish to offer coating systems other than those specified, as an alternative, he shall submit full technical details and a list comparing all appropriate details of the alternatives proposed, with the original specified. Only the best quality paint systems will be allowed.

2.4. Tenderers must ensure that the different coats they offer in their tenders are compatible with each other.

2.5. All galvanized components including bolts and nuts but excluding walkway gratings, must be painted with the specified system, unless otherwise approved (see table below).

2.6. The paint manufacturer's recommendations for the application of the different coating systems, curing time before handling or application of subsequent coats, health and safety recommendations etc. must be carefully adhered to.
<table>
<thead>
<tr>
<th>Substrate</th>
<th>Coat No</th>
<th>Generic Description</th>
<th>Approved Brand Products</th>
<th>Dry Film Thickness (µm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3CR12 steel</td>
<td>1</td>
<td>Surface tolerant epoxy primer</td>
<td>DULUX / SIGMA Sigmacover primer</td>
<td>65-75</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>INTERNATIONAL (PLASCON) Intergard 269</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STONCOR (CHEMRITE COATINGS) Carboline 193 Primer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Two component recoatable, polyurethane finish (Gloss)</td>
<td>DULUX / SIGMA Sigmadur gloss</td>
<td>65-75</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>INTERNATIONAL (PLASCON) Interthane 990</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STONCOR (CHEMRITE COATINGS) Carboline 134</td>
<td></td>
</tr>
<tr>
<td>Galvanized Steel</td>
<td>1</td>
<td>Surface tolerant epoxy primer</td>
<td>DULUX / SIGMA Sigmacover Primer</td>
<td>65-75</td>
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</tr>
</tbody>
</table>
2.7 Paint contractors must have a quality management system which must be submitted to the Engineer for approval before commencement of the work.

2.8 Galvanizing shall be done to SABS 763 heavy duty hot dip galvanizing to a thickness of at least 85 µm. Electroplated components in zinc or cadmium are not acceptable.

2.9 All mounting bolts, nuts, washers and brackets as well as all fixing bolts, studs nuts and washers shall be of stainless steel (unless specified otherwise in the scope of work). Fixing rivets shall be of either stainless steel or brass.

2.10 High tensile bolts for friction grip joints must not be galvanised (unless specified otherwise in the scope of work) and must be primed and painted after installation. High tensile bolts must be certified.

2.11 The full paint system shall be applied to all surfaces which are to be covered with wear pads, linings etc.

2.12 For steelwork which will be transported over long distances and erected on site the two pack epoxy primers is preferred.

3. SURFACE PREPARATION (NEW ELEMENTS)

3.1 All steel surfaces shall be detergent washed and fresh water rinsed to remove all oil, grease and surface contaminates before shot blasting.

3.2 Sharp edges shall be radius and major roughness of welds shall be removed by grinding. Welding spatter and flux shall be removed.
3.3. Components manufactured from hot rolled steel sections and steel plate shall be blast cleaned to base metal in accordance with SABS 064 grade SA2½ - very thorough blast cleaning, to remove all mill scale, rust, weld spatter etc.

3.3.1. “Sharp” chilled iron shot, chilled iron grit, or granular abrasive slag is to be used to produce a proper degree of surface roughness.

3.3.2. Blast profile shall be determined by micrometer profile gauge, Keane-Tator surface profile comparator or Testex press-o-film or similar approved.

3.3.3. The profile height shall be between 40 and 50 µm at any point.

3.4. Good quality blast cleaning and spray painting equipment shall be used. Air used for spraying and blast cleaning shall be free from all traces of oil, water and salinity. Water and oil traps must be fitted to all equipment.

3.5. Wheel abrading equipment shall not be used unless an angular profile the same as clause 3.3.3 is achieved.

3.6. When wet blasting is done the primer shall be applied before oxidization starts or surface contamination occurs.

3.7. Components manufactured from 3CR12 steel shall be lightly abraded. The components shall then be passivated by using a mixture of 10 - 15% nitric acid in water which is rinsed off after 10 - 15 minutes. The surface shall be neutralized to pH 7 before it is coated.

3.8. Hot-dip galvanized components, galvanized bolts and nuts etc. shall be lightly abraded with a galvanizing pre-cleaner. The components shall then be washed with detergent and water and washed down with clean water until a water break free surface is achieved. Allow to dry thoroughly.

4. FIELD TOUCH-UP PAINTING

4.1. Damaged and unpainted areas, fasteners, welds, etc. shall be cleaned by wire brushing with hand tool or power tool in a manner which will minimize damage to sound paint. Grinding will not be allowed. Rust spots shall be cleaned to bright metal. Thick edges of old paint abutting on bare metal surfaces shall be feathered by scraping and sanding.

4.1.1. Where welding is required on areas already coated with the coating system, the coat should be stepped back for ± 30mm around the weld area.

4.2. The paint shall be applied to match the original coats in accordance with the manufacturer’s recommendations for the specific paint system.

Note: Inorganic zinc primers shall not be re-covered with an inorganic primer, but only with an organic zinc primer.

4.3. Areas of damaged galvanizing shall be repaired with an approved cold galvanizing product or metal sprayed by the wire spraying process with Zinc, and then touched up with the specific paint system.

5. MAINTENANCE PAINTING OF STRUCTURES

5.1. Areas which are only lightly corroded must be cleaned by means of high pressure water blasting or wire brushing by power tool and the following system applied:

<table>
<thead>
<tr>
<th>Coat No</th>
<th>Generic Description</th>
<th>Approved Brand Products</th>
<th>Dry Film Thickness (µm)</th>
</tr>
</thead>
</table>
| 1       | Surface tolerant two pack epoxy primer with aluminium pigments | Dulux/SIGMA Aluprimer
STONCOR (CHEMRITE COATINGS)
Carbonastic 15
INTERNATIONAL (PLASCON)
Intergard 468, | 125-150 |
5.1.1. Alternatively, the Noxyde paint system can be used, consisting of two to three coats of water based Noxyde paint to achieve a DFT of 350 to 400 microns. Where the Noxyde system is used on areas other than slightly corroded structural areas, the following additional requirements must be observed:

5.1.1.1. Very smooth surfaces (e.g. 3CR12, stainless steel or hot-dip galvanized components, bolts, nuts and fittings, and HT bolts): Parts must be thoroughly degreased using OptiDegreaser, washed down with potable water, and immediately when dry, a single coat of OptiPrimeAqua applied.

5.1.1.2. Paintable flexible sealant/mastic: Only sealant approved by the paint manufacturer may be used, and an initial coat of OptiPrimeAqua applied over it before the further coats of Noxyde are applied.

5.1.1.3. Bolted/riveted connections: After blasting or and/or cleaning as required, apply a coat of OptiPrimeAqua and an additional stripe coat of Noxyde, in contrasting colour, to all bolt/nut and plate edges and crevices.

5.2. The adhesion of old coatings must be verified by doing a cross cut adhesion test on selected areas.

5.3. The compatibility of the new paint system on the old coating must be tested and guaranteed in writing by the paint supplier.

5.4. The work and coating system must be guaranteed for a minimum of 10 years.

5.5. All heavily corroded areas must be shot blasted to minimum SA2 and the three coat system indicated in clause 2.5 applied.

5.6. Areas where the old coating is still sound need only be high pressure cleaned with a suitable solvent and coated with one of the primers suggested in clause 5.2 (as tie coat) and then with one of the top coats suggested in clause 2.5 to get the appropriate colour and finish. The minimum dry film thickness of this tie coat must be 75 microns and top coat must be 50 microns, but the previous coating colour shall be completely obliterated to present a uniform colour.

   Note: Inorganic zinc primers shall not be re-covered with an inorganic primer, but only with an organic zinc primer.

5.7. Repairs to the insides of all the enclosed sections shall be done as above but the topcoat need not be applied.

5.8. The contractor needs to assess the extent of the damage to all sections, outside and inside (hollow sections) and evaluate the structural integrity. All sections which deem a significant risk and can't be maintained with the methods mentioned above, shall be cut out and replaced. The size of the replaced members shall be according to the original design.
The table above provide specifications for the lighting requirements needed for the drop off canopy. The contractor shall submit a proposal for the lighting replacements. The proposal is to be reviewed upon commencement of the contract. The final specification agreed to between ACSA and the contractor shall be confirmed in writing prior to execution of any works.

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</thead>
<tbody>
<tr>
<td>120</td>
<td>70W</td>
<td>LED down light (76 - 120mm diameter)</td>
<td>Equivalent LED Wattage</td>
<td>60% savings or more</td>
<td>&gt;100 L/W</td>
<td>4000K</td>
<td>≥ 50,000</td>
<td>≥ 95% and ≤ 100%</td>
<td>≥ 95% and ≤ 100%</td>
<td>≥ 75 and ≤ 90</td>
<td>≤ 120</td>
<td>≥ 110⁰</td>
<td>≥ 0.96</td>
<td>230 V</td>
<td>IP 55</td>
<td>≥ 600</td>
</tr>
</tbody>
</table>
C3.3 Baseline Risk Assessment and Health and Safety Specification

Project title: REFURBISHMENT OF THE DROP OFF CANOPY & RELATED ROOF SUPPORTS (TERMINAL & RETAIL BUILDING) AT KING SHAKA INTERNATIONAL AIRPORT (KSIA)
PART C4: SITE INFORMATION

NEC3 Engineering and Construction Contract June 2005
( amended June 2006 and April 2013)

REFURBISHMENT OF THE DROP OFF CANOPY & RELATED ROOF SUPPORTS
(TERMINAL & RETAIL BUILDING) AT KING SHAKA INTERNATIONAL AIRPORT
(KSIA)

Bid No.  DIA 6136/2019/RFP  Project Code:  N/A

C4 Site Information

C4.1 GENERAL

(a) The works will be conducted in a live operational environment open to the public. The following items is therefore critical to ensure continual service delivery during construction activities:

- Traffic management plan
- Existing advertising to be accommodated
- Relocation of CCTV cameras and speakers
- Provision of temporary signage
- Additional security
- Parking management plans for drop off
- Revised trolley management plan
- Review of impact to retail facility and feasible hoarding solutions

(b) The site is located at King Shaka International Airport, La-Mercy, Durban, KwaZulu-Natal

(c) The project will be phased in to three sections as follows:

1. Phase 1
   - Terminal Building – Drop off canopy
   - Terminal Building – Structural supports to the North & South façade
   - Rainwater gutter on western façade

2. Phase 2
   - Retail Building – Structural supports
3. Phase 3

- Terminal Building – Eastern façade
- Terminal Building Corridors – All exposed structural supports

C4.2 GEOTECHNICAL INVESTIGATION REPORT

(a) Not applicable

C4.3 CONDITION ASSESSMENT REPORT

(a) Attached.

C4.4 PROJECT DELIVERABLES

Phase 1 & 2

Terminal Drop off (Western Façade)
Terminal Signage that reads “KING SHAKA INTERNATIONAL AIRPORT”
Terminal North Façade
Terminal South Façade
Retail Building

(a) Provide temporary bracing and props that is to be installed to the canopy structure prior to repairs being undertaken.
(b) Provide suitable scaffolding, staging and screening that is to be erected prior to performing the remedial work.
(c) Replace all shutter ply boards with marine ply to match existing or superior support to the approval of ACSA.
(d) Replace gutters along length of terminal building to match existing fibre glass gutters or equal approved.
(e) Provide new 250mm diameter downpipes shall be installed within the circular steel columns to prevent contact between water and metal to the inside of the truss support.
(f) Ensure all areas with flaking paint and corroded metal shall be mechanically wire brushed and ground down to shiny steel
(g) Ensure all corroded welds are rewelded to restore integrity.
(h) Ensure that all corroded bolts, washer plates and fixings are replaced with hot dipped galvanised grade 8.8 bolts and washers to match existing sizes.
(i) Ensure that all de-rusted areas together with the entire structure (designated to this phase) be painted according to the provided specification.
(j) Ensure that the sprinkler system is inspected for leaks and/or deterioration over the drop off canopy and repaired as required.
(k) Ensure that damaged and/or broken electrical fixtures and fittings are repaired/replaced and provide improvements to enhance the overall lighting where necessary

(l) Ensure that broken/ damaged cladding and louvres are repaired/ replaced where necessary.

(m) Ensure that all affected areas are thoroughly cleaned, and the original aesthetic finishes are restored upon completion

Phase 3

West Façade – Terminal Building Corridor
East Façade – Terminal Building Corridor
Terminal Signage that reads “KING SHAKA INTERNATIONAL AIRPORT”

(a) Provide temporary bracing and props that is to be installed to the canopy structure prior to repairs being undertaken.
(b) Provide suitable scaffolding, staging and screening that is to be erected prior to performing the remedial work.
(c) Replace all shutter ply boards with marine ply to match existing or superior support to the approval of ACSA.
(d) Replace gutters along length of terminal building to match existing fibre glass gutters or equal approved.
(e) Provide new 250mm diameter downpipes shall be installed within the circular steel columns to prevent contact between water and metal to the inside of the truss support.
(f) Ensure all areas with flaking paint and corroded metal shall be mechanically wire brushed and ground down to shiny steel
(g) Ensure all corroded welds are rewelded to restore integrity.
(h) Ensure that all corroded bolts, washer plates and fixings are replaced with hot dipped galvanised grade 8.8 bolts and washers to match existing sizes.
(i) Ensure that all de-rusted areas together with the entire structure (designated to this phase) be painted according to the provided specification.
(j) Ensure that all affected areas are thoroughly cleaned, and the original aesthetic finishes are restored upon completion