

PART C3: SCOPE OF WORK

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
and specific reference data in SANS 1921-1**

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

Bid no:	KSIA 6849 /2022/RFP	Project Code:	4845
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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).
- Achieve >40 years remaining useful life of the said infrastructure with the necessary maintenance input over its lifecycle.
- Work to be completed within 6 months from contract start date including final completion and hand-over

Non-Disclosure

All information including design information regarding this project may not be shared with 3rd parties without the 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 the time of appointment.

1.2 OVERVIEW OF THE WORKS

A significant amount of deterioration to the structural supports at the KSIA terminal building has been identified. The intent is to restore full functionality to the support structure. Further to the structural component, the general refurbishment will be required to restore and improve the overall aesthetics of the canopy. Previous Conditional Assessment reports included as additional information to the tender reflect an overview of the works entailed. Part of this tender is to perform the additional tests as per schedule to enable the Employer's Agent to update the assessment.

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. The construction work is to be priced as **night works** (work executed after operational hours – Operational hours are regarded as the time between flight operation i.e.: First flight in the morning and last flight at night). The operational hours are given as follows:

*Note: Operational hours are generally between 04:30am – 23:30pm on a daily basis.
Operational hours vary on a daily basis. The appointed bidder will need to track these times on a day to day basis and plan accordingly.

The only works to be done during normal daylight hours shall be the refurbishment and strengthening of the rainwater gutter system.

The fibre repairs (or alternative) method is specified to be done during daylight to avoid night moisture with the fibre and resin repairs. ACSA at its sole discretion may grant permission to the contractor to execute other

activities on the program during the day where the contractor demonstrates that the activities will not affect airport operations.

The following list is provided as an outline of the scope of work:

- Refurbishment of the Terminal Drop off (Western Façade external structure)
- Refurbishment of the Terminal Southern Façade (external structure)
- Refurbishment of the Terminal Northern Façade (external structure)

General

- (a) Provision of health and safety file and work permits
- (b) Provision of a 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.
- (c) Detailed non-destructive testing on structural members to validate the structural integrity, including phased array mapping, wall thickness tests and paint thickness testing.
- (d) Provide temporary bracing and props that are to be installed to the canopy structure before repairs being undertaken. Contractor to make allowance for the necessary design, approach and methodology by their intended subcontractor. This will be presented to the Employer's Agent for acceptance.
- (e) Provide suitable scaffolding, staging and screening that is to be erected prior to performing the remedial work. Alternative methods may also be used to gain access where required, such as rope access and suspended platforms. Contractor to make allowance for the necessary design, approach and methodology by their intended subcontractor. This will be presented to the Employer's Agent for acceptance.
- (f) All services (security cameras, speakers, lights, trolleys etc.) influenced by the construction works need to be temporarily relocated all to the approval of ACSA. The intended function of these services needs to be active during construction and interruptions need to be minimised.
- (g) Ensure that broken/damaged cladding and louvres are repaired/ replaced where necessary.
- (h) All residuals/dust/airborne particles produced as a result of construction work (water jetting, grinding, sanding, painting, sandblasting etc.) to be kept to a minimum. Measures to be put in place 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 with debris should be cleaned after each night shift and inspected each morning before dawn and signed off by the site safety officer.
- (i) Assist in the provision of a maintenance plan in collaboration with the ACSA Team indicating frequency and maintenance input required to prolong the life of the refurbished infrastructure.

Steel refurbishment

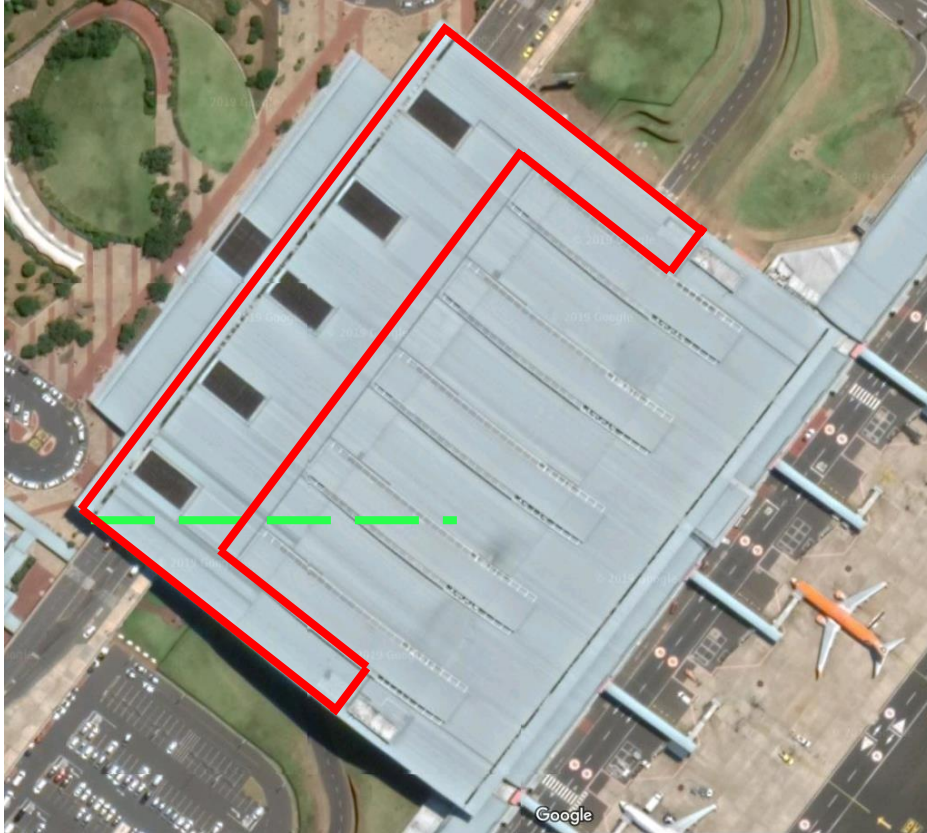
Ensure all areas with flaking paint and corroded metal be mechanically wire brushed and ground down to shiny steel. Restricted areas shall be lightly sandblasted.

- (j) Ensure all corroded welds are rewelded to restore integrity.
- (k) 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.
- (l) Ensure that all corroded bolts and washer plates be disposed off suitably off-site.
- (m) Ensure that all de-rusted areas be painted with an approved coating system as stipulated in the specification.
- (n) Ensure that the entire structure is repainted according to the specification.
- (o) Should the contractor identify sections that are severely corroded and that pose a 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 will not be able to rectify the issue.
- (p) Replace all shutter ply boards below the gutter with marine ply to match existing or superior support to the approval of ACSA. Slope gutters to a minimum of 2% towards the inlets.
- (q) Replace gutters along the length of the terminal building to match existing fibreglass gutters or equal approved.
- (r) Remove rainwater downpipes and dispose of off-site only upon written instruction by the Employer's Agent after inspection. The connectivity of the downpipe and the truss support will be verified on-site with a CCTV inspection.
- (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. Ensure that the pipe joints are fully sealed.

1.4 LOCATION OF THE WORKS

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

- Western, Northern, Southern façade external structure
- Rainwater gutter



1.5 TEMPORARY WORKS

Temporary access is required for the works. Due to operational constraints, all areas remain operation for the duration of the works. The contract is to provide for temporary access platforms, scaffolding and related structures & equipment with all the incidentals, e.g. lighting requirements for night works 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.

2 **ENGINEERING**

2.1 **DESIGN SERVICES AND ACTIVITY MATRIX**

Activity	Responsibility
Obtain the necessary approvals from relevant authorities and submit documents to relevant authorities, if required	Employer's Agent
Provide the necessary shop drawings from the manufacturer for any replacement members of the structure (regarded as "like for like" replacement as per original design) and/or any associated concept details in terms of support/scaffolding from a reputable supplier.	Contractor
Provide preliminary working schedules	
Design temporary works	

2.2 **EMPLOYER'S DESIGN**

The structural condition assessment report is provided to guide the remediation/refurbishment. The Employer's Agent intent is to perform adequate testing of structural members during the initial establishment period to place the Consultant in a position to conclude the works.

2.3 **DESIGN BRIEF**

The appointed contractor will be required to provide additional services to enable the project scope, with further assessment during the testing process towards final execution. These services include but are not limited to the services of a Temporary Access Contractor to provide approved scaffolding and support to the structure.

(Please note: The 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 at their request. A non-Disclosure agreement will be signed. Preliminary drawings of importance included in the Annexures and other drawings will be provided.

2.5 **DESIGN PROCEDURES**

High-Level Overview:

- ACSA to appoint a contractor based on a refurbishment contract which will include the testing and then the refurbishment as instructed.
- The contract will be appointed based on NEC 3 – Option B – Priced Contract with Bill of Quantities. The contractor shall not add any activities to the provided schedule and can only be done by the Employer's Agent with an official addendum issued to all the prospective tenderers.
- The Employer's Agent will specify the remedial works and is considered to be "like for like" elements from the original designs.
- All specifications and designs to be approved by Employer's Agent in writing prior to execution.
- Quality assurance checks shall be performed by the Employer's Agent for each key activity and poor workmanship will not be tolerated and no reduced payment will be entertained.
- 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 CIDB grading of 6SL (which imply experience in the development, extension, installation, renewal, removal, renovation, alteration or dismantling of structural steelwork and scaffolding) or 6CE 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 "ACSA Certified" security personnel to be present for the duration of the activities in restricted areas.

3.4 **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 differs 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)
- Construction Regulation, SHE (Safety, Health and Environmental) and latest amendments of relevant act(s)
- Model Preambles for Trades 2008
- 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"
- ISO standards and in specific ISO 12944 standards
- Other applicable SANS documentation

4.3 PARTICULAR / GENERIC SPECIFICATIONS

See C3.2 Particular Specification for the specification of:

- Corrosion protection
- Gutter rehabilitation
- Non-destructive testing

4.4 AGRÉMENT CERTIFICATES

Agrément certificate that confirms fitness-for-purpose of a non-standardised product, material or component or the acceptability of related replacement members will be applicable.

4.5 PLANT AND MATERIAL PROVIDED BY THE EMPLOYER

Not applicable

4.6 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.

4.7 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 electricity 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.

4.8 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 a record of abnormal climatic conditions to facilitate the adjudication of claims for extension of the contract period. Adverse weather that will affect the activity schedule of items on the critical path will be considered.

5.3 KEY PERSONNEL

As stipulated in the tender data, the key resources required in managing and delivery of the project are the Contracts Director, 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 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's Agent 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 Agent 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 comply with 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 Employer's 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 Employer's 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

All submissions for payments must be accompanied by a forecast cash flow for the month against actual payment claimed and explanations of reasons for variances exceeding 10% of the submitted forecast. The engineer will compile the necessary explanation with the detail provided by the contractor in the case of variations exceeding 10% from the estimated cash flows. Cash flows will be updated monthly in conjunction with the actual work's programme. The target date for certificates will be approximately the 25th of each month.

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 Employer's Agent 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 Contractor will be responsible for ensuring that this instruction is strictly enforced and must provide and remove upon completion or when directed, such other necessary temporary barriers, fences, etc., as may be required and is to allow opposite this item for any charges he may wish to make in this connection. 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 DOL permits and ACSA working permits for persons working on site.

5.11 Access to Building

The 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 to the execution of the project.

In the process of applying and obtaining airport access permits, the permit office is required in terms of the National Key-Point 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.

5.12 PROOF OF COMPLIANCE WITH THE LAW

The following certificates, only where applicable, must be provided before delivery is taken:

- 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

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 design service responsibility strategy assigned to the Contract for the works is:

Strategy B (Develop and construct) will be the applicable concept for this refurbishment type of work. The refurbishing of members and/or replacement will be done in terms of the original design.

4.2.2 The necessary shop drawings and specifications from the manufacturers are to be submitted in accordance with the contractor's programme and activity schedule.

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

- Be based on night work only, except for the refurbishment of the gutter system on top of the roof structure; and/or approved by ACSA.

- Show critical path activities and their dependencies;
- Indicate slack on each activity;
- Indicate milestone dates for each activity;
- Indicate phased implementation as per SoW.

4.4. 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's Agent and to his satisfaction.

The Contractor shall furnish, without delay, such samples as called for or may be called for by the Employers agent, who may reject all materials or workmanship not corresponding with the approved specification.

The samples of materials, workmanship and finishes that the Contractor is to provide and deliver to the employer are:

1. Structural components sample(s).
2. Coating sample(s).

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

Shop drawings to be provided wherever applicable from manufacturers.

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

N/A

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

Should the Contractor come in contact with any underground cables or pipes during excavations, 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 underground cables or pipes resulting in a disruption of services to an existing institution such damage shall be repaired immediately and will be for the contractor's account.

4.12.5 Services that are known to exist on the site:

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

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

4.12.6 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.

4.13 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, 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 must be prepared by the successful Bidder prior to the commencement of the Works all to the approval of the employer's agent.

Bidders are to take cognisance of the information and specifications provided in this tender document. Bidders must prepare a project specific Construction Phase Safety, Health and Environmental Plan in line with the project requirements.

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 AT KING SHAKA INTERNATIONAL AIRPORT (KSIA)

STEEL REFURBISHMENT

- Wire brush all corroded structural steel down to shiny metal. Restricted areas must be sandblasted
- Severely corroded sections of the identified columns and cross beams shall be cut away. Severely corroded sections shall be determined by the Employer's Agent after receipt of the non-destructive test report
- All structural steel members, endplates, baseplates, stiffeners, etc., shall be hot dipped galvanised prior to welding onto the relevant members
- All nuts, bolts, and washers to be corrosion protected either by spun hot dipped galvanising or supplied pre-coated against corrosion by the manufacturer
- New hot dipped galvanised sections shall be welded to the member to match the existing member's size and thickness
- Zinc Galvanised 6 Primer (Dry Film Thickness 50 microns) shall be applied to all repaired welds and wire brushed areas
- All repaired and mechanically de-rusted steelwork shall be fully corrosion protected with a corrosion protection paint system specified below

Coating system (coastal, very high corrosive environment):

COAT DESCRIPTION	d.f.t.um
1.1 PRIMER COAT Within 4 hours of abrasive blasting, apply one coat of an ETHYL SILICATE INORGANIC ZINC PRIMER with 80% ZINC SOLID CONTENT.	60-90
1.2 IMPERFECTION REPAIR – IF REQUIRED Apply by means of a knife or fairing batter, an ALIPHATIC POLYAMIDE CURED EPOXY FINISHING FILLER.	0-2
1.3 TOUCH UP AFTER ERECTION – IF REQUIRED Make good and repair damage by hand mechanical means and apply one Coat of two Component POLYAMIDE EPOXY ZINC RICH PRIMER. All edges of the existing coating material shall be restored to the original Specified thickness.	35-45
2. INTERMEDIATE COATS Apply two coats of a two component POLYAMIDE CURED, high build MICACEOUS IRON OXIDE EPOXY	150-160
3. FINISHING COAT Apply two Coats of a two component re-coatable POLYURETHANE ENAMEL.	80-100
Total	290-350

- This paint specification shall be read in conjunction with the Manufacturer's requirements covering surface preparation, coating application and inspection.
- All coats to be in contrasting colours.
- Compatibility of coatings shall be confirmed by the Supplier.

FIBREGLASS GUTTER

- Replace the water damaged shutter ply with Marine ply and slope gutter to a minimum of 2% towards the inlets
- Sand the area and about 20 mm larger than the area that needs the repair
- Wipe the excess dust and dirt with a clean cloth and acetone
- Cut fibre fabric to the required size. More layers may be used to increase the strength as required
- Mix resin at the required ratio
- Wet the area of repair. Place the fabric cover over the repair and start to wet out the fabric in a dabbing technique. Try not to shift the fabric. The working time is 30 minutes.
- Once the fabric has been wetted out, place a plastic sheet over the repair and smooth out the surface by hand or with a card. This will give a good smooth clean finish. The re-line the entire gutter with fibreglass
- Clean the brushes in acetone
- Leave to cure overnight \pm 16 hours depending on temperature. The ideal temperature is 25 °C
- Safety of working in the existing gutters will be the responsibility of the appointed contractor and will be supplemented with a method statement for approval before any of the work can commence.

NON-DESTRUCTIVE TESTING

The following tests are required to determine the structural integrity of severely corroded members. All the limitations pertaining to the tests need to be taken into account and therefore the required surface preparation should be done before the tests commence. The necessary access must be provided for the technician performing the tests. All test positions to be confirmed in writing by the engineer before it commences.

- Phased array ultrasonic testing to determine corrosion map on major support columns and others as instructed by the Employer's Agent.
- Paint thickness testing on various location to determine the integrity of the coating.
- Wall thickness testing will be done on hollow members. Base plates corrosion will be measured.
- Reporting and mapping of the above in order to replicate the test in the future and determine remaining useful life and deterioration rate.

C3.3 Baseline Risk Assessment and Health and Safety Specification

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

PART C4: SITE INFORMATION

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 BUILDING) AT KING SHAKA INTERNATIONAL AIRPORT (KSIA)

Bid No.	KSIA 6849/2022/RFP	Project Code:	4845
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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 according to priority:
- Terminal Building – Drop off canopy
 - Terminal Building – Structural supports to the North & South façade
 - Rainwater gutter on western façade

C4.2 GEOTECHNICAL INVESTIGATION REPORT

- (a) Not applicable

C4.3 CONDITION ASSESSMENT REPORT

- (a) Previous reports attached.

C4.4 PROJECT DELIVERABLES

- **Terminal Drop off (Western Façade)**
- **Terminal North Façade**
- **Terminal South Façade**

- (a) Provide temporary bracing and props that are 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.
- (n) Provision of manufacturing guarantees against poor workmanship of all new members with the manufacturers maintenance intervention strategy to obtain a design life in excess > of 40 years.