

Escalator In-Truss replacement tender Spec & BOQ

Project: SABC

Escalator Designation:

TV Centre – JESC 496, JESC 497, JESC 498, JESC 499

Radio Park – JESC 503, JESC 504

Date: rev 09 February 2023

Tender submission date:

Time:

Address:

Attention:

ESCALATOR REPLACEMENT SPECIFICATION

1.1. SCOPE OF WORK

1. Furnish all engineering, materials, labour, tools, equipment, transportation, supervision, testing and inspections for the supply and install of In-Truss upgrades of Existing Escalators as specified herein.
2. In all cases where a device or part of the equipment is herein referred to in the singular number, it is intended that such reference shall apply to as many such devices as are required to complete the installation.
3. Any items not specified in detail by the Contract/Specification, but which are incidental to or necessary for the complete installation and proper operation of the work described herein or reasonably implied, shall be furnished as if called for in detail by the Contract/Specification.
4. Bidders must report discrepancies or ambiguities occurring in the Contract/Specification prior to the submission of the bid proposal. Submission of the bid without clarification will reflect acceptance of the Contract/Specification as written.
5. Alternatives will be considered, only if a full justification is presented and in no circumstances will it affect the performance and quality of the installation.
6. All deviations will be qualified at tender stage, and the Owner reserves the right to accept or decline.
7. Acceptance of tender: The Employer and his representatives reserve the rights to the following:
 - a. Offer no guarantee that the lowest tender will be recommended for acceptance or accepted
 - b. Tender submission shall be judged on quality, price and delivery.

SITE VISIT: Tenderers shall be deemed to have visited the site and taken into consideration or ascertained the nature of the sites, access thereto and all local conditions and restrictions likely to affect the execution of the Works and carried out all reasonable inspections, surveys and investigations to ascertain the current status and condition of the Escalator Installations included in this specification

1.2. CONSULTANTS RESPONSIBILITIES

1. Owner has hired a Consultant who shall act as a representative of Owner in matters pertaining to the work of the contract, including interpretation of Contract/Specifications and contract documents, review of shop drawing submissions, approval of payment applications, review of project progress, and final review of the completed work prior to acceptance by Owner.
2. The supplier hereby accepts the responsibility of providing information as requested in Annexure 2 to the Consultant in terms of this contract. In addition, the supplier will respond to additional requests for information as required from time to time working on a maximum timeframe of 2 working days. Failure to comply will result in a charge of R4000 per day or part thereof in lieu of administration and impact of delays on project planning. Requests will be made by e-mail. It is the supplier's responsibility to ensure the consultant is provided with the e-mail details of the person responsible for enquiry information and requests are dealt with.

1.3. STANDARDS AND REGULATIONS

1. All material, design, clearances, construction, workmanship, operation and tests shall be in accordance with the requirements of the most recent issues of the **SANS 1543:2015** and the OHS Act.

1.4. PERMITS AND INSPECTIONS

1. Contractor shall give all requisite notices, obtain and pay for all permits, and pay all deposits and fees necessary for the installation of all work provided under this Contract/ Specification. In addition, Contractor shall obtain and pay for all necessary state and local inspections and conduct such tests as may be required by the regulations of such authorities. These tests shall be made in the presence of the authorised representative of such authorities and in the presence of Owner. An escalator installation permit shall be displayed on the job site and visible to interested parties.
2. On behalf of the Client, the tenderer will apply for all the necessary documentation of the escalator (Annexure 1).
3. The installation, when complete, shall receive the final approval of all constituted authorities and Contractor shall submit evidence of the inspection results and the Certificate of Operation from the constituted authority.

1.5. CONTRACTOR QUALIFICATION

1. Contractor shall be one regularly engaged in the business of design, engineering, manufacture, installation, modernisation, and/or servicing of escalators of the type and character required by this Contract/Specification, shall be or represent an approved manufacturer, and shall assume full responsibility for the products used in assembling the escalator equipment. Certified engineering drawings and descriptive technical data on the proposed equipment shall be provided by Contractor as furnished by the component manufacturer.

1.6. SHOP DRAWINGS/SUBMITTALS AS BUILT DRAWINGS

1. Job specific shop drawings and technical coordination information shall be submitted for review prior to commencing with fabrication of the equipment. The first shop drawing submittal shall be complete. Partial shop drawings will not be reviewed until they are complete. Delay in the project as a result of partial submittals shall be the responsibility of Contractor. Shop drawing submission shall include, but not be limited to, the following:
 - a. Shop drawing layouts.
 - b. Escalator position layout.
 - c. Escalator reaction force points details.
 - d. Structural calculations for new machinery and equipment as required by code.
2. Upon completion of the project, Contractor shall submit the following:
 - a. One (1) set of diagnostic tools, including all manuals, codes and sundries necessary to operate the tools to test and maintain the escalator equipment provided. The tool shall become the property of Owner.
 - b. Three (3) sets of owner's manuals as per the following (two hard copies and one CD):
 - c. Complete certified engineering data, including parts lists and parts numbers on all equipment as will be necessary for maintaining the equipment and for ordering replacements. Certified engineering data shall be permanently bound.

- d. Original complete and legible set of wiring diagrams (in protective sheeting) and straight-line diagrams showing the complete electrical connections, functions and sequence of operation of all apparatus connected with the escalator. Each device on the wiring diagrams and controller panels shall be properly and permanently identified by name and part number.
 - e. Original reproducible complete set of As-Built shop drawings, including layouts and signal operating fixture details.
 - f. A set of neatly bound instructions manuals explaining all operating features, control sequence of operation, adjusting and troubleshooting procedures.
 - g. Set of lubrication charts indicating lubrication points and type of lubrication recommended for all equipment. A set shall be bound and permanently maintained in the escalator machine compartment.
 - h. Copy of Annexure 1's, Annexure A's and Annexure B's.
3. Three (3) sets of keys to operate all key operated functions all marked and identified.

1.7. MATERIALS & EQUIPMENT

- 1. All materials and equipment to be furnished under this Contract/Specification shall be new, of the best grade and quality used for the purpose of commercial practice and shall be the latest standard product as advertised in printed catalogues by reputable manufacturers. All equipment or apparatus of any one system must be the product of one manufacturer, or equivalent products of a number of manufacturers which are suitable for use in a unified or assembled system. All parts of the escalator equipment shall be built to standard dimensions, tolerances and clearances in order to ensure complete interchange ability of similar parts of similar machines and devices.

1.8. HOISTING, HANDLING AND INSTALLATION OF EQUIPMENT

- 1. Contractor shall provide for all cartage, handling and receiving, hoisting and lowering and removal of equipment related to the work, from the property. Contractor shall be responsible for all permits, fees and coordination with local authorities, including local police and fire departments, for use of crane service on and around the property.
- 2. The equipment shall be installed in accordance with the equipment manufacturer's direction, referenced codes and Contract/Specifications.
- 3. The equipment shall be installed with clearances complying with referenced and applicable codes and Contract/Specifications.
- 4. All items shall be installed so that they are safely accessible for maintenance and so that they may be removable via portable hoist or other means for maintenance and repair.
- 5. All fixtures into the building shall be with the use of anchors into concrete construction and chemical anchors into brick construction.

1.9. ACCEPTANCE OF EQUIPMENT

- 1. No approval, either written or verbal, of any drawings, descriptive data or samples of such material, equipment and/or appurtenances shall relieve Contractor of his responsibility to turn over the same to Owner in perfect working order at the completion of the work. Any material, equipment, or appurtenances, the operation, capacity or performance of which does not comply with the Contract/Specification requirements, or which is damaged prior to acceptance by Owner, shall be held to be defective material and shall be removed and replaced with proper and acceptable

materials, equipment and/or appurtenances, or put in proper and acceptable working order, satisfactory to Owner, without additional cost to Owner.

1.10. SPECIAL TOOLS AND INSTRUCTIONS FOR USE

1. Contractor shall provide all required specialised tools, instructions for their use and sundries as necessary to perform diagnostic evaluations, adjustments or programmable software changes on any unit of the microprocessor based escalator control equipment provided. Diagnostic tools shall become the property of Owner.
2. Diagnostic tools which require periodic recalibration and/or re-initiation shall be performed by Contractor at no cost to Owner for a period of ten (10) years from the date of final acceptance of the equipment, regardless of whether Contractor is or is not the maintenance contractor for the equipment. Should a diagnostic tool be required to be repaired, recalibrated or reinitiated, Contractor shall provide a similar "loaner" tool to Owner, until the original Owner's tool is returned.
3. Diagnostic tools provided to Owner shall be capable of performing all levels of diagnostics, systems adjustments and software program changes that are available to Contractor.
4. Contractor shall provide a set of printed instructions for use of any tool that may be necessary to perform diagnostic evaluations, systems adjustment and / or programmable software changes on any unit of the microprocessor based escalator control equipment. Contractor shall provide access codes, passwords and other proprietary information that is necessary to interface with the microprocessor control equipment. In addition, Contractor shall provide step by step adjusting, programming and troubleshooting procedures as pertain to the microprocessor control equipment, a composite listing of the individual settings chosen for the variable software parameters stored on the software programs.

1.11. RELATED WORK INCLUDED AND PART OF THE ESCALATOR CONTRACT

1. Contractor shall assist Owner with coordination and completion of the work to be performed which is part of the Escalator Contract, as required, during the course of the project to assure that all work required of other trades is completed in such a manner and in such time as will be required to permit Contractor to commence and complete the Contract work within the project schedule requirements.
2. The Tenderer will supply per escalator, a distribution board including a three-phase isolator rated as per the contractors rating specification, a disconnect for lighting and a disconnect for the socket outlet.
3. The following Electrical/Mechanical work is included in Contractors scope of work:
 - a. Furnish and install new separate 220 volt lockable disconnects for lighting. One per escalator.

1.12. MATERIAL AND EQUIPMENT DELIVERY, STORAGE

1. All materials shall be delivered in the original unopened protective packaging and shall be stored in the protective packaging to prevent soiling, physical damage and wetting.
2. Equipment and exposed finishes shall be protected during transportation, erection and construction against damage and stains.
3. Contractor shall confine his apparatus and the storage of materials to limits established by law, ordinances, permits or directions of Owner and shall not unreasonably encumber the premises with his materials. All flammable or combustible materials shall be properly stored to eliminate potential fire hazards.

1.13. PROJECT MANAGEMENT AND SUPERVISION

1. Contractor shall designate an experienced Project Manager to perform the administrative management of the project and place a competent Superintendent in charge of the project throughout the course of the work. Contractor's on-site job Foreman shall be responsible for day-to-day operations and scheduling with Owner. The Project Manager and Superintendent shall be available to Owner to assist in the progress and coordination of the work of the project and shall represent Contractor in all matters relating to the project.

1.14. SAFETY PLAN

1. Contractor shall submit a detailed safety plan for this project at time of shop drawing submittal. Safety Plan shall detail the type and construction of the barricades to be used at open fall hazard conditions, safety harness to be worn by Contractors, and first aid kit. The superintendent shall hold a safety meeting on site monthly.
2. The Contractor hereby acknowledges that he is aware and able to comply with all requirements of the OHS Act.

1.15. EXECUTION

1. Contractor shall perform the following as part of the execution of the work of the Escalator Contract:
 - a. Comply with all requirements of the local Fire Codes that are applicable to this work.
 - b. Be sensitive to the needs and entitlements of the occupants of the building while performing the work.
 - c. Confirm that the Contract/Specification and contract documents are complete with regard to the work required to provide for a complete, legal and Code compliant installation.
 - d. Confirm that the escalator equipment to be provided will fit within the space available. Survey the job site and verify by measurement all dimensions affecting the work to be performed as part of the Contract. Advise Owner of any deficiencies which may be in conflict with design tolerances of the equipment to be installed, prior to fabrication of the equipment affected.
 - e. Provide information as required for coordination of work to be performed by other trades which will affect scheduling of the escalator work and information required for coordination in scheduling the escalator work which will affect the scheduling of other trade contractor work.
 - f. Permit only skilled workmen to perform the work of the Escalator Contract, unless for such works requiring cleaning, painting and material handling then semi-skilled labour shall be permitted.
 - g. Install all equipment in accordance with the Escalator Contract, the Contract/Specification and the final approved shop drawings.
 - h. Comply with all applicable Codes, manufacturer's instructions and installation procedures.
 - i. Keep all means of access and egress to and from the building, stairwells and lobbies free and clear of materials, tools and equipment at all times.
 - j. Broom sweep the work areas, remove all hazardous materials from the site on a daily basis and keep all areas clean of all dirt and grease resulting from the work.

- k. Protect all finished surfaces during installation through to the final acceptance of the escalators. Upon acceptance of the escalators, remove all protective coverings and thoroughly clean finished surfaces of paint, wrappings, mastic, etc. Repair any damage, including scratches, dents, discoloration, etc. which may have occurred to the finished surfaces with the exception of any obvious vandalism, misuse or abuse of the equipment by others.

1.16. TESTING

1. Upon completion of each escalator and of each system, Contractor shall completely test the equipment, both before the local authority and Owner, to demonstrate that the equipment was provided in accordance with Code and Contract/Specification requirements and complies with the Performance criteria listed elsewhere in the Contract/Specification.
2. Contractor shall provide all labour, tools and equipment necessary for on-site observations, testing, retesting, inspections and re-inspections as may be required to satisfy the Code testing requirements, the requirements of the local testing authority and the requirements of Owner.
3. Upon satisfactory completion of required tests, Contractor shall obtain and submit to Owner the Certificate of Operation or other instrument, which may be required to legally permit Owner to operate the escalator.

1.17. FINAL CLEAN-UP

1. Upon completion of the project, Contractor shall clean out and remove all loose materials, remove all crating and packing materials and all unused escalator equipment from the job site; clean the area of dirt, oil, grease and dust at the time of the Final Acceptance of the escalator system.

1.18. INSTRUCTIONS TO OWNER

1. Contractor shall provide a minimum of four (4) hours of instructions to Owner's personnel upon completion of the escalator installation. Instructions shall include safety procedures, proper operation of all equipment and routine maintenance procedures. In addition, Contractor shall provide explanation and demonstration of each control feature and operation.

1.19. WARRANTY AND GUARANTEE

1. Contractor shall warrant and guarantee all equipment provided and installed under this Contract/Specification against defects in materials and workmanship and will correct any defects not due to ordinary wear and tear or improper use or care which may develop within one (1) year from the date the last escalator is completed, placed into operation and accepted by Owner. This warranty is not intended to supplement normal maintenance service and shall not be construed to mean that Contractor shall provide free service or periodic examination, lubrication, or adjustment due to normal use, beyond that included in the Contract/Specifications, nor shall Contractor correct, without charge, breakage, maladjustments, or other trouble arising from abuse, misuse, improper or inadequate maintenance, or any other causes beyond his control.

1.20. MAINTENANCE SERVICE

1. **Warranty Maintenance/Free Service:** Once the escalator installation work has been completed and accepted as substantially complete by Owner and Lift/Escalator Consultant, the Escalator Contractor shall provide warranty maintenance for 12 months, thereafter it will be at the discretion of the owner. The Warranty Maintenance shall be all-inclusive and not include any proration or exclusions and shall provide comprehensive full coverage as outlined in a Service Level Agreement that will be entered into at the point of adjudication. The price for this service shall be stated as a lump sum on the Tender Form.

2. The preventive maintenance program service to be provided shall consist of once per month examinations of the equipment, adjustments, lubrication, cleaning, supplies and parts to keep the equipment in proper operation, except such adjustments, parts or repairs made necessary by abuse, misuse or any other causes beyond the control of Contractor. Full load safety tests and Code required testing of the escalators and escalator operation shall be included as part of the contract, as well as provisions for termination of the Maintenance Contract for non-performance.
3. TENDERERS TO SUBMIT A MONTH-TO-MONTH MAINTENANCE PRICE POST THE 12 MONTHS FREE SERVICE. THIS MONTH-TO MONTH MAINTENANCE WILL BE IN PLACE UNTIL THE LAST GROUP OF LIFTS AND ESCALATORS HAVE COMPLETED THEIR 12 MONTHS FREE SERVICE, AT WHICH POINT THE CLIENT WILL ENTER INTO A 5 YEAR SLA AGREEMENT – THIS COST WILL NEED TO BE NOTED ON THE PRICE SCHEDULE.

1.21. CONTINUING SUPPORT

1. Should Contractor's contract for continuing maintenance services not be executed by Owner, or should it be cancelled for any reason by either Owner or Contractor, Contractor shall be obligated to notify Owner and to provide to Owner continuing information regarding changes recommended or necessary to be performed to the equipment to comply with Code changes or Manufacturer recommended and/or authorised changes or repairs, modifications, adjustments, replacements, etc., to permit for the continued integrity and safe/reliable operation of the equipment provided under the escalator installation contract and this Contract/Specification. In addition, Contractor shall provide field and technical assistance and instructions to Owner or Owner's escalator maintenance company, upon Owner's request, within a reasonable time following Owner's request, for which Contractor shall be compensated at Contractor's direct cost plus a reasonable charge for profit and overhead for materials and labour. Labour charges shall not exceed Contractor's standard escalator mechanic hourly billing rates. Contractor shall also be obligated to perform any repairs and/or replacements of equipment components required by the component Manufacturer to be made to correct faulty design or manufacture.

2.0 ESCALATOR SCHEDULE/EQUIPMENT SUMMARY (REFER TO ANNEX 1)

2.1 ESCALATOR SCHEDULE

1. ***NOTE: This is to be an In-Truss replacement and shall be designed for heavy duty and be able to operate in within a high traffic environment, with trading hours of not less than twelve hours per day, seven days a week.***
2. ***Duty rate: High traffic 120 000 operating hours minimum, with a life span of 20 years.***

2.2 ESCALATOR SAFETY FEATURES

1. *Controller*
A microprocessor controller designed to work in conjunction with other safety devices to provide correct information processing and proper escalator control shall be provided. Escalator faults are identified by the controller and illuminated in a display on the control cabinet. **The control system must have BMS output capability.**
2. *Escalator brake*
A permanent magnet brake shall be fitted, designed to gradually stop the escalator and hold it stationary under full load. The closed-loop brake circuit is designed to meet current **SANS 1543:2015** deceleration rate requirements and operate in conjunction with a velocity feedback.
3. *Skirt gap and stiffener*

Installation of skirt stiffening channels is designed to provide uniform clearance between the step edge and skirt, reducing the possibility of entrapment between the step and skirt.

4. *Demarcation inserts*

There shall be demarcation installation, and it shall be of plastic inserts along the side and rears of step warning passengers of possible foot entrapment points.

6. *Pit stop switch*

All escalator machine spaces and areas where interior access to the escalator is allowed, must be furnished with a stop switch.

7. *Reversal stop device*

This device is the protection against accidental or inadvertent reversing of an escalator operating in the UP direction will monitored by a directional feedback encoder. This device, when activated, turns off the motor and activates the brake, bringing the escalator to a smooth stop.

8. *Handrail entry device*

This device is designed to turn off the motor and activate the brake to stop the escalator when an object is detected entering the handrail inlet area.

9. *Handrail speed monitoring device*

The escalators shall have a device designed to measure the variation in speed between the step band and handrail. If speed variation exceeds the standard, the controller will sound an alarm buzzer, turn off power to the motor and activate the brake to stop the escalator.

10. *Missing step device*

This device shall be designed to detect a missing step. When a missing step is detected, power to the motor is turned off and the brake is activated to stop the escalator.

11. *Comb impact device*

This device shall be designed to shut off the motor and activate the brake in the event that comb plate movement is detected horizontally or vertically.

12. *Broken step chain device*

Installed on the lower end carriage, this device is designed to detect step-chain breakage or excessive step-chain sag.

13. *Step demarcation lights*

Green fluorescent light fixtures beneath the steps at the landings shall be fitted to signal the passenger that the end of the escalator is near.

14. *Safety signs*

These signs shall be designed and placed to caution and provide safety information to the passengers, as per **SANS 1543:2015**.

15. *Skirt brushes*

These escalators shall have factory fitted skirt brushes, designed to encourage safe escalator use by providing a subtle indicator to passengers riding near the step's edge.

16. *Deck guards*

Deck guard barriers shall be provided and designed to prevent an object and people from getting wedged between the escalator handrail and a wall or another escalator.

3.1 ESCALATOR MAIN FEATURES

1. *Escalator Truss Cladding*

The Contractor shall provide and fit all truss cladding to the escalators, to include both sides and underside of the escalators. Refer to Truss Cladding finish on Annex 1

2. *Energy Saving*

A fully regulated VVVF drive system shall be provided, this shall include energy saving soft start devices, escalator shall reduce speed after a pre-determined time, if no passengers are detected and come to a full stop after a further pre-determined time. In both modes, the escalator will re-start when a passenger approaches the escalator.
3. *Driving machine*

The driving machine shall incorporate a reduction gear system employing worm gear, planetary gear or other proven gear types.

 - a. **Planetary gear system (Recommended)**

The motor, planetary gears and brakes shall be fully enclosed and form a unique, compact no-chain unit. Motor and bearings shall have life-time lubrication. **This is the recommended system.**
 - b. **Worm gear system**

The driving machine shall incorporate a worm reduction gear with a vertical flange-mounted motor or other proven design. It may be connected by chain or other proven means to the main drive shaft of the escalator. The worm shaft and worm wheel shall be housed in a substantial cast iron housing which shall also hold the lubricant.
4. *Escalator Steps*

The step treads shall be die-cast aluminium with closely spaced cleats designed to provide a secure foothold, the latter being grooved parallel to the travel of the steps to mesh with the comb teeth at the entrance and exit. Step risers shall also be die-cast aluminium integral with the step treads and shall include vertical cleats designed to pass between the cleats of the tread on the adjacent steps thus providing a combing action with minimum clearances. There shall be at least a length of **two complete (three flat steps if possible)** steps i.e. 0.80 m at either end of the escalator travelling horizontally from the comb line.
5. *Balustrades*

Solid balustrades shall be installed on each side of the escalator at a height of 1000mm and shall consist of the following components:-

 - a. **Skirting**

The skirting panels shall be vertical and constructed of smooth hairline finish stainless steel with thickness of not less than 2mm. Embossed, perforated or roughly textured materials shall not be used.
 - b. **Interior profile**

The interior profile shall be of hairline finish stainless steel with thickness not less than 2mm. The interior profile and the balustrade interior panelling shall have an angle of inclination of at least 25 degrees to the horizontal.
 - c. **Interior and exterior panelling**

Both the interior and exterior panelling shall be glass balustrade, multi-layer glass - laminated toughened safety glass as per **SANS 21-1:2009 Clause 5.5.2.4 / SANS 1543:2015** and shall have sufficient mechanical strength and rigidity. The glass panels shall be at least 10mm thick.
 - d. **Balustrade decking**

The decking shall be of stainless steel or extruded aluminium, polished and anodized in natural colour. The decking is to be situated under the handrail and forms the top cover of the balustrade panelling. Appropriate measure shall be provided to discourage people from sliding along the decking.
6. *Footlight*

Footlights shall be provided on either side of the interior of the skirting at both upper and lower landings and energy efficient fluorescent luminaires shall be used.

The intensity of illumination shall not be less than 50 lux for indoor escalators; or shall not be less than 15 lux for outdoor escalators or passenger conveyors at the landings, measured at floor level.

7. *Step lights under landings*

Energy efficient fluorescent luminaires shall be provided underneath landings to illuminate the clearance between steps, steps and skirting, steps and comb, at the horizontal steps portion of the escalator. The colour of these lights shall be green.

8. *Wiring*

All wiring shall be designed and installed to ensure proper operation as set forth in this Contract/Specification.

NOTES - Supply under balustrade lighting

4.1 ESCALATOR CONFIGURATION

1. The escalators shall be installed as per the specified configuration on the drawings attached, ensuring that all handrail profiles and escalator tread plates are symmetrical and in line.

5.1 MISCELLANEOUS WORK AND SCHEDULE

1. This Contract/Specification covers all work as specifically set forth to bring the escalator system up to acceptable standards. Any additional work deemed necessary shall be brought to Owner's attention in writing three (3) days prior to bid date.
2. All work shall be performed during regular working hours of regular working days as is customary in the escalator industry, unless specific work that is not able to be performed during normal working hours, then the contractor will make the necessary allowance.
3. Prior to commencing work, a work schedule shall be submitted to Owner for approval.
4. Contractor shall confirm power, floor designation, emergency recall floors and dispatch floor locations, etc., prior to fabricating equipment.
5. Contractor shall provide all information, including necessary architectural and engineering information, required by Owner to coordinate the design and interface work of other trades impacting the escalator work.
6. Procurement and installation schedule: Refer to Annex 2 (This is to be completed by contractor at bidding stage)
7. Liquidated Damages:
 - a. In the event the Escalator/Escalator Contractor is delayed in the prosecution of the work by acts of God, fire, flood or any other unavoidable casualties, the time for completion of the work shall be extended for the same period as the delay occasioned by any of the aforementioned causes.
 - b. The liability in respect of all and any damages incurred by the Escalator Contractor as a result of default shall be limited to 0.166% per day up to a maximum of 10% of the initial Subcontract Sum
8. Payment Terms
 - a. The contract price shall be paid in the following manner:
 - i. As stated within the JBCC contract
 - ii. To be agreed with the Client

6.1 TESTS

1. The Contractor shall ensure that every escalator is inspected and tested by a registered person in accordance with **SANS 1543:2015** specifications, before such escalator is put in use for the first time. This registered person shall complete the comprehensive report separately for each escalator so inspected and tested, and shall date and sign such report and submit said report within 30 days to the user, who shall keep the report in a safe place in the machine compartment.
2. Completed copies of test reports shall be provided to Owner.

7.1 CLEAN UP AND INSPECTION

1. Remove all debris resulting from work on this contract. Remove from project site all equipment and unused or removed materials and restore building and premises to neat, clean appearance.
2. All materials and workmanship shall be subject to inspection or testing. Owner or its representative shall have the right to reject defective or inferior material or workmanship and require correction of such without additional cost Owner.

8.1 CONTRACT

1. The successful tenderer shall be appointed as the Principal Contractor and the agreement shall be the **JBCC PBA**.

9.1 ENERGY SAVING INITIATIVE

1. The tenderer is to attach together with the tender submission a report including a basic description of the energy efficiency initiatives and their contribution to the energy and environmental strategy within this project. The report will indicate the power consumption of the various lifts and escalators will draw during the peak periods.
2. After completion of the contract, the Contractor is required to provide the actual consumption readings which will be compared to the figures indicated in the initial report.
3. Should the discrepancies between the initial report and the actual readings be more than 10%, the lift/escalator contractor will have to take the necessary actions to correct and bring the equipment to the desired consumption as stipulated the initial report. If the lift/escalator contractor is not able to achieve the actual power consumption as stated in their initial report, the difference in costs between the actual power and the initial report, will be deducted off the monthly maintenance price post the installation phase.

10.1 ESCALATOR MANAGEMENT SYTEM

Tenderers to supply as an option a full Escalator Management System that will incorporate the following:

- A. Must be a Web-Based system that will enable to monitor, control, report and manage a full range of operational critical functions from any computer with an internal connection
- B. Real time lift/escalator status including calls, door operation and travel movement
- C. Instant notification of alarms and security events
- D. Have the facility to playback operational information
- E. The system must have foot count facility to monitor number of people entering escalators over time period
- F. Must be able to monitor the following statuses and functions:

- Equipment status
- Performances
- Operating conditions
- Security Status
- Equipment events
- Historical performance status

Tenderers are to measure the cable runs and allow for this cabling and connection of from the Escalators to the Control room

11.1 BMS FACILITY

The Escalator control system will come prepared to provide BMS output signals with the following outputs:

1. Moving up
2. Moving down
3. Power Supply available Y/N
4. Out of Service

BMS must be compatible with Johnson and Johnson system

12.1 PROGRAM

PLEASE NOTE, TENDERERS TO WORK WITHIN THE PROGRAM SCHEDULE BELOW:

- Procurement, including shop drawings ordering, manufacturing and delivery = Total of 24 weeks for all the escalators
- Total installation period for all the escalators = Total of 39 weeks

Note: The possibility of sectional completion may apply.

Tenderers to provide an overall procurement and installation program for all the escalators.

Tenderers must make sure that the correct resources are in place to achieve the above program.

BOQ for Escalator In-Truss Replacement: TV Centre

Certificate Number: 01/E496 & 01/E497

Site Address: Auckland Park

Annex 1 - BOQ

INDOOR ESCALATORS: TV Centre – 01/E496 & 01/E497

<u>BASIC DATA</u>			
Escalator Type: Indoor/outdoor	INDOOR ESCALATORS – IN-TRUSS	Escalators in the Group:	2 Escalators
Incline	30 Degrees	Speed:	0.5 m/s
Floors escalator serves:	Ground to 1 st	Rise:	As per existing – Tenderers to make sure they visit site and confirm all dimensions
Step width:	1000mm	Flat steps:	Three
Power:	380 V	Frequency:	50 Hz
Lighting:	220 V	Power Fluctuation:	± 10%
Power Phase:	3 Phases		

<u>Aesthetics and Safety features</u>			
Step Type:	Aluminium – grey	Step demarcation:	Yellow aluminium inserts, three sides
Hand rail colour:	Black	Comb plate lighting:	As per specification
Balustrades:	Glass	Balustrade Height:	1000mm
Safety features:	As per specification and compliance with SANS 1543:2003	Configuration:	As per existing
Directional Indicators	As per specification	Bollards	At entry side only
Escalator cladding	Cladding is to be on both sides and underneath the escalators	Cladding Finish	Stainless Steel

<u>Layout Data</u>			
Escalator Beam to Beam:	Tenderer to supply the Beam to Beam size based on rises given		
Escalator pit:	1100		

(1)Summary is just a brief outline to give general scope of work. If a discrepancy exists between the summary and body of the technical specifications, or if an item is not included in the summary, the body of the technical specifications will take precedence.

Special Notes:

- ❖ Tenderer to supply Under Handrail lighting, allowance to be made for retrofitting under handrail lighting in a concealed channel. The lighting is to be LED with a guarantee of 5000 hours
- ❖ Tenderer to supply skirt lighting as an option
- ❖ Contractor to provide protection to all surrounding finishes during rigging and installation.
- ❖ Hoarding to be supplied and fitted by tenderer, this has to be part of tender price.
- ❖ A full program shall be submitted with the Tender Document including the best Methodology.
- ❖ The program shall be in Micro Soft Project format.
- ❖ Included in the program will be the following:
 - i. Installation of hoarding structure during installation process
 - ii. Procurement
 - iii. Strip out methodology
 - iv. Installation methodology
- ❖ All civil work (if required) must be included in the pricing schedule.
- ❖ All remedial work including all balustrade, ceilings, bulkheads etc. must be included in the pricing schedule.
- ❖ No free standing hoarding will be allowed and must be compliant and accepted by the client.
- ❖ All hoarding must be painted white and kept clean at all times
- ❖ Allow for the removal and moving of the Escalators outside the normal working hours.

- ❖ **TENDERERS TO SUBMIT A MONTH-TO-MONTH MAINTENANCE PRICE POST THE 12 MONTHS FREE SERVICE. THIS MONTH-TO MONTH MAINTENANCE WILL BE IN PLACE UNTIL THE LAST GROUP OF LIFTS AND ESCALATORS HAVE COMPLETED THEIR 12 MONTHS FREE SERVICE, AT WHICH POINT THE CLIENT WILL ENTER INTO A 5 YEAR SLA AGREEMENT – THIS COST WILL NEED TO BE NOTED ON THE PRICE SCHEDULE.**

Additional information required

❖ Energy consumption of the escalator with full load for one hour: _____

Tenderer to complete the following Measurement schedule

<u>Escalator information required</u>				
Incline	Beam to Beam measurement	Pit depth	Escalator width	Rise
		1100		

NOTE: TENDERERS ARE TO SUPPLY AN IN-TRUSS UPGRADE BASED ON THE SPECIFICATION ABOVE

Annex 2

Project program

Phase I - Approvals and Materials Procurement	Time frame in weeks
• Shop Drawings	
• Shop Drawing Approval	
• Manufacturing	
• Deliver Material/Prep Work	
• Total Duration Phase I	
Phase II – Shut Down Period	Time frame in weeks
• Installation of 2 Escalators	
• Complete Punch List	
• Total Duration Phase II	
Total Project Duration:	

❖ Micro Soft Project plan to be submitted with tender specification

TENDER PRICE SCHEDULE

IN-TRUSS UPGRADE OF EXISTING ESCALATORS: TV Centre – 01/E496 & 01/E497

Item Description	Amount
Escalators In-truss upgrade as per specification including Stainless Steel Truss Cladding	R
Price for under handrail LED lighting	R
Remedial work	R
Civil work (if required)	R
Hoarding	R
12-month maintenance warranty	R
Tender amount excluding VAT:	R
15% VAT:	R
Total tender price including VAT:	R

Total tender price including VAT in words: _____

Monthly maintenance after the 12 months free service period per escalator per month - Month-to-Month costs	R
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Total Five Year SLA Maintenance cost for this group of escalators once the 12 months free service is complete	R
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Currency	Exchange rate at time of tender	Material costs in foreign currency	Material costs in Rands
£1	R	£	R
€1	R	€	R
USD1	R	USD	R

TENDERER TO NOTE BELOW ANY DIVIATIONS OR QUALIFICATIONS TO THIS TENDER

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

BOQ for Escalator In-Truss Replacement: TV Centre

Certificate Number: 01/E498 & 01/E499

Site Address: Auckland Park

Annex 1 - BOQ

INDOOR ESCALATORS: TV Centre - 01/E498 & 01/E499

<u>BASIC DATA</u>			
Escalator Type: Indoor/outdoor	INDOOR ESCALATORS – IN-TRUSS	Escalators in the Group:	2 Escalators
Incline	30 Degrees	Speed:	0.5 m/s
Floors escalator serves:	1 st to 2 nd	Rise:	As per existing – Tenderers to make sure they visit site and confirm all dimensions
Step width:	1000mm	Flat steps:	Three
Power:	380 V	Frequency:	50 Hz
Lighting:	220 V	Power Fluctuation:	± 10%
Power Phase:	3 Phases		

<u>Aesthetics and Safety features</u>			
Step Type:	Aluminium – grey	Step demarcation:	Yellow aluminium inserts, three sides
Hand rail colour:	Black	Comb plate lighting:	As per specification
Balustrades:	Glass	Balustrade Height:	1000mm
Safety features:	As per specification and compliance with SANS 1543:2003	Configuration:	As per existing
Directional Indicators	As per specification	Bollards	At entry side only
Escalator cladding	Cladding is to be on both sides and underneath the escalators	Cladding Finish	Stainless Steel

Layout Data			
Escalator Beam to Beam:	Tenderer to supply the Beam to Beam size based on rises given		
Escalator pit:	1100		

(1) Summary is just a brief outline to give general scope of work. If a discrepancy exists between the summary and body of the technical specifications, or if an item is not included in the summary, the body of the technical specifications will take precedence.

Special Notes:

- ❖ Tenderer to supply Under Handrail lighting, allowance to be made for retrofitting under handrail lighting in a concealed channel. The lighting is to be LED with a guarantee of 5000 hours
- ❖ Tenderer to supply skirt lighting as an option
- ❖ Contractor to provide protection to all surrounding finishes during rigging and installation.
- ❖ Hoarding to be supplied and fitted by tenderer, this has to be part of tender price.
- ❖ A full program shall be submitted with the Tender Document including the best Methodology.
- ❖ The program shall be in Micro Soft Project format.
- ❖ Included in the program will be the following:
 - v. Installation of hoarding structure during installation process
 - vi. Procurement
 - vii. Strip out methodology
 - viii. Installation methodology
- ❖ All civil work (if required) must be included in the pricing schedule.
- ❖ All remedial work including all balustrade, ceilings, bulkheads etc. must be included in the pricing schedule.
- ❖ No free standing hoarding will be allowed and must be compliant and accepted by the client.
- ❖ All hoarding must be painted white and kept clean at all times
- ❖ Allow for the removal and moving of the Escalators outside the normal working hours.

- ❖ **TENDERERS TO SUBMIT A MONTH-TO-MONTH MAINTENANCE PRICE POST THE 12 MONTHS FREE SERVICE. THIS MONTH-TO MONTH MAINTENANCE WILL BE IN PLACE UNTIL THE LAST GROUP OF LIFTS AND ESCALATORS HAVE COMPLETED THEIR 12 MONTHS FREE SERVICE, AT WHICH POINT THE CLIENT WILL ENTER INTO A 5 YEAR SLA AGREEMENT – THIS COST WILL NEED TO BE NOTED ON THE PRICE SCHEDULE.**

Additional information required

- ❖ Energy consumption of the escalator with full load for one hour: _____

Tenderer to complete the following Measurement schedule

<u>Escalator information required</u>				
Incline	Beam to Beam measurement	Pit depth	Escalator width	Rise
		1100		

NOTE: TENDERERS ARE TO SUPPLY AN IN-TRUSS UPGRADE BASED ON THE SPECIFICATION ABOVE

Annex 2

Project program

Phase I - Approvals and Materials Procurement	Time frame in weeks
• Shop Drawings	
• Shop Drawing Approval	
• Manufacturing	
• Deliver Material/Prep Work	
• Total Duration Phase I	
Phase II – Shut Down Period	Time frame in weeks
• Installation of 2 Escalators	
• Complete Punch List	
• Total Duration Phase II	
Total Project Duration:	

❖ **Micro Soft Project plan to be submitted with tender specification**

TENDER PRICE SCHEDULE

IN-TRUSS UPGRADE OF EXISTING ESCALATORS: TV Centre – 01/E498 & 01/E499

Item Description	Amount
Escalators In-truss upgrade as per specification including Stainless Steel Truss Cladding	R
Price for under handrail LED lighting	R
Remedial work	R
Civil work (if required)	R
Hoarding	R
12-month maintenance warranty	R
Tender amount excluding VAT:	R
15% VAT:	R
Total tender price including VAT:	R

Total tender price including VAT in words: _____

Monthly maintenance after the 12 months free service period per escalator per month - Month-to-Month costs	R
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Total Five Year SLA Maintenance cost for this group of escalators once the 12 months free service is complete	R
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Currency	Exchange rate at time of tender	Material costs in foreign currency	Material costs in Rands
£1	R	£	R
€1	R	€	R
USD1	R	USD	R

TENDERER TO NOTE BELOW ANY DIVIATIONS OR QUALIFICATIONS TO THIS TENDER

[illegible]

BOQ for Escalator In-Truss Replacement: Radio Park

Certificate Number: JESC 503 & JESC 504

Site Address: Auckland Park

Annex 1 - BOQ

II-TRUSS UPGRADE - ESCALATORS RADIO PARK – JESC 503 & JESC 504

<u>BASIC DATA</u>			
Escalator Type: Indoor/outdoor	SEMI OUTDOOR ESCALATORS – IN-TRUSS UPGRADE	Escalators in the Group:	2 Escalators
Incline	30 Degrees	Speed:	0.5 m/s
Floors escalator serves:	1 st to 2 nd	Rise:	As per existing – Tenderers to make sure they visit site and confirm all dimensions
Step width:	1000mm	Flat steps:	Three
Power:	380 V	Frequency:	50 Hz
Lighting:	220 V	Power Fluctuation:	± 10%
Power Phase:	3 Phases		

<u>Aesthetics and Safety features</u>			
Step Type:	Aluminium – grey	Step demarcation:	Yellow aluminium inserts, three sides
Hand rail colour:	Black	Comb plate lighting:	As per specification
Balustrades:	Glass	Balustrade Height:	1000mm
Safety features:	As per specification and compliance with SANS 1543:2003	Configuration:	As per existing
Directional Indicators	As per specification	Bollards	At entry side only
Escalator cladding	Cladding is to be on both sides and underneath the escalators	Cladding Finish	Stainless Steel

<u>Layout Data</u>			
Escalator Beam to Beam:	Tenderer to supply the Beam to Beam size based on rises given		
Escalator pit:	1100		

(1) Summary is just a brief outline to give general scope of work. If a discrepancy exists between the summary and body of the technical specifications, or if an item is not included in the summary, the body of the technical specifications will take precedence.

Special Notes:

- ❖ Tenderer to supply Under Handrail lighting, allowance to be made for retrofitting under handrail lighting in a concealed channel. The lighting is to be LED with a guarantee of 5000 hours
- ❖ Tenderer to supply skirt lighting as an option
- ❖ Contractor to provide protection to all surrounding finishes during rigging and installation.
- ❖ Hoarding to be supplied and fitted by tenderer, this has to be part of tender price.
- ❖ A full program shall be submitted with the Tender Document including the best Methodology.
- ❖ The program shall be in Micro Soft Project format.
- ❖ Included in the program will be the following:
 - ix. Installation of hoarding structure during installation process
 - x. Procurement
 - xi. Strip out methodology
 - xii. Installation methodology
- ❖ All civil work (if required) must be included in the pricing schedule.
- ❖ All remedial work including all balustrade, ceilings, bulkheads etc. must be included in the pricing schedule.
- ❖ No free standing hoarding will be allowed and must be compliant and accepted by the client.
- ❖ All hoarding must be painted white and kept clean at all times
- ❖ Allow for the removal and moving of the Escalators outside the normal working hours.

- ❖ **TENDERERS TO SUBMIT A MONTH-TO-MONTH MAINTENANCE PRICE POST THE 12 MONTHS FREE SERVICE. THIS MONTH-TO MONTH MAINTENANCE WILL BE IN PLACE UNTIL THE LAST GROUP OF LIFTS AND ESCALATORS HAVE COMPLETED THEIR 12 MONTHS FREE SERVICE, AT WHICH POINT THE CLIENT WILL ENTER INTO A 5 YEAR SLA AGREEMENT – THIS COST WILL NEED TO BE NOTED ON THE PRICE SCHEDULE.**

Additional information required

- ❖ Energy consumption of the escalator with full load for one hour: _____

Tenderer to complete the following Measurement schedule

<u>Escalator information required</u>				
Incline	Beam to Beam measurement	Pit depth	Escalator width	Rise
		1100		

NOTE: TENDERERS TO SUPPLY AN IN-TRUSS UPGRADE BASED ON THE SPECIFICATION ABOVE

Annex 2

Project program

Phase I - Approvals and Materials Procurement	Time frame in weeks
• Shop Drawings	
• Shop Drawing Approval	
• Manufacturing	
• Deliver Material/Prep Work	
• Total Duration Phase I	
Phase II – Shut Down Period	Time frame in weeks
• Installation of 2 Escalators	
• Complete Punch List	
• Total Duration Phase II	
Total Project Duration:	

❖ Micro Soft Project plan to be submitted with tender specification

TENDER PRICE SCHEDULE

IN-TRUSS UPGRADE OF EXISTING ESCALATORS: RADIO PARK – JESC 503 & JESC 504

Item Description	Amount
Escalators In-truss upgrade as per specification including Stainless Steel Truss Cladding	R
Price for under handrail LED lighting	R
Remedial work	R
Civil work (if required)	R
Hoarding	R
12-month maintenance warranty	R
Tender amount excluding VAT:	R
15% VAT:	R
Total tender price including VAT:	R

Total tender price including VAT in words: _____

Monthly maintenance after the 12 months free service period per escalator per month - Month-to-Month costs	R
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Total Five Year SLA Maintenance cost for this group of escalators once the 12 months free service is complete	R
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Currency	Exchange rate at time of tender	Material costs in foreign currency	Material costs in Rands
£1	R	£	R
€1	R	€	R
USD1	R	USD	R

TENDERER TO NOTE BELOW ANY DIVIATIONS OR QUALIFICATIONS TO THIS TENDER

[illegible]

TENDER PRICE FOR ADDITIONAL OPTIONS

Item Description	Amount
Option for complete Escalator Management System for Escalators 01/E496 & 01/E497	R
Option for complete Escalator Management System for Escalators 01/E498 & 01/E499	R
Option for complete Escalator Management System for Escalators JESC 503 & JESC 504	R
	R
Tender amount excluding VAT:	R
15% VAT:	R
Total tender price including VAT:	R

Total tender price including VAT in words: _____

Currency	Exchange rate at time of tender	Material costs in foreign currency	Material costs in Rands
£1	R	£	R
€ 1	R	€	R
USD 1	R	USD	R

Declaration:

By the submission of this tender, the tenderer declares and agrees to contract for, execute and complete the works as per this tender specification, for the tender sum as stated above should the tenderer be successful in being awarded the project.

Please note that tenderers are to initial every page of this document.

Signed at _____ on this the ____ day of _____ 20__

COMPANY: _____

Authorized Signature

Print Name and Title