AIRPORTS COMPANY SOUTH AFRICA

NEC3 Engineering and Construction

ENGINEERING CONSTRUCTION CONTRACT (ECC3)

A contract between — AIRPORTS COMPANY SOUTH AFRICA SOC LIMITED

Applicable at the Chief Dawid Stuurman International Airport (CDSIA)

PEA7164/2023/RFP

And

(Registration Number:)

For — The Replacement of the 2 x Carousel Conveyor Belts for a Period of 12 Months at the Chief Dawid Stuurman International Airport (CDSIA)

Contents: Compiled in accordance with CIDB Standard for Uniformity in Construction Procurement (January 2009 amendments)

Documentation prepared by:

AIRPORTS COMPANY SOUTH AFRICA

C1 Agreements & Contract Data

C 1.1 Form of Offer and Acceptance

Offer

The Employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of: **Services as described under section C 3 for the**

Chief Dawid Stuurman International Airport (CDSIA)

The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.
By the representative of the tenderer, deemed to be duly authorised, signing this part of this form of offer and acceptance, the tenderer offers to perform all of the obligations and liabilities of the Service Provider under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the Contract Data.

The offered price (including VAT)

_____ (in words);

(In figures)_____ Refer Part C2: Pricing Data

This offer may be accepted by the Employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the Service Provider in the conditions of contract identified in the Contract Data.

Signature(s) _____ Date _____

Name(s) _____ _____

Capacity _____ _____

For the
Tenderer _____
(Name and address of organization)

Name and
Signature of
Witness _____ Date _____.

AIRPORTS COMPANY
SOUTH AFRICA

Acceptance

(Only to be completed at acceptance stage)

By signing this part of this form of offer and acceptance, the Employer identified below accepts the tenderer's offer. In consideration thereof, the Employer shall pay the Service Provider the amount due in accordance with the conditions of contract identified in the Contract Data. Acceptance of the tenderer's offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:
Part C1: Agreements and contract data, (which includes this agreement)
Part C2: Pricing data
Part C3: Scope of work.
Part C4: Site information and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement.
The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Employer's agent (whose details are given in the contract data) 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. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now Service Provider) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____
For the Employer, Airports Company South Africa SOC Limited.
ACSA offices, North Wing 4th Floor OR Tambo International Airport

Name and
Signature of
Witness _____ Date _____

AIRPORTS COMPANY
SOUTH AFRICA

Schedule of Deviations

Notes:
The extent of deviations from the tender documents issued by the employer before the tender closing date is limited to those permitted in terms of the conditions of tender.
A tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

1 Subject _____

Details _____

2 Subject _____

Details _____

3 Subject _____

Details _____

4 Subject _____

Details _____

By the duly authorised representatives signing this agreement, the Employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

C1.2 ECC3 Contract Data

PART ONE - DATA PROVIDED BY THE EMPLOYER

The Conditions of contract are selected from the NEC3 Engineering and Construction Contract, April 2013.

Each item of data given below is cross-referenced to the NEC3 Engineering Construction Contract which requires it.

Clause	Statement	Data
1	General	
	The conditions of contract are the core clauses and the clauses for Main Option	
	Main Option Dispute resolution Option	A: Priced contract with Activity Schedule W1: Dispute resolution procedure
	Secondary Options (incorporating amendments)	X2: Changes in the law X7: Delay damages X16: Retention X18: Limitation of liability Z: Additional conditions of contract
	of the NEC3 Engineering and Construction Contract, April 2013	
10.1	The Employer is:	Airports Company South Africa SOC Limited Reg. No 1993/004149/30 VAT no 4930138393
	Address	Chief Dawid Stuurman International Airport, Allister Miller Drive Walmer Gqeberha 6000
	Tel No.	011 921 6911
10.1	The Project Manager is	Mandla Hadebe – Engineering Maintenance Manager
	Address	Chief Dawid Stuurman International Airport, Allister Miller Drive Walmer Gqeberha 6000
	Tel No.	041 507 7230

	e-mail	mandla.hadebe@airports.co.za
10.1	The Supervisor is	Thando Patikala
	Address	
	Tel No.	041 507 7351
	e-mail	thando.patikala@airports.co.za
11.2	The works are	2021/RFP Replacement of the 2 X Carousel Conveyor belts at Chief Dawid Stuurman International Airport (CDSIA) (Refer to section C3 for details)
11.2	The following matters will be included in the Risk Register	Availability of As Built information
11.2	The Works Information is in	Section C3, Works Information of this contract
11.2	The Site Information is in	Section C4, Site Information of this contract
11.2	The boundary of the site is	The boundary of Chief Dawid Stuurman International Airport (CDSIA)
12.2	The law of the contract is the law of	the Republic of South Africa
13.1	The language of this contract is	English
13.3	The period of reply is	Three (3) working days
3	Time	
31.2	The starting date is	Upon signing of the contract by ACSA
11.2	The completion date is	Twenty four (24) Months Upon signing of the contract
30.1	The access date is	Upon signing of the contract
31.1	The Contractor submits a first (preliminary) programme with the tender by the tender closing date	Note
32.2	The Contractor submits revised programmes at intervals no longer than	One (1) week
35.1	The Employer is not willing to take over the works before the completion date	The Employer and Others will have access to the works during construction or prior to completion. Such access by the Employer and Others shall not relieve the Contractor from liability for the completion of the works in accordance with the Works Information and in terms of this contract.
4	Testing and Defects	

42.2	The defects date is	Twelve (12) months after Completion of the whole of the works
43.2	The defects correction period is	Two (2) weeks
5	Payment	
50.1	The assessment interval is	15th day of each successive month
50.1	The currency of this contract is the	South African Rand (ZAR)
51.2	The period within which payment is made is	30 days from date of invoice.
51.4	The interest rate is	The prime lending rate of the Nedbank Bank, as determined from time to time
6	Compensation events	
60.1	The weather measurements to be recorded for each calendar month are	N/A
60.1	The place where weather is to be recorded (on the Site) is	N/A
60.1	Assumed values for the ten-year return weather data for each weather measurement for each calendar month are	N/A
7	Title	No data required for this section of the conditions of contract
8	Risks and Insurance	
84.1	The Employer provides these insurances	Refer to the Insurance Clauses which is attached at the end of the Contract Data
84.2	The Contractor provides the insurance stated in	The Insurance Clauses which is attached at the end of the Contract Data. The insurances are in the joint names of the Parties and provide cover for events which are at the Contractor's risk from the starting date until the Defects Certificate or a termination certificate has been issued.
	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the Contractor arising out of and in the course of their employment in connection with this contract for any one event is:	As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993
9	Termination	No data required for this section of the conditions of contract
10	Data for Main Options	

B	Priced contract with Bill of Quantities	
11	Data for Option W1	
W1.1	The Adjudicator is	The person appointed jointly by the parties from the list of adjudicators contained below
W1.2	The Adjudicator nominating body is	The current Chairman of Johannesburg Advocate's Bar Council
W1.4	The tribunal is	Arbitration
W1.4	If the tribunal is arbitration, the arbitration procedure is	is set out in The Rules for the Conduct of Arbitrations 2013 Edition, 7th Edition, published by The Association of Arbitrators, (Southern Africa)
W1.4	The place where arbitration is to be held is	Johannesburg, South Africa.
W1.4	The person or organisation who will choose an arbitrator	The Arbitrator is the person selected by the Parties as and when a dispute arises in terms of the relevant Z Clause, from the Panel of Arbitrators provided under the relevant Z clause if the arbitration procedure does not state who selects an arbitrator. The Arbitrator nominating body is the Chairman of the Johannesburg Advocates Bar Council.
12	Data for Secondary Option Clauses	
X7	Delay Damages	
	Delay damages of the works are	Amount per day is 0.05% of the contract value, up to the maximum of 10% of the contract value
X13	Performance bond	
X13.1	The amount of the performance bond is	N/A
X16	Retention	
X16.1	The retention percentage is	5% of the Contract value.
X18	Limitation of Liability	
X18.1	The Contractor's liability to the Employer for indirect or consequential loss is limited to	Nil - Neither Party is liable to the other for any consequential or indirect loss, including but not limited to loss of profit, loss of income or loss of revenue
X18.2	For any one event, the Contractor's liability to the Employer for loss of or damage to the Employer's property is limited to	The total of the Prices
X18.3	The Contractor's total liability to the Employer for defects due to his design which are not listed on the Defects Certificate is limited to	The total of the Prices

X18.4	The Contractor's total liability to the Employer for all matters arising under or in connection with this contract, other than excluded matters, is limited to	The Contractor's total direct liability to the Employer for all matters arising under or in connection with this contract, other than the excluded matters, is limited to the total of the Prices and applies in contract, tort or delict and otherwise to the extent allowed under the law of the contract. The excluded matters are amounts payable by the Contractor as stated in this contract for Loss of or damage to the Employer's property, Delay damages, Defects liability, Insurance liability to the extent of the Contractor's risks loss of or damage to property (other than the works, Plant and Materials), death of or injury to a person; damage to third party property; and infringement of an intellectual property right

Z(A):	The Additional conditions of contract are Z1 – Z20
	Amendments to the Core Clauses
Z1	Interpretation of the law
Z1.1	Add to core clause 12.3: Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the Project Manager, the Supervisor, or the Adjudicator does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.
Z2	Providing the Works:
Z2.1	Delete core clause 20.1 and replace with the following: The Contractor provides the works in accordance with the Works Information and warrants that the results of the Works, when complete, shall be fit for their intended purpose
Z3	Other responsibilities:
Z3.1	Add the following at the end of core clause 27: The Contractor shall have satisfied himself, prior to the Contract Date, as to the completeness, sufficiency and accuracy of all information and drawings provided to him as at the Contract Date
Z3.2	The Contractor shall be responsible for the correct setting out of the Works in accordance with the original points, lines and levels stated in the Works Information or notified by the Project Manager, Supervisor or the Employer. Any errors in the positioning of the Works shall be rectified by the Contractor at the Contractor's own costs.
Z4	Extending the defects date:
Z4.1	Add the following as a new core clause 46: If the Employer cannot use the works due to a Defect, which arises after Completion and before the defects date, the defects date is delayed by a period equal to that during which the Employer, due to a Defect, is unable to use the works

Z4.2	If part of the works is replaced due to a Defect arising after Completion and before the defects date, the defects date for the part of the works which is replaced is delayed by a period equal to that between Completion and the date by when the part has been replaced
Z4.3	The Project Manager notifies the Contractor of the change to a defect date when the delay occurs. The period between Completion and an extended defects date does not exceed twice the period between Completion and the defects date stated in the Contract Data
Z5	Termination
Z5.1	Add the following to core clause 91.1, at the second main bullet, fifth sub-bullet point, after the words “assets or”: “business rescue proceedings are initiated or steps are taken to initiate business recue proceedings”.
	Amendment to the Secondary Option Clauses
Z6	Performance Bond
Z6.1	Amend the first sentence of clause X13.1 to read as follows: The Contractor gives the Employer an unconditional, on-demand performance bond, provided by a bank which the Project Manager and the Employer have accepted, for the amount stated in the Contract Data and in the form set out in Annexure C.ii of this Contract Data.
Z6.2	Add the following new clause as Option X13.2: The Contractor ensures that the performance bond is valid and enforceable until the end of the contract period. If the terms of the performance bond specify its expiry date and the end of the contract period does not coincide with such expiry date, four weeks prior to the said expiry date, the Contractor extends the validity of the performance bond until the end of the contract period. If the Contractor fails to so extend the validity of the performance bond, the Employer may claim the full amount of the performance bond and retain the proceeds as cash security
Z7	Limitation of liability:
Z7.1	Insert the following new clause as Option X18.6: The Employer's liability to the Contractor for the Contractor's indirect or consequential loss is limited to R0.00
Z7.2	Notwithstanding any other clause in this contract, any proceeds received from any insurances or any proceeds which would have been received from any insurances but for the conduct of the Contractor shall be excluded from the calculation of the limitations of liability listed in the contract
	Additional Z Clauses
Z8	Cession, delegation and assignment
Z8.1	The Contractor shall not cede, delegate or assign any of its rights or obligations to any person without the written consent of the Employer, which consent shall not be unreasonably withheld. This clause shall be binding on the liquidator/business rescue practitioner /trustee (whether provisional or not) of the Contractor
Z8.2	The Employer may cede and delegate its rights and obligations under this contract to any person or entity

Z9	Joint and several liability
Z9.1	If the Contractor constitutes a joint venture, consortium or other unincorporated grouping of two or more persons, these persons are deemed to be jointly and severally liable to the Employer for the performance of the Contract.
Z9.2	The Contractor shall, within 1 week of the Contract Date, notify the Project Manager and the Employer of the key person who has the authority to bind the Contractor on their behalf.
Z9.3	The Contractor does not materially alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without prior written consent of the Employer.
Z10	Ethics
Z10.1	The Contractor undertakes:
Z10.1.1	not to give any offer, payment, consideration, or benefit of any kind, which constitutes or could be construed as an illegal or corrupt practice, either directly or indirectly, as an inducement or reward for the award or in execution of this contract;
Z10.1.2	to comply with all laws, regulations or policies relating to the prevention and combating of bribery, corruption and money laundering to which it or the Employer is subject, including but not limited to the Prevention and Combating of Corrupt Activities Act, 12 of 2004.
Z10.2	The Contractor's breach of this clause constitutes grounds for terminating the Contractor's obligation to Provide the Works or taking any other action as appropriate against the Contractor (including civil or criminal action). However, lawful inducements and rewards shall not constitute grounds for termination.
Z10.3	If the Contractor is found guilty by a competent court, administrative or regulatory body of participating in illegal or corrupt practices, including but not limited to the making of offers (directly or indirectly), payments, gifts, gratuity, commission or benefits of any kind, which are in any way whatsoever in connection with the contract with the Employer, the Employer shall be entitled to terminate the contract in accordance with the procedures stated in core clause 92.2. the amount due on termination is A1.
Z11	Confidentiality
Z11.1	All information obtained in terms of this contract or arising from the implementation of this contract shall be treated as confidential by the Contractor and shall not be used or divulged or published to any person not being a party to this contract, without the prior written consent of the Project Manager or the Employer, which consent shall not be unreasonably withheld.
Z11.2	If the Contractor is uncertain about whether any such information is confidential, it is to be regarded as such until otherwise notified by the Project Manager.
Z11.3	This undertaking shall not apply to –
Z11.3.1	Information disclosed to the employees of the Contractor for the purposes of the implementation of this agreement. The Contractor undertakes to procure that its employees are aware of the confidential nature of the information so disclosed and that they comply with the provisions of this clause;

Z11.3.2	Information which the Contractor is required by law to disclose, provided that the Contractor notifies the Employer prior to disclosure so as to enable the Employer to take the appropriate action to protect such information. The Contractor may disclose such information only to the extent required by law and shall use reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed;
Z11.3.3	Information which at the time of disclosure or thereafter, without default on the part of the Contractor, enters the public domain or to information which was already in the possession of the Contractor at the time of disclosure (evidenced by written records in existence at that time);
Z11.4	The taking of images (whether photographs, video footage or otherwise) of the works or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the Project Manager. All rights in and to all such images vests exclusively in the Employer
Z11.5	The Contractor ensures that all his Subcontractors abide by the undertakings in this clause.
Z12	Employer's Step-in rights
Z12.1	If the Contractor defaults by failing to comply with his obligations and fails to remedy such default within 2 weeks of the notification of the default by the Project Manager, the Employer, without prejudice to his other rights, powers and remedies under the contract, may remedy the default either himself or procure a third party (including any subcontractor or supplier of the Contractor) to do so on his behalf. The reasonable costs of such remedial works shall be borne by the Contractor
Z12.2	The Contractor co-operates with the Employer and facilitates and permits the use of all required information, materials and other matter (including but not limited to documents and all other drawings, CAD materials, data, software, models, plans, designs, programs, diagrams, evaluations, materials, specifications, schedules, reports, calculations, manuals or other documents or recorded information (electronic or otherwise) which have been or are at any time prepared by or on behalf of the Contractor under the contract or otherwise for and/or in connection with the works) and generally does all things required by the Project Manager to achieve this end.
Z13	Liens and Encumbrances
Z13.1	The Contractor keeps the Equipment used to Provide the Services free of all liens and other encumbrances at all times. The Contractor, vis-a-vis the Employer, waives all and any liens which he may from time to time have, or become entitled to over such Equipment and any part thereof and procures that his Subcontractors similarly, vis-a-vis the Employer, waive all liens they may have or become entitled to over such Equipment from time to time
Z14	Intellectual Property
Z14.1	Intellectual Property ("IP") rights means all rights in and to any patent, design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works.
Z14.2	IP rights remain vested in the originator and shall not be used for any reason whatsoever other than carrying out the works.
Z14.3	The Contractor gives the Employer an irrevocable, transferrable, non-exclusive, royalty free licence to use and copy all IP related to the works for the purposes of constructing, repairing, demolishing, operating and maintaining the works

Confidential

Z14.4 Ownership of all designs and drawings produced by the Contractor in relation to this contract, shall vest in the Employer.

Z14.4.1 The Contractor shall be indemnified against any form of claim should the Employer make available to third parties the information referred to in Z14.4.

Z14.5 The Contractor shall indemnify and hold the Employer harmless against and from any claim alleging an infringement of IP rights ("the claim"), which arises out of or in relation to:

Z14.5.1 the Contractor's design, manufacture, construction or execution of the Works

Z14.5.2 the use of the Contractor's Equipment, or

Z14.5.3 the proper use of the Works.

Z14.6 The Employer shall, at the request and cost of the Contractor, assist in contesting the claim and the Contractor may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it.

Z16 Dispute resolution:

Z16.1 Appointment of the Adjudicator

An Adjudicator is appointed when a dispute arises, from the Panel of Adjudicators below. The referring party nominates an Adjudicator, which nomination is either accepted or rejected by the other party. In the instance of a rejection of the nominated Adjudicator, the referring Party refers the appointment deadlock to the Chairman of the Johannesburg Bar Council, who appoints an Adjudicator listed in the Panel of Adjudicators below

The Parties appoint the Adjudicator under the NEC3 Adjudicator's Contract, April 2013

Panel of Adjudicators

Name	Location	Contact details (phone & e mail)
Adv. Ghandi Badela	Gauteng	+27 11 282 3700 ghandi@badela.co.za
Mr. Errol Tate Pr. Eng.	Durban	+27 11 262 4001 Errol.tate@mweb.co.za
Adv. Saleem Ebrahim	Gauteng	+27 11 535-1800 salimebrahim@mweb.co.za
Mr. Sebe Msutwana Pr. Eng.	Gauteng	+27 11 442 8555 sebe@civilprojects.co.za
Mr. Sam Amod	Gauteng	sam@samamod.com
Adv. Sias Ryneke SC	Gauteng	083 653 2281 reyneke@duma.nokwe.co.za
Mr. Emeka Ogbugo (Quantity Surveyor)	Pretoria	+27 12 349 2027 emeka@gosiame.co.za

Z16.2 Appointment of the Arbitrator

	An Arbitrator is appointed when a dispute arises from the Panel of Arbitrators below. The referring party nominates an Arbitrator, which nomination is either accepted or rejected by the other party. In the instance of a rejection of the nominated Arbitrator, the referring Party refers the appointment deadlock to the Chairman of the Johannesburg Bar Council, who appoints an Arbitrator listed in the Panel of Arbitrators below	Panel of Arbitrators

Name	Location	Contact details (phone & e mail)
Adv. Ghandi Badela	Gauteng	+27 11 282 3700 ghandi@badela.co.za
Mr. Errol Tate Pr. Eng.	Durban	+27 11 262 4001 Errol.tate@mweb.co.za
Adv. Saleem Ebrahim	Gauteng	+27 11 535-1800 salimebrahim@mweb.co.za
Mr. Sebe Msutwana Pr. Eng.	Gauteng	+27 11 442 8555 sebe@civilprojects.co.za
Mr. Sam Amod	Gauteng	sam@samamod.com
Adv. Sias Ryneke SC	Gauteng	083 653 2281 reyneke@duma.nokwe.co.za
Mr. Emeka Ogbugo (Quantity Surveyor)	Pretoria	+27 12 349 2027 emeka@gosiame.co.za

Z17	Notification of a compensation event
Z17.1	Delete “eight weeks” in clause 61.3 and replace with “four weeks”. Delete the words “unless the event arises from the Project Manager or the Supervisor giving an instruction, issuing a certificate, changing an earlier decision or correcting an assumption.
Z18	BBBEE Certificate
Z18.1	The Contractor shall be expected to annually present a compliant BEE Certificate. Failure to do adhere to these requirements shall be considered a material breach of the conditions of this Contract, the sanction for which may be a cancellation of this Contract.
Z19	Communication
Z19.1	Add a new Core Clause 14.5 and 14.6 to read as follows: The Project Manager requires the written consent of the Employer if an action will result in a change to the design, scope, and Works information that is 5% or more
Z19.2	The Project Manager requires the written consent of the Employer if an action will result in the Completion Date being extended by more than 30 days.
Z20	Delegation
	As stipulated by Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993 as amended the Contractor agrees to the following:
Z20.1	As part of this contract the Contractor acknowledge that it (mandatory) is an employer in its own right with duties as prescribed in the Occupational Health and Safety Act No 85 of 1993 as amended and agree to ensure that all work being performed, or Equipment, Plant and Materials being used, are in accordance with the provisions of the said Act, and in particular with regard to the Construction Regulations

Confidential

Z21	Transformation Imperatives
Z21.1	The Service Provider shall enter into a contract (either through partnership, joint venture or sub-contracting) with (a) Targeted Enterprise(s) to perform a minimum of 30% of work.
Z21.2	A Targeted Enterprise is a registered built environment firm contracted (either by Joint Venture, partnership or sub-contracting) by the tenderer to perform a specified percentage of work stated in the Contract Data under the guidance of the tenderer; or
Z21.3	A built environment CIDB registered firm contracted (either by Joint Venture, partnership or sub-contracting) by the tenderer to perform a specified percentage of work stated in the Contract Data under the guidance of the tenderer and which complies with the following:
Z21.3.1.	Does not share equity holding with the tenderer; and
Z21.3.2.	Is registered in terms of the Company's Act, 2008 (Act No. 71 of 2008) or Close Corporation Act, 1984 (Act No. 69 of 1984); and
Z21.3.3.	Is registered with the South African Revenue Service; and
Z21.3.4.	Is at least an Exempted Micro Enterprise (EME) with a B-BBEE Status of "Level Two Contributor", as defined in the Amended Codes of Good Practice for measuring Broad- Based Black Economic Empowerment (published in Government Gazette No. 36928 on 11 October 2013); or
Z21.3.5.	Is at least a Qualifying Small Enterprise (QSE) with a B-BBEE Status of "Level Two Contributor", as defined in the Amended Codes of Good Practice for measuring Broad- Based Black Economic Empowerment (published in Government Gazette No. 36928 on 11 October 2013); and
Z21.3.6.	Is 50% or more black owned or 30% or more black women owned; and
Z21.3.7.	Has entered into a written relationship agreement of co-operation and assistance with the tenderer for the duration of the contract. The service provider shall achieve in the performance of the contract the contract skills development goal established in the CIDB Standard for developing skills through infrastructure contracts (August 2013) The Employer shall have no contractual relationships with Subcontractors. However, if a Subcontractor is found by the Employer to be incompetent, the Employer may request the Service Provider either to provide a Subcontractor with qualifications and experience acceptable to the Employer as a replacement, or to resume the performance of the relevant part of the Services itself. The Service Provider shall not sub-contract more than 25% of the tendered contract value excluding value of work allocated to Targeted Enterprise(s) and any services specified in the Scope of Work to be procured through the Employer's Supply Chain Procurement process) to any other enterprise that does not have an equal or higher B-BBEE status level, unless the intended sub-contractor(s) is an Exempted Micro Enterprise that has the capability and ability to execute the sub-contract. The Targeted Enterprise(s) shall not be allowed to sub-contract any work that forms part of the specified participation percentage without the Employer's approval.

Confidential

Z21.4	If due to his negligence or for reasons within its control, the Service Provider does not meet the specified target of work stated in the (measured through the value of the Fee Tendered) to the Targeted Enterprise the Employer shall be entitled to levy a penalty equal to 50% of the value by which the cumulative value of the payments to the Targeted Enterprise fails to meet the specified percentage.
Z20.4.1	If the service provider fails to substantiate that any failure to achieve the contract skills development goal was due to reasons beyond the service provider's control, which is the only reason that may be acceptable to the employer, sanctions shall apply as follows:
Z20.4.2	In the event that the service provider does not meet the specified CSDG target, ACSA shall levy a penalty which is equal to 50% of the Total Notional Cost over contract duration of the skills development programme.

PART TWO - DATA PROVIDED BY THE CONTRACTOR

Clause	Statement	Data
10.1	The Contractor is (Name):	
	Address:	
	Telephone No.	
	Fax No.	
11.2	The working areas are	Only the Site Area. See C4 'Site Information'
24.1	The Contractor's Key people are:	CV's to be appended to Tender Schedule
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	
	Name:	
	Job:	
	Responsibility:	
	Qualifications:	
	Experience:	

Name:

Job:

Responsibility:

Qualifications:

Experience:

11.2	The following matters will be included in the Risk Register	Availability of As Built information Existing Services Access to Site Delay in supply of material and/or equipment Progress of the works against the program Travelling public and ACSA stakeholders
11.2	The Works Information is in	Part C3 'Scope of Works' section of this contract
31.1	The programme identified in the Contract Data is	the contract

AIRPORTS COMPANY
SOUTH AFRICA

C1.4 Insurance Schedule

SECTION A: DEFINITIONS
Landside refers to:
Areas of the airport before the security points, and
The restricted area beyond the security points but, within the perimeter of gatehouses, passenger terminals and cargo buildings
Airside refers to:
The Apron / manoeuvring areas
Area within the airside boundary/perimeter fence, excluding the internal areas of the passenger terminals, perimeter gatehouses and cargo buildings

AIRPORTS COMPANY SOUTH AFRICA

SECTION B: INSURANCE CLAUSES

1. Insurance requirements for contracts with a value below R50million on the LANDSIDE
1.1 Contract Works
With regards to contract works claims, the contractor/consultant is responsible for a deductible (excess) of R250 000.
Contractors / consultants may re-insure the deductible
1.2 Public Liability

- In the event of a claim against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R275 000
- In the event of a claim against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R500 000
- Contractors / consultants may re-insure the deductibles

1.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R5million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for Professional Indemnity cover of R5million
- In the event of a claim above R5million, the ACSA PI cover will kick in for the amount in excess of R5m.
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

2. Insurance requirements for contracts below R50million on the AIRSIDE
2.1 Contract Works
With regards to contract works claims, the contractor / consultant is responsible for a deductible (excess) of R250 000.
Contractors / consultants may re-insure the deductible
2.2 Public Liability

- In the event of a claim brought against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R525 000
- In the event of a claim brought against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R750 000
- In the event of a claim brought against the contractor / consultant for damage to aircraft, the contractor / consultant will be responsible for a deductible (excess) of R750 000
- Contractors / consultants may re-insure the deductibles

2.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R5million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for a Professional Indemnity cover of R5million.
- In the event of a claim above R5million, the ACSA PI cover will kick in for the amount in excess of R5million.
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

3. Insurance requirements for contracts with a value above R50 million on the LANDSIDE

Contracts with a value of more R50 million are not automatically covered under the construction policies. A separate quote is provided by insurers per contract.

3.1 Contract Works

- With regards to contract works claims, the contractor / consultant is responsible for the following deductibles:
- All Civil Work and Earthworks – R300 000 deductible (excess)
- All other claims – R300 000 deductible (excess)
- Other property insured – R700 000 deductible (excess)
- Contractors / consultants may re-insure the deductibles

3.2 Public Liability

- In the event of a claim brought against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R275 000
- In the event of a claim brought against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R500 000
- Contractors / consultants may re-insure the deductibles

3.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R10million
- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for a Professional Indemnity cover of R10million
- In the event of a claim above R10million, the ACSA PI cover will kick in for the amount in excess of R10m
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

4. Insurance requirements for contracts with a value above R50 million on the AIRSIDE

Contracts with a value of more R50 million are not automatically covered under the construction policies. A separate quote is provided by insurers per contract.

4.1 Contract Works

- With regards to contract works claims, the contractor / consultant is responsible for the following deductibles:
- All Civil Work and Earthworks excluding Runways – R300 000 deductible (excess)
- Runway Rehabilitation – R300 000 deductible (excess)
- New Runway Construction – R700 000 deductible (excess)
- All other claims – R300 000 deductible (excess)
- Other property insured – R700 000 deductible (excess)
- Contractors / consultants may re-insure the deductibles

4.2 Public Liability

- In the event of a claim brought against the contractor / consultant for 3rd party property damage the contractor / consultant will be responsible for a deductible (excess) of R1 025 000
- In the event of a claim brought against the contractor / consultant for removal of lateral support, the contractor / consultant will be responsible for a deductible (excess) of R1 250 000
- In the event of a claim for damage to aircraft, the contractor / consultant will be responsible for a deductible (excess) of R1 250 000

Contractors / consultants may re-insure the deductibles

4.3 Professional Indemnity

- All consultants are responsible for Professional Indemnity cover of R10million

- Contractors who have a material design element, excluding typical P & G related work, as part of their scope, are responsible for a Professional Indemnity cover of R10million
- In the event of a claim above R10million, the ACSA PI cover will kick in for the amount in excess of R10m
- Proof of cover in the form of a certificate of insurance should be provided to ACSA before a contract is signed between ACSA and the contractor and/or consultant.

Confidential

AIRPORTS COMPANY
SOUTH AFRICA

INCIDENT ADVICE FORM

NOTE: PLEASE SEND A COPY HEREOF TO ACSA HEAD OFFICE

Send to: ..... *From: .....
Aon South Africa (Pty) Ltd - Construction & Engineering
Attention: Priscilla Hart
1 Sandton Drive
Sandhurst, Sandton
2196
Tel No: +27 (11) 944 7974
E- mail: priscilla.hart@aon.co.za

*Please provide name of contracting company, site address, telephone, fax numbers and e-mail.

DATE OF LOSS:

REPORTED TO SITE AGENT BY: DATE

REPORTED TO AON SOUTH AFRICA BY: DATE

Locality of Incident:

How did the loss /damage/injury/death occur (cause):

_____
_____

Confidential

C2.1 Pricing assumptions: Option A

The conditions of contract

How work is priced and assessed for payment
Clause 11 in NEC3 Engineering and Construction Contract, April 2013 (ECC3) Option A states:

Identified and defined terms	11 11.2	(20) The Activity Schedule is the activity schedule unless later changed in accordance with this contract. (27) The Price for Work Done to Date is the total of the Prices for **each group of completed activities and** **each completed activity which is not in a group.** A completed activity is one which is without Defects which would either delay or be covered by immediately following work. (30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

This confirms that Option A is a lump sum form of contract where the work is broken down into activities, each of which is priced by the tendering contractor as a lump sum. Only completed activities are assessed for payment at each assessment date; no part payment is made if the activity is not completed by the assessment date.

Function of the Activity Schedule
Clause 54.1 in Option A states: "Information in the Activity Schedule is not Works Information or Site Information". This confirms that instructions to do work or how it is to be done are not included in the Activity Schedule but in the Works Information. This is further confirmed by Clause 20.1 which states, "The Contractor Provides the Works in accordance with the Works Information". Hence the Contractor does not Provide the Works in accordance with the Activity Schedule. The Activity Schedule is only a pricing document.

Link to the programme
Clause 31.4 states that "The Contractor provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance". Hence when compiling the activity schedule, the tendering contractor needs to show each activity on the programme he submits with his tender.

Preparing the activity schedule
The tendering contractor prepares the activity schedule and should study the ECC3 Guidance Notes pages 19 and 20 before doing so. The Employer may have instructed the tendering contractor to include particular activities which he has specified and requires the Contractor to identify them in his activity schedule.

1 Generally it is the Contractor who prepares the Activity Schedule as part of his tender by breaking down the work described within the Works Information into suitable activities which can be well defined, priced as a lump sum and shown on the programme. The Employer, in his Conditions of Tender or in a Tender Schedule, may have listed some items that he requires the Contractor to include in his activity schedule and be priced accordingly.

2 The Prices are defined in clause 11.2(20) as the lump sum for each activity in the activity schedule and the Price for Work Done to Date (PWDD) (the amount due to the contractor) is defined in clause 11.2(24)

Confidential

as the total of the Prices for each activity that has been completed. Hence activities in the activity schedule should be structured so as to provide an acceptable monthly cash flow as they are only assessed for payment on the assessment date if they have been completed.

3 As the Contractor has an obligation to correct Defects (core clause 43.1) and there is no compensation event for this unless the Defect was due to an Employer's risk, the lump sum Prices must also include for the correction of Defects.

4 If the Contractor has decided not to identify a particular activity, the cost to the Contractor of doing the work must be included in, or spread across, the other Prices in order to fulfil the obligation to complete the works for the tendered total of the Prices.

5 There is no adjustment to the lump sum activity schedule price if the amount, or quantity, of work within that activity later turns out to be different to that which the contractor estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event. See Clause 60.1.

6 Hence the Prices tendered by the Contractor in the activity schedule are inclusive of everything necessary and incidental to Providing the Works in accordance with the Works Information, as it was at the time of tender, as well as correct any Defects not caused by an Employer's risk.

However, the Contractor does not have to allow in his Prices for matters that may arise as a result of a compensation event. It should be noted that the list of compensation events includes those arising as a result of an Employer's risk event listed in core clause 80.1.

General assumptions

Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
The Prices and rates stated for each item in the activity schedule shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the Contractor in carrying out or providing that item.
An item against which no Price is entered will be treated as covered by other Prices or rates in the bill of quantities.
The quantities contained in the activity schedule may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the Project Manager at each assessment date will be used for determining payments due.
The short descriptions of the items of payment given in the bill of quantities are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Works Information.

Amplification of or assumptions about measurement items

For the avoidance of doubt the following is provided to assist in the interpretation of descriptions given in the method of measurement. In the event of any ambiguity or inconsistency between the statements in the method of measurement and this section, the interpretation given in this section shall be used.

2.1.1 Pricing Instructions:

2.1.1.1 Bidders must price in accordance with the pricing schedules below, this will enable ACSA to compare priced offers.

2.1.1.2 Failure to submit a priced offer using the prescribed schedules will make the bid liable for disqualification.

2.1.1.3 A Detailed Breakdown of costs must be attached.

2.1.1.4 All rates quoted as part of this bid will apply to ad-hoc works as/when required (additional work outside scheduled maintenance).

2.1.1.5 Do not leave any area blank in the pricing schedules.

2.1.1.6 Permit costs:

- Permit costs will need to be paid up front by the successful bidder and ACSA will reimburse against proof of payment.
- No mark-up to be levied on Permit costs.
- All employees will be checked for criminal records and no permit will be granted to those with criminal records.
- Cost for lost permits and new employees will not be reimbursed by ACSA.

2.1.1.7 No Mark-up to be levied on items provided by ACSA (e.g. Lease, Water, Electricity, Permits etc.)

2.1.1.8 Procured Items and Services:

- Consumables will be charged at cost plus mark-up.
- VAT will not form part of mark-up calculations.

- ACSA will provide the storeroom where the materials will be stored.
- The procured materials / consumables quotes must be market related and contractor to provide a receipt from supplier. Cost shall be net cost (excluding VAT) of parts supplied to site with all discounts deducted.
- All material supplied must be of good quality.

2.1.1.9 The Bid offer must be inclusive of VAT.

2.1.1.10 The VAT portion must be indicated separately.

2.1.1.11 Payment for this contract will be against proven cost.

Annual Increases will be negotiated with CPI being the maximum granted

2.1.2 Pricing Schedules:

The following payment schedule will be applied:

ACSA's payment terms as per the ACSA policy for purchasing of equipment are allowed to be in three (3) trenches;

- 50% at the signing of the contract

- 25% at the receipt of equipment,

- 25%

or the entire 100% when the equipment has been installed and working.

PRICED CONTRACT AND ACTIVITY SCHEDULE		**Prices**					
Item No.	**Item Description**	**Local Content**			**Forex Component**		
		Labour	**Materials**	**Total**	**Labour**	**Materials**	**Total**
1	Contract Start-up fee (including Preliminary design)						
2	Site survey and Condition Assessment of equipment						
3	Detail design						
4	Removal and disposal of existing installation and rubble from site.						
	Carousel 1						
5	All required carousel parts to be delivered to site						
6	All infill cladding and side walls						
7	All required conveyor parts delivered to Site.						
8	Installation, commissioning and handover						
	Carousel 2						
9	All required carousel parts to be delivered to site						

Confidential

10	All infill cladding and side walls						
11	All required conveyor parts delivered to Site.						
12	Installation, commissioning and handover						
13	All related building works						
14	Hoarding						
17	Documentation (mechanical, electrical, controls and as-built drawings)						
18	Forward cover						
19	Project management						
20	Contract administration (including attendance of all project related meetings)						
21	Maintenance and operations staff training						
22	Preventative Maintenance during 12 months warranty period						
	Subtotal A	R -	R -	R -	R -		R -
	Contingencies @ 10%						
	Subtotal B						
	VAT @ 15%						
	TOTAL						R -

Confidential

* Disbursements - estimated as follows and no additional allowance needs to be made elsewhere in pricing schedule, (including mark-up): -

SHE Audits Clause 3.3.3 (ECSA Fees Guidelines)	R 30, 000.00
Services location	R 30,000.00
Duplicating Contract and plans printing	R 20,000.00
Miscellaneous cost (permits, induction, etc.)	R 30,000.00
Total	R 110,000.00

Bidders must only price in accordance with the pricing schedule above, this will enable ACSA to compare priced offers. Failure to submit a priced offer using the prescribed schedule will make the bid liable for disqualification. Disbursements will be reimbursed at actual cost, plus mark-up not exceeding 10%. The successful bidder will be required to provide proof of expenses in order to be reimbursed. Other expenses, telephone cost, reproduction cost, courier costs, special postage are not payable for this appointment.

** **Travel & Accommodation**

Foreign bidders are urged to procure local offices for on-site installation and supervision as far as possible. Where this is not possible it is requested that the type of labourer (Eg. Engineer, Supervisor etc.) is listed with corresponding quotation on flights and accommodation. Please note that economy flights and 3-star hotel accommodation only is permitted for booking.

NB: Service provider to include a 1 year maintenance warranty inclusive of spares

2.1.2.1 **Final Summary**

DESCRIPTION	FOREIGN QUOTED AMOUNT	LOCAL QUOTED AMOUNT
TOTAL PROJECT COST (VAT EXCLUDED)		**R**
Disbursement	**R110,000.00**	**R110,000.00**
VAT		
TOTAL PROJECT COST INCLUDING VAT AND DISBURSEMENT	**R**	**R**

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VAT IS
In Words

In Numbers ***R***

Confidential

C3 Scope of Work

C3 Works information

C3.1 DESCRIPTION OF WORKS

C3.1.1 Employer's Objectives

The objective of this project is for the Contractor to successfully:

- Decommission and dispose of the existing two arrival carousels, including its associated conveyors, controls and peripherals.
- Design, supply, install and commission two new arrival carousels with infeed conveyors according to the specifications in this document.
- All required software, controls, electrical systems and steel work as well as all other systems and processes in accordance with the contract between the Employer for this project.

("**the Works**")

C3.1.2 Overview of the Works

The Contractor shall be appointed directly by the Airports Company South Africa Limited. The Contractor will have to plan, schedule, co-ordinate and execute all work in synchronisation with the Airport's operational schedule.

The project comprises of several tasks as stated below in no specific order and can be generalised as follows:

- Physical site assessment and onsite verification of all measurements
- Decommission, disassemble, remove from site and responsibly dispose of the existing two arrival carousels, including its associated conveyors, controls and peripherals
- Clearing and removing of all related rubble, redundant material and/or equipment from site
- Design of complete functional systems
- Manufacturing
- Factory acceptance testing
- Site supervision and management
- Installation
- Project Management

Confidential

- Commissioning
- Site acceptance testing
- Confidence trials

C3.1.3 Extent of the Works

The scope of works, as outlined below, does not necessarily provide a comprehensive list of all activities and deliverables.

- All work will be performed in a live operational environment, mostly in security-controlled areas and normal airport operations may not be interrupted.
- Decommission, disassemble, remove from site and responsibly dispose of the existing two arrival carousels, including its associated conveyors, controls and peripherals.
- Delivery and storage of materials will require detailed planning as site access can only be obtained during certain times and only for vehicles and drivers with the required permits. Delays can be expected with airport security processes. Same applies to removing of materials/rubble from site.
- Safekeeping of all materials, parts, etc. until final handover is completed.
- All required hoarding and housekeeping to keep the site presentable to the public.
- Removal of all rubble from Site on a daily basis.
- The design of complete functional systems where applicable.
- All electrical works such as wiring, motor control systems, field equipment, etc.
- All system hardware and software required to effectively control the systems.
- All signage such as height restriction, danger and all other signage as may be required in terms of the OHS Act.
- All structural work to complete the system in every sense.
- Full operating and maintenance manuals.
- All maintenance tasks during the defects liability period.
- Initial training (both operational and technical).

C3.1.4 Location of the Works and access to the Works

Part of the Works shall be constructed inside the terminal building whilst the other part will be constructed in the baggage deliveries basement. All Site Works shall be done at Chief Dawid Stuurman International Airport.

C3.2 ENGINEERING

C3.2.1 Design Services and Activity Matrix

The responsibilities for design and related documentation will be:

- Concept, feasibility and overall process – Employer
- Basic engineering and basic layouts to tender stage – Employer

Confidential

- Detail engineering and final design including all equipment, hardware and software – Contractor
- Detail layouts and drawings for construction - Contractor
- All as built documentation and drawings – Contractor

C3.2.2 Employer's Design

The design of the Employer is for tender purposes only and merely illustrates the conceptual design.

It is the sole responsibility of the Contractor to design, supply and install a fully functional system in accordance with the requirements of this document and to ensure that the system conforms to all the standards and specifications contained or implied in this document as well as all statutory requirements, whether mentioned in this document or not.

C3.2.3 Design Brief

C3.2.3.1 Design Rational

This design brief, as completed by the Employer, broadly details certain elements of the system in terms of type, basic fixing points, height, implied slope, function and speed. In addition, the control system and control algorithms are broadly described.

C3.2.3.2 Basic requirements

C3.2.3.2.1 Carousels 1 and 2

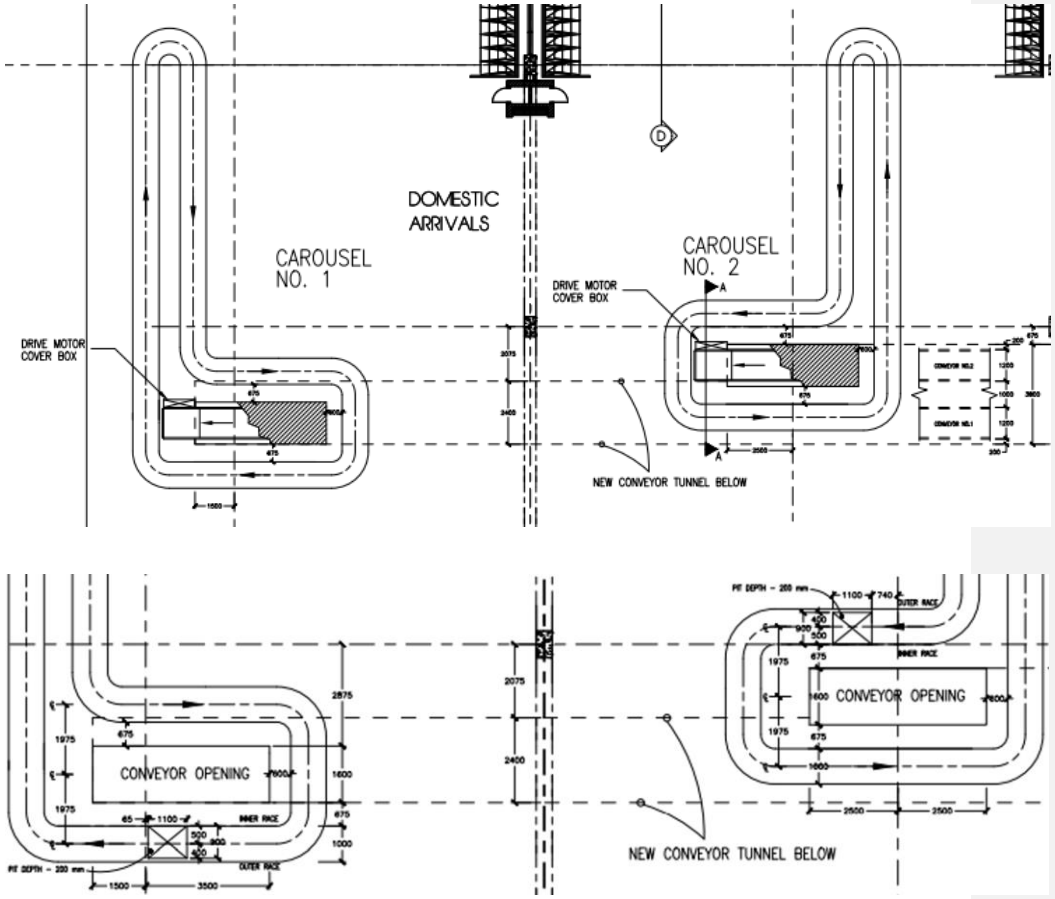
Figure 1 indicates the layout of existing arrival baggage reclaim carousels 1 and 2. It is intended that the new carousels will have a similar footprint to that of the existing carousels in order to (1) not require any work to the floor finishes and (2) not significantly encroach on the floorspace available to passengers in the arrivals hall.

Should work to the floor finishes be required (e.g. tiling), this shall be for the Contractor and will be to the approval of the Engineer.

Both baggage reclaim carousels shall be of the inclined-bed, friction drive type with a nominal claim width of approximately 1200mm. When measured on the centreline, it shall have a total length approximate to that of the existing carousels. It shall allow for smaller sized bags to be positioned side-by-side, thereby accumulating more bags per meter than a similar sized flatbed carousel.

Confidential

Figure 1:



C3.2.3.2.1.1 Infeed Conveyor Line

Each carousel must be provided with an infeed conveyor line. A high level layout to be provided by the Employer. The conveyor system will consist of an off-loading conveyor arrangement where the baggage handlers will off-load terminating baggage onto said conveyor. Baggage will then be transported to the arrivals terminal where it will be injected, in an orderly and controlled manner, onto the carousel.

Each carousel will have its own off-loading conveyor. Each off-loading conveyor must be long enough to allow for at least to standard baggage wagons to be off-loaded at the same time. The off-loading conveyors will be mounted on a concrete platform to provide protection from baggage handler vehicles.

Confidential

Each carousel, with its associated infeed conveyor line will have its own dedicated control system and controls cabinet. There will therefore be a total of two controls cabinets. It shall be possible to fully control each carousel, with its associated infeed conveyor lines, from its controls cabinet. Provision must be made to connect each system to a future SCADA system via a TCP/IP network via industry standard protocols. Each controls cabinet shall function completely independent from the other.

In addition, a remote panel shall be installed at the first off-loading conveyor of each carousel to enable the baggage handlers to start the system. There shall therefore be two remote panels in total. The panel functionality is described elsewhere in this document.

Bag-too-high and bag-too-long detection shall be provided at the off-loading conveyor in order for operators to clear and reset the faults themselves.

C3.2.3.3 General Design Requirements

C3.2.3.3.1 Carousel general requirements

The carousels shall have a continuous conveying surface of PVC overlapping slats. Slats shall have good anti-static and abrasion resistant properties. Slats shall be fire resistant to at least ISO340 (Class 2B).

The carousels shall be equipped with an electronic soft start mechanism whereby power to the chain is gradually increased to full power over a period of some seconds.

Carousels shall have a nominal speed of the reclaim surface of approximately 0,35m/s to 0.4m/s.

Only friction drives shall be utilised and caterpillar type drives shall not be allowed. Friction drives must be provided with automatic tension adjustment devices that will prevent slippage between the drive(s) and the carousel chain.

Carousels shall be fitted with adjustable feet to accommodate variance in floor level. The said feet shall be fitted with rubber pads for reduced noise and vibrations.

The carousels shall be fitted with missing slat supervision that will stop the carousel in the event any slat become detached from the carousel. This shall apply to both main slats and side-slats on the inclined carousel.

The carousels will enable smooth transfer of baggage onto it from the infeed conveyor.

The areas where baggage is injected/off-loaded onto the carousels shall be suitably designed to handle the additional forces.

Each carousel will have bag-stopper that will be incorporated into the sidewall at the induction point to prevent bags already on the carousel of being pushed off by the automatic loading operation. Special care must be taken with the design to effectively reduce impact noise during the induction operation. Bags may not be damage as a result of the loading operation. Care must be taken to ensure that bags, bag straps or bag tags do not get damaged or jammed at the bag-stopper or as a result of the loading operation.

Special care must be taken with the design of sidewalls and exterior cladding to ensure that it will withstand the typical passenger-bag-handling operations as well as moderate bumps from baggage trolleys without becoming loose or misaligned over time.

Clear demarcation to the approval of the Engineer must be provided on the floor around the carousel, indicating for passengers and children to keep clear of moving machinery.

Emergency stops shall be installed at approved and regular intervals around the carousels. The emergency stops shall be recessed into the cladding of the carousel to ensure that they are not accidentally pressed. The design shall be such that will not expose the emergency stop buttons to accidental activations or accidental damage by baggage

trolleys. Emergency stops shall also be installed as per applicable regulations throughout the rest of the system.

All carousel sections visible to the public shall be covered with brushed stainless-steel cladding (AISI 316 with a minimum thickness of 2,5mm and of a 180grit Satin finish. The carousels shall also be fitted with a kick-plate recessed beneath the carousel cladding. The kick-plate shall have a matt black finish.

The horisontal central in-fill sections of carousels will be covered with stainless-steel plates (AISI 316) of at least 1.2mm thickness and with a stamped finish of type 2M. The stainless-steel plates will be attached to plywood boards (at least 20mm thickness) to prevent waving and it will rest on a substructure. The substructure will be a horisontal frame structure supported by uprights fixed to the building floor. Both the uprights and frame of the substructure will be made from steel. The substructure must be rigid, have access hatches for maintenance personnel, and be capable of supporting the dynamic weight of a 110kg maintenance person without permanent distortion.

Each carousel shall have a lockable mini security gate that will block off access to persons through the infeed conveyor. The design should be to the approval of the Engineer. It shall prevent access from the departures hall to the baggage hall whenever the carousel is not in operation.

C3.2.3.3.2 System Maintainability

The system shall be easily operate-able and maintainable. In designing the system, attention must be given to minimising the spares required to maintain the system. In so far as possible, the number of drive and gearbox arrangements, and shaft and bearing sizes must be minimised.

Adequate access to components / parts / nuts / bolts that will be accessed during the usual maintenance must be a priority.

The type of level 1 controls must be standard throughout the system. Careful attention shall be given to the positioning of drives and level 1 control elements to ensure that the replacement or adjustment of these elements is easily achievable.

C3.2.3.3.3 Powered Bends

Powered bends shall be of a type that is well proven in the airport baggage handling industry and, if so required, proof thereof shall be submitted. Only one type of powered bend shall be offered.

No single powered bend conveyor shall have a turn of more than 90°. Powered bends must be limited to 30°, 45°, 60° and 90° angles.

The radii, belt ribbing, pulley shaft sizes, motor mounting positions, motor sizes and speeds of these bends shall be standard to minimise stock holding. Where practical considerations force a deviation to this requirement, this will be clearly communicated to the Engineer at design stage.

C3.2.3.3.4 Conveyors

The conveyors (including powered bends) shall be made up of mild steel having a minimum thickness of 2,5mm and powder coated in RAL7012. All sections visible to the public, however, shall be stainless steel, having a minimum thickness of 2,5mm.

C3.2.3.3.5 Control System Definitions

C3.2.3.3.5.1 Introduction

The objective of the control system is to manage the overall co-ordination of conveying tasks and to eliminate any manual interaction. The control system will form the key to successful system operation. The Contractor is responsible to ensure that the offered system functions reliably and is capable of all functional and operational requirements as specified or implied. The Contractor shall provide a hierarchical structured control system, including all required system components, wiring and software for controlling the overall conveyor system.

C3.2.3.3.5.2 Level 1 - Control Elements

Level 1 of the control system includes all sensors, interfaces and other signal sources indicating sensor/signal inputs and status of the mechanical and operational systems.

C3.2.3.3.5.3 Level 2 - PLC

The PLC shall collect the signals and/or information provided by the level 1 source and interpret the information. The PLC shall co-ordinate the functional sequences within its domain. Information relating to the functional status of level 1 sources as well as its own functional status together with the control signals shall be available on a suitable platform to other level 2 and level 3 control elements that is required to connect to the PLC.

C3.2.3.3.5.4 Level 3 – SCADA integration

The Contractor shall ensure that the control system is capable of being fully integrated with a SCADA system via widely accepted standards in the airport baggage handling industry. The PLC needs to generate the required tags for all the elements of the complete system and make them available on a TCP/IP platform to the existing SCADA. Likewise, the PLC shall be capable to except input from such a SCADA system and respond appropriately.

C3.2.3.3.5.5 System Architecture

The following points summarises the fundamentals of the architecture:

- Two Control panels – one for carousel 1 with related conveyors and one for carousel 2 with related conveyors.
- Decentralised control – the two Control panels shall function completely independent from each other and will be able to function without a connection from its PLCs to the (future) TCP/IP network and/or SCADA.
- Each carousel system shall be able of being fully controlled directly from its control panel if required.

C3.2.3.3.6 Interface Specifications

C3.2.3.3.6.1 Hardware

- There must be seamless connectivity to any field device such as decoders, PEC's, motor starters, etc.
- Hardware must be selected for its reliability properties.

C3.2.3.3.7 Control Algorithm

C3.2.3.3.7.1 Carousel In-feed Lines

The automatic feed of baggage onto each carousel shall be realised by means of a proximity sensing device(s); the latter to be set up to detect the "space available" on the carousel and only under the condition when space is available will the injection conveyor send a bag onto the carousel. This will be when there is adequate empty space on the carousel or where there is an existing bag on the carousel, but it is small enough to accommodate a second bag next to it. However, the settings to detect the "space available" must be bullish in nature to ensure a constant throughput of bags onto the carousel.

The in-feed line to each carousel shall consist of several conveyors and each one shall be equipped with a PEC to allow for die-back control and bag jam detection. For safety reasons the conveyor shall not automatically restart when the bag jam is cleared but will require a reset command. In the event of a conveyor stopping, regardless the reason, the upstream and downstream conveyors will remain running until a bag reaches the conveyor immediately upstream of the affected conveyor and only then will the immediate upstream conveyor stop – etc. The conveyors will automatically restart when the fault is cleared.

The off-loading conveyor shall be provided with "*over height bag*" detection by means of using two PECs in parallel (one at belt height and one at the maximum bag height) that must both be blocked simultaneously before the over height alarm is activated. It must be possible to reset this alarm by clearing the obstruction in front of the relevant PEC and thereafter pressing the reset button on the local control panel.

The off-loading conveyor shall further be provided with "*bag-too-long*" detection that will utilise the bottom PEC of the over height bag sensor to detect (1) a continuous block of longer than 1100m on the belt. This alarm will stop the off-loading conveyor, whilst indicating the corresponding alarm – both on the local control panel and the main control panel. It must be possible to reset this alarm by clearing the obstruction in front of the relevant PEC and then pressing the reset button on the local control panel.

If both the off-loading conveyor and the infeed conveyor have not seen any bags for a period of 10 minutes, the conveyors will stop in a similar way as per the Stop sequence, with the exception that the Carousel will remain running. An operator will have to press the Start button to start the conveyors again.

Off-loading conveyors will run at approximately 0.35m/s to 0.4m/s. Special care shall be taken to ensure that the control logic for bag jam detection on off-loading conveyors are more sensitive than for the downstream conveyors, to prevent unnecessary bag jam errors on downstream conveyors.

Conveyors between off-loading conveyors and the carousel feed conveyors shall run at approximately 0.5m/s.

C3.2.3.3.7.2 Carousels

Once the start-up sequence has been initiated, an audible alarm and flashing amber light shall be energized at the carousel. After a pre-determined period of about 10 seconds, the carousel shall then start-up. For energy conservation, a stop algorithm shall be automatically initiated when no bags have been detected in the carousel after, say, 10 minutes. The system shall then be rendered to be in standby mode.

Carousels shall be provided with automatic missing slat supervision that will stop the carousel with a corresponding alarm message, in the event a loose or missing slat is detected. This shall detect when main slats or side slats become dislodged from the carousel and so protect people from exposed moving machinery. The design of the missing slat supervision shall be such as to provide a failsafe operation, whilst minimising false alarms.

Confidential

C3.2.3.3.7.3 Start-up and Shut-down Sequence

Start-up will be initiated by a singular activity on the main control panel or local control panel at the off-loading conveyor. The Running Indication light on both the local control panel and main control panel will flash during the start-up sequence and will shine constantly once the carousel and all its related conveyors are running.

The system shall start up from the carousel and thereafter the most down-stream conveyor in a cascading fashion with the off-loading conveyor being the last to start. The next up-stream drive will only start-up once the adjacent down-stream drive is running and healthy.

On shutdown, this sequence will be in reverse but the control logic shall ensure that a bag that was placed on the offload conveyor will make it onto the carousel before the system stops. This may be achieved by running every conveyor it's full length before stopping it and then doing the same with the next downstream conveyor until eventually the Carousel is stopped.. The Stopped Indication light on both the local control panel and main control panel will flash during the shutdown sequence and will shine constantly once the carousel and all its related conveyors have stopped.

C3.2.3.3.8 Controls

A panel for each PLC shall be installed in an approved location at the baggage off-loading area and shall house and integrate all of the electrical supply, devices, elements, controls, etc. required for the relevant system it controls. Mains power shall be distributed to these panels by others, but the Contractor shall terminate this cable inside the panel. The panel shall, *inter alia*, house the following:

- The PLC and associated I/O's that shall control and provide the status of the infeed conveyors and carousel.
- Equipment such as power transformers, variable speed drives, circuit-breakers, terminals, etc.
- Variable speed drives shall NOT be mounted directly on motor/gearbox assemblies.

The following shall be provided as part of the above-mentioned panel which can be used by the system "maintenance and operations" personnel:

- a Mimic panel with a graphic of all system elements with suitable LED status indication on each element (the design must be approved by the Engineer before manufacture)
- Start pushbuttons
- Stop pushbuttons
- Emergency stop pushbutton
- Reset pushbutton
- Lamp test pushbutton
- Status indication lamps (running, stopped, fault, etc.)

Each controls cabinet shall provide adequate means for identifying and resetting typical faults.

All E-stop buttons must be addressable. Each E-stop shall be clearly indicated on the Mimic panel and must have indication lamps for easy identification of the E-stop when an E-stop is pressed.

Confidential

Two remote-control panels with basic functionality shall be installed at the off-loading conveyor area. There shall be one for each carousel. It will allow system operators the ability to start and stop the systems and shall have basic status indicators such as running, stopped, bag-too-long, bag-too-high and fault).

C3.2.3.3.9 General Design Requirements - Structures

C3.2.3.3.9.1 Justification and Compliance

The Contractor shall perform detailed calculations for the proposed structural design including a detailed analysis with references to codes and standards, in instances where non-typical structures are deployed. These calculations shall be submitted to the Employer, if so requested, without delay.

C3.2.3.3.9.2 Loading Criteria

Support structures for more than one element of the system shall be free standing assemblies, capable of supporting the total complement of elements, each filled to its maximum load capacity specified. The structure shall be stable and safe under maximum dynamic loading conditions. Individual element support connections shall be designed for a maximum load consisting of the element's weight plus full load.

C3.2.3.3.9.3 Dynamic Loads

All structures shall be braced to withstand dynamic load impacts on fully loaded conveyors, torque caused by start-up, vibrations and lateral loads resulting from the transfer of baggage. The structures shall take the dynamic load impact of maintenance personnel walking on the conveyor in addition to the load impact caused by maximum baggage loading.

C3.2.3.3.10 General Design Requirements - Mechanical Requirements

- Incline conveyors shall not exceed an incline angle of 18°.
- The distance between the top of the conveyor bed section and any overhead structure or obstacle shall never be less than 800mm.
- The systems shall be designed with a view to minimise both tactical and long-term spares holdings, and interchangeable parts shall be used wherever practical.
- All components not being wear-and-tear items shall be designed to give a life of 20 years without replacements of major parts. This is based on a normal operating time of 18 hours per day, seven days per week.
- Baggage will have a wide variety of materials having different friction coefficients, wheels, castors, shapes and sizes with all manners of straps, labels and handles attached. In addition, it can be expected that the center of gravity of bags will also vary considerably. Every practicable precaution shall be taken in the design of the system to ensure that whatever form of the baggage, it will not be damaged by or otherwise become jammed in the conveyor system.
- Careful consideration shall be given to matters of detail to ensure that the labels, straps, etc. cannot be trapped or torn from the bags. The design shall, inter alia,

Confidential

allow for sidewalls to form a continuous line without any positive steps and plate metal sections shall always butt to form a smooth transition.

- In the design of the systems, reduction of noise to an absolute practical minimum shall be achieved with particular attention being given to the selection of the individual drive components, rollers and belt types.
- All conveyors shall be designed so that they can be stopped and started when fully loaded.
- Attention should be paid to accessibility of all parts requiring or liable to require maintenance at any time. Care should be taken in locating drives and belt tensioning devices to ensure all equipment can be removed for repair and replacement. All system adjustment bolts, bearings, return rollers, drive rollers, tailend and headend rollers, conveyor underguarding, etc. must be easily accessible for maintenance personnel.

C3.2.3.3.11 Loading and Operating Requirements

The payload rating for each conveyor shall take into consideration the following per running meter:

- Peak flow, belt speed and the average maximum bag weight but shall never be less than 35kg/m.
- Static payload rating for conveyor structural design requirements per running meter: 150 kg
- Maximum/minimum bag weight: 35kg / 1.5kg
- Maximum/minimum dimensions of a single bag (lxhxw): 900x720x450mm / 250x75x250mm
- Minimum baggage headroom: 800 mm
- All driving machinery shall be capable of running for 20 hours daily at the rated load of the conveyor system and shall be designed for 180 stops and starts per hour (except indexing conveyors), with the conveyors fully loaded. The Equipment Contractor must be able to substantiate these calculations if so requested by the Engineer.
- Indexing conveyors shall be sized for 20 hours daily continuous operation stopping after each 1.2 m transfer. It shall thus be designed to accommodate the continuous stopping and starting thereof.

C3.2.3.3.12 General Design Requirements – Safety

- The Occupational Health and Safety Act, Act No. 6 of 1993 shall be a mandatory safety requirement for this contract and shall be supplemented by directives that may be issued from time to time.
- In addition to specific safety devices stated elsewhere, the design and construction of the baggage system shall be such that the danger to operating and maintenance personnel and all other persons in the vicinity of the system is minimised.
- Particular attention shall be paid to the design of guards, under-guarding, belts, rollers and drives to eliminate any trapping conditions which could endanger persons.
- Rotating and any other hazardous components housed within a total enclosure shall be individually guarded. The total enclosure shall not be regarded as a global

Confidential

guard. The guards shall be designed so that they can be readily removed for maintenance purposes and shall incorporate access panels to permit routine lubrication without removal of the entire guard assembly.

- Guards shall be provided for each drive unit.
- Each drive shall be mounted on a substantially fabricated steel combination bedplate with machined surfaces to ensure accurate alignment of the components. Anti-vibration mountings shall be used to prevent excessive vibration.
- Conveyors shall be fitted with underguarding if the underside is between 200mm and 2600mm above FFL or in any instance where the conveyor crosses a permanent walkway or road irrespective of the height.

C3.2.3.3.13 Type of Conveyor

- The belt conveyor shall be of the slider bed type with relieving rollers, or other approved means of relieving belt drag at intervals. Relieving rollers may be omitted if the Tenderer can prove to the Engineer that the design of the conveyor is such that the relieving rollers are not required.
- The drive roller shall be crowned to ensure a high probability of accurate tracking.
- All rollers shall be dynamically balanced to suite the application.
- The gap between the terminal end of one conveyor portion and the head of the next conveyor portion shall be in the order of 50mm.
- Conveyors shall be dimensioned so as to accommodate a belt having a 1000mm width, i.e. the insides of the sidewalls shall measure a distance greater than 1 000mm, unless otherwise specified or approved in writing by the Engineer.
- Belt return rollers shall be fitted at not more than 3 000mm centers.
- Under guarding shall be provided on all conveyors where the possibility exist that the collapsing of the belt or other pats may injure persons or damage other infra-structure or equipment. It shall be strong enough to hold the weight of the belt or other parts that may come loose.

C3.2.3.3.14 Conveyor Supporting Structure and Frames

- The supporting frames and structures for the conveyors and roller beds shall be from the floor level or be suspended from the concrete slab directly above. The Tenderer shall allow for fixing the structures and (if requested) approval by a structural engineer.
- The tolerances for leveling of conveyors shall be (height tolerance variation between the four corners) ±5 mm for non-reversible sections and ±2.5 mm for reversible sections.
- The distribution of the load and the method of suspension shall be approved by the Client prior to commencement.
- The bed-section of the conveyor shall be formed of steel sections with a minimum thickness of 2.5mm and shall be press formed into box sections. The bed-sections shall include reinforcing in the form of stiffeners welded across its width.
- Drive frames, tension units and supports shall be constructed from steel sections rigidly braced to withstand all tensions and drive forces. The steelwork shall be designed that it can be cleaned and maintained easily.

- Single bolt connections shall not be used on bracing members or frames subject to lateral forces.

C3.2.3.3.15 Belt Conveyor Tensioning Devices

- Screw take-up means of adjustment shall be provided in order that the re-tensioning can be achieved easily. These facilities shall be easily accessible.
- The types of tensioning devices whereby both screws are operated simultaneously from single adjustment points are preferred.
- The minimum adjustable length for correct tensioning shall be at least 1 % of the overall belt length.

C3.2.3.3.16 Conveyor Belts

- The belts for all horizontal conveyors shall be a 2-ply construction with 1 ply polyester monofilament fabric plus 1 ply of spun fabric to produce low noise characteristic. The top covering shall be of 1 mm thick black PVC and the underside shall be of low friction fabric.
- Belts shall be fire resistant to ISO340 (Class 2B).
- Belts shall have anti-static, anti-abrasion and strength properties in compliance with BS490.
- For inclinations above 10 degrees, the surface of the belts shall be patterned to maximise traction.
- The conveyor belts shall be spliced by vulcanizing. Only 1 splice per belt shall be allowed. Menit, crocodile or lace type joints are not allowed.
- The Contractor shall ensure that there is no loss of the range of tensioning adjustment due to the joining process. Allowance shall be made for this requirement in the design of the conveyor tensioning device.
- The type of conveyor belts specified have low elongation and high tensile strength characteristics the Contractor shall take this into consideration when designing all pulley shafts and bearings.
- The Contractor shall be responsible for ensuring that the belts are of a robust, flexible and durable construction, capable of providing the required continuous service without showing appreciable wear, cracking or fraying.
- No material shall be used for the upper surfaces of the belts or for the coating of rollers, which could leave marks on the baggage.

C3.2.3.3.17 Plumber Blocks and Bearings

- All bearings of rotating shafts shall be preferably sealed and of a high quality, high precision, self-lubricating ball or spherical or taper roller type as appropriate.
- All bearings shall be selected to give, under full load operating conditions, a calculated design life of 50,000 hours based on the manufacturer's life rating.
- All bearings shall be accessible for maintenance and replacement.

- Bearing inner races shall be locked to the shafts by an approved method to prevent concentric and axial movement. Grub screws on to the shafts or the use of adhesive or welding or similar methods shall not be used.
- The range and types and sizes of bearings shall be rationalised to minimise the necessary spares holding.
- Great importance is attached to the ease of changing a bearing.
- The first filling of all necessary lubricants in accordance with the approved list shall be provided for by the Equipment Contractor.

C3.2.3.3.18 Noise and Vibration

- Noise and vibration shall be kept to a minimum by the selection of quiet running rollers and drums. Transmission of noise and vibration shall be minimised by the use of resilient pads or anti-vibration mountings.
- The Contractor shall ensure that no unduly high shock and vibration loading are imposed on any conveyor when it is started.
- A-weighted noise measured in any direction at a distance of not less than 1 meter from any section or portion of the baggage handling system shall never exceed 65dBA unless otherwise specified. This measurement relates to the system when unloaded and not individual conveyors.

C3.2.3.3.19 Dials and Gauges

All necessary gauges, dials, indicators, instruments, name plates, etc. shall be sufficiently large and clear to read quickly, from a distance of 1m with no effort.

C3.2.3.3.20 Finishes and Protective Coatings

All metal surfaces shall be powder coated to RAL7012; unless a stain less steel finish has been specified. The powder coated finish shall be of a durable quality as typically required in the airport baggage handling industry.

C3.2.3.3.21 Mechanical Design – Miscellaneous

- All sidewalls, under guarding, back plates and guide plates shall have a smooth finish, free of any projecting fastenings, weld metal or sharp edges. They shall be so constructed that all folded edges of sheet metal are turned away from the path of operating personnel. The guards must be capable of easy removal and be light enough for one man to handle.
- At merge points, rollers shall be positioned in such a way as to prevent labels and handles of bags from being trapped.
- The Contractor shall supply and fit any packing pieces and shims necessary for setting up and leveling any part of the conveyors.
- All parts of the belt conveyors shall be capable of being walked on without permanent distortion.
- All bolts must be protected against loosening by using either self-locking nuts or locking rings.

C3.2.3.3.22 Drives

- Drives for transportation conveyors shall be direct drives of the shaft mounted type.
- Flexible belt drives are to be used for indexing conveyors or any other approved method suitable for the required high stop/start frequency.
- The number of types used shall be minimised in view of maintenance and spare part organization.
- Chain drives shall not be permitted under any circumstances.
- Drives shall be at a 90 degree to the conveyor shaft to take up less space.

C3.2.3.3.23 Interface Between Conveyors

- Each interface between conveyors shall be designed for the safe transfer of baggage.
- The merge between all conveyors shall have a general downward cascade/waterfall effect if not level.
- The horizontal distance between conveyors shall be in the order of 50mm measured between the tail and head of the down-stream conveyor. Exceptions shall be allowed in instances where the elements used in the merge do not allow such a small gap due to the geometrical characteristics of the said elements such as at powered bends.

C3.2.3.3.24 Sidewalls

The side walls shall be formed of steel sections with a minimum thickness of 2.5mm and include stiffeners welded along its height for additional rigidity. The sidewalls shall be bolted to the bed-section. The sidewall height shall be 350mm. The sidewalls of adjacent conveyors and powered bends shall be bolted together and be of uniform height. Where appropriate, cutouts for photocells shall be included in the sidewalls.

C3.2.3.3.25 General Design Requirements – Concrete platform for off-loading conveyors

The platform shall be 200mm in height above the basement floor level. It shall be large enough to accommodate all off-loading conveyors plus an 800mm workspace for baggage handlers between the edge of the platform and the off-loading conveyor. The top edge of the platform shall be covered by strong gauge angle-iron to prevent wear to the concrete edge over time.

C3.2.3.3.26 Electrical Requirements

C3.2.3.3.26.1 General

- The Contractor shall provide an Electrical Certificate of Compliance for every main Electrical panel supplied under this Contract.
- The Contractor shall provide, install and commission, all the electrical systems, equipment and controls, whether specified or not, that are necessary for the efficient completion and the safe control and operation of the baggage handling system as is specified or implied in this document.
- The electrical equipment and installation shall conform to the latest revisions of applicable SANS standards.

- The electrical control systems shall be designed for maximum safety, reliability and for easy access and maintenance. Only well tried and proven circuits and components shall be incorporated.
- Electrical and control equipment shall be selected to minimise the number of different types and sizes.
- Where practicable, equipment of the same type and size shall be completely interchangeable without modifications or additions.
- Except for consumable items which normally require replacement more frequently, no part shall have a life from new to replacement or repair of less than 5 years normal operation and where major dismantling is required to replace a part, such life shall not be less than 10 years. Electrical contactors and switches shall have a minimum life under normal full load working conditions of 5 million operations without replacement of any part and two hundred thousand operations without maintenance of any kind. Relays and light current switching devices shall not require maintenance of any kind before completing five million operations under normal full working load.

C3.2.3.3.26.2 Electrical Supply

A 400 V(+10%-15%), 50 Hz, 3 phase, 5 wire supply shall be provided to the incoming section of the power distribution panels.

C3.2.3.3.26.3 Electrical Panel Construction

- The panel shall be of powder coated sheet steel with a minimum thickness of 2.5mm and be of the front access type.
- The Contractor shall include for the provision of necessary fixings, brackets, clamps, levelling pads or other steelwork for the installation of the panels.
- Each panel shall be arranged for top and bottom cable entry.
- Each enclosure shall be made up of a standard module of the type permitting safe maintenance or cabling of individual circuits or subsequent equipping of skeleton circuits with adjacent circuits.
- Each module shall be provided with positive mechanical interlocks to prevent access to circuit compartments until isolated.
- Provision shall also be made for the locking of any module in the 'Off' position. Phase segregation barriers shall be provided with modules and when isolated a module shall be entirely free from exposed live conductors and terminals.
- The equipment shall be arranged to limit the possible spread of fire from one compartment to another, or along wire ways.

C3.2.3.3.26.4 Incoming Section

- The incoming section shall accommodate a mains isolator and all necessary fixed switches for control of supply to all separately mounted equipment. The incoming isolator shall be operated by an external handle which shall, when closed, interlock to prevent access to this compartment. Internal power distribution shall be by bus bars. An LED cluster shall be provided to indicate that the panel is energised.

C3.2.3.3.26.5 Motor Control Gear

- All motor controls shall be installed at the actual motor next to the specific conveyor.
- Access to these units shall in all instances be unhindered.

C3.2.3.3.26.6 Overload and Phase Failure Protection

Overload protection shall be provided by the use of three-phase or single-phase thermal overloads as required. On operation, the thermal overload unit shall break the motor contactor circuits. Three-phase overload units shall also be fitted with phase failure relays to give protection in the event of a failure to any phase. A voltage-free pair of auxiliary contacts shall be fitted to the overload unit to give a remote auto-trip alarm.

C3.2.3.3.26.7 Short Circuit Protection

- Short circuit protection of the electric motor and the control circuit shall be by fast acting circuit-breakers and solid removable neutral links.
- A separate fuse shall be fitted to control circuits.

C3.2.3.3.26.8 Isolators

- Motor control gear isolators shall be mounted in the same enclosure in the panel as referred to elsewhere. The operating handle shall be fitted to the enclosure door in such a way as to locate in the isolator operating spindle. When the isolator is closed, the operating handle shall interlock with the isolator thereby preventing the door from opening.
- The isolator shall be capable of breaking the motor current or shall be fitted with an auxiliary contact which shall open the main contactor before the isolator opens. All isolators shall be provided with a fixed lock locking facility.

C3.2.3.3.26.9 Internal Wiring

Internal wiring of the panel shall be of single core PVC-insulated cable, the minimum size of which shall be 1.5 mm^2. Cables shall be installed in a neat manner and shall, where required, be secured together using purpose-made cable ties to the approval of the Engineer. The securing of cables by self-adhesive tape will not be accepted. All cables entering or leaving the enclosure shall be via purpose-made holes cut with a rotary cutter or other approved manner and protected by purpose-made grommets of the correct size. Each cable shall be identified with purpose-made plastic markers.

C3.2.3.3.27 Mimic Display and Section Control Panels

- Each and every system element (e.g. E-stop, conveyor, carousel, etc.) shall be represented by a realistic graphic on the mimic control panel. The Engineer's approval of the mimic display is mandatory prior to design and manufacture.
- The control panel shall be floor or wall mounted, sheet steel, hinged, lockable, front-access type with an engraved faceplate.
- The panels shall be of dust-proof construction finished to withstand the effects of a corrosive atmosphere.

- The control circuits shall operate at a lower voltage obtained from a suitable transformer housed in the mains voltage compartment of the grouped starter panel.

C3.2.3.3.27.1 Status Indicators (LED's)

- All visual status indicators shall be LED clusters. The design shall permit removal and replacement of singular LED's.
- The color code of all conveyor status indicating LED clusters shall be as follows:
  - Conveyor running indicators: green
  - Conveyor stopped indicators: red
  - Emergency stop: amber
  - Fault indicators: amber

C3.2.3.3.27.2 Labels

- Labels shall be provided for every panel to describe the duty of, or otherwise identify every instrument, relay, push button, indicator lamp or items of equipment mounted internally and externally. The wording shall be in English, clear, concise and unambiguous and shall be approved by the Engineer before manufacture. Each label shall be permanently secured to the panel surface immediately adjacent to the item to which it refers.
- Internally and externally fitted labels shall be finished in white with engraved letters and numbers fitted with black laminated material such as Traffolyte. Labels shall also be fitted to provide warnings or reminders of dangerous or potentially dangerous circumstances. The manufacturer's name, if incorporated on panels shall be in the letters and style to the approval of the client.

C3.2.3.3.28 Motors

- All motors shall be 3-phase motors and rated to be used with the supply voltage as specified elsewhere.
- It shall be of standard design for quiet running without special shaft extension or other non-standard features. All output shafts shall be at 90° to the motor shafts; hence decreasing the footprint of the conveyor. The motors must comply to IEC 34-1.
- Motors shall have grease lubricated ball and roller bearings with grease relief facilities and a calculated design life of 50,000 hours and suitable for direct on-line starting.
- All motors shall be routine tested at the manufacturer's works to IEC 34-1 or equivalent and test certificates shall be supplied to the client. All motors shall be sized to effectively operate the equipment under the specified conditions and service at 80 % of its full load rating.

C3.2.3.3.29 Earthing

The metal frames and casings of the conveyor system and all drive machinery frames and all control button stations shall be earth bonded together and earthed to an earth bar, provided at the control panel.

C3.2.3.3.30 Limit Switches

Limit switches shall be of the heavy type design and house in watertight, dust tight, metal clad enclosures and shall be direct acting. They shall be arranged to be 'fail-safe' wherever practical.

C3.2.3.3.31 Over height sensors

An over height sensor shall be a rigid device with two Photo-Electric Cells (PECs) - the one immediately above the conveyor level and the second at the height at which bags must be prevented to proceed past that point. The control logic shall be such that both PECs must be blocked for at least 75mm of belt travel before the belt is stopped. There shall be a clearly visible amber indicator light that will flash when the system is in "over height bag" mode. There must be a reset button at the over height sensor that, once pushed, will clear the alarm from the system controls and restart the belt once the blockage in front of the two PECs are removed.

C3.2.3.3.32 Emergency Stops

Emergency stop pushbuttons shall each be provided with a shroud or recessed to prevent accidental activation. Emergency stop pushbuttons shall each have a lockout action necessitating the attendance of an operator to reset the devices. The Engineer, prior to installation, shall approve the required locations for emergency stop push buttons. Emergency stops shall not be positioned where they can be accidentally activated. The Emergency stop installation shall comply to a minimum with all applicable safety regulations/requirements in terms of functionality and positioning of Emergency stops.

C3.2.3.3.33 Photo-Electric Cells

Photo-electric cells shall be of the retro-reflective type. They shall be securely mounted on a rigid bracket. Both the receiver/transmitter and reflector shall be easily accessible to allow for easy cleaning. The receiver/transmitter shall be fitted with LEDs indicating the status of the photo-electric cell.

C3.2.3.3.34 Programmable Logic Controllers

- A Programmable Logic Controller (PLC) shall be supplied for direct interfacing between all input and output devices.
- EEPROM or Flash EPROM shall be utilised and contain the latest programme. A simple means shall be provided for downloading the programme to the PLC processor.
- The PLC shall have a minimum of 35 % excess memory for future programme updates, and each remote I/O shall have space for adding 25 % more modules.
- The PLC's shall be equipped with a serial link interface and a TCP/IP interface for communication to the higher control level.
- A fully annotated soft copy (with all passwords required to access, download and modify the software) of the latest software in the English language must be provided. In addition, the required software (compilers, linkers, etc.) and hardware (computers and peripherals) shall be provided. As a minimum, these shall be capable of :

- Transferring an entire programme from a PLC processor
- Making off-line revisions to time and counter pre-set values
- Making off-line revisions to the programme
- Transferring the revised programme to the PLC processor
- Monitoring on-line I/O status during operation
- Storing Programmes on Disk
- Producing a hard copy (printout) of the programme including all annotations and I/O tables
- Timers and counters which may require modification by operational or maintenance staff will have Timer Counter Access Modules mounted to the control panel door so that operating and maintenance personnel can change the pre-set values without having access to actual software.

C3.2.3.3.35 Testing

All live testing for the purpose of taking over by the Engineer shall be conducted using bags that emulate passengers' baggage. Thus, a combination of bags with straps, bags with wheels, soft bags, hard bags, various weights, various centers of gravity, etc. shall be used in the tests.

C3.2.3.3.36 Baggage Jams

The detail design of the system shall be such that the potential for bag jams at any point in the system is minimised. Bag jams at any particular point shall never measure more than 0.5 per 1 000 bags measured over a period of 1 operational day (or 1000 successive operational bags in the event less than 1 000 bags pass that particular point in an operational day).

C3.2.3.3.37 Confidence Trials

These trials shall last for a minimum period of seven calendar days starting on the day that the system is in full operational use. A day shall mean the time that the system is actually required to transport baggage and is the typical airport operational hours for that day of the week. Confidence trials shall be completed once a collective system up-time of 99.95% has been measured by the Contractor over a period of 7 consecutive days and proven to the Engineer.

Downtime caused by E-stops, external power failures, incorrect usage of the equipment, preventative maintenance, routine maintenance, etc. shall not be part of the equation to calculate system up time. However, bag jams caused by bags getting caught in the system shall form part of the equation.

C3.2.4 Drawings

Drawings shall be produced by the Contractor according to SANS or equivalent standards. All drawings to be supplied by the Contractor must be listed in the MASTER DOCUMENT INDEX (MDI). All drawings shall be made available as a soft copy. As a minimum, the MDI must indicate the following drawings for approval:

- Wiring diagrams

- Installation drawings
- As-built drawings
- Documentation drawings for Maintenance Manuals.

Drawings shall be prepared specifically for this contract and not be marked-up drawings.

All drawings issued by or on behalf of the Employer shall be checked by the Contractor to confirm its accuracy; unless the Employer specifically states that a particular drawing is accurate. Only one copy will be issued to the Contractor and the Contractor shall reproduce any further copies at his own expense. The Employer may issue drawings to the Contractor from time to time during the contract period. Drawings and other site details required by the Contractor shall be requested timeously by the Contractor.

Dimensions shall never be scaled from any drawings even if a drawing has been drawn to scale and only clearly stated dimensions shall be used.

Detailed drawings shall be produced by the Contractor during the design phase so as to enable the Contractor to accurate size the equipment, clearances required, interfaces, etc. The Contractor shall issue updated drawings to the Employer on a regular basis during the design phases. These drawings shall be available in either A0, A1, A2 or A3 prints and in electronic format.

As built drawings shall be produced by the Contractor and shall be included in the final documentation.

C3.2.5 Design Procedures

C3.2.5.1 Design Change Procedures

Any proposed design changes must be submitted to the Engineer in writing for consideration. The design changes will be examined by the Engineer in conjunction with the professional design team. Should the design changes be approved, a confirmation will be received in writing from the Engineer within the prescribed time period (detailed elsewhere in this document). This includes changes to the costs, design, timing, function, sequence of works or any other item which may impact on the delivery of this or other projects running concurrently.

C3.2.5.2 Record Keeping and Tracking of Documents

The Contractor is expected to set up a system for record keeping and tracking of changes to documents. This system must be approved by the Engineer at the outset of the project.

C3.3 Procurement

C3.3.1 Subcontracting

C3.3.1.2 Transformation

Commented [RC1]: Ensure this is inline with current ACSA requirements

The percentage of the contract value that the Contractor offered at bidding stage of this tender to go towards Transformation, must be sub-contracted to a cooperative which his at least 51% owned by black people or an EME or QSE.

The Transformation requirements of this project must be executed in line with PPPFA 2017.

The Contractor must empower the sub-contracted entity in terms of Skills Transfer in accordance to his Transformation proposal submitted during the tender stage of this project.

The Contractor must ensure that the sub-contracted entity, as a minimum, satisfy the following requirements:

a) The transformation sub-contractor is a company registered as a contractor with CIDB;

b) The Contractor does not have an equity holding in the transformation sub-contractor, either directly or through a flow through calculation in accordance with the Construction Sector Code of Good Practice published in the General Notice 862 of 2009 in the Government Gazette No 32305 of 2009 in terms of the Broad Based Black Economic Empowerment Act of 2003 (Act 53 of 2003), and;

c) The tenderer has entered into a written sub-contracting agreement with specific outlined deliverables with transformation sub-contractor for the duration of this contract.

The tenderer is required to ensure that the following key transformation areas are achieved in order to ensure transformation is effective in delivering the project. Two (2) key areas of transformation must be achieved namely;

a) Skills Transfer (As part of the agreement of sub-contracting co-operation, the Tenderer must ensure that skills transfer occurs between itself and the Transformation Sub-contractor in the core areas of building works (e.g. Contract Management, OHS Management, etc).)

b) Enterprise Development (As part of enterprise development, the Transformation Sub-Contractor may be allocated areas of scope delivery where they can independently manage, install and report within the overall project delivery programme.)

The transformation requirement for this project is a contractual obligation and failure to achieve and honour transformation requirements during execution of this project will amount to contractual breach and may be remedied in line with contractual sanctions, disputes and dispute resolutions.

C3.4 Construction

C3.4.1 Applicable Standards

The installation shall be erected and commissioned in compliance with the latest amendments of the following Acts, regulations and standards. Please note that

conformance to good Engineering practices, other accredited standards, regulations and specifications are not limited to only those stated below.

The Occupational Health and Safety Act, Act No. 85 of 1993.

The local airport Fire Regulations.

Conveyor and Elevator Belting - Specification for Flammability and Anti-Static Properties of Rubber and of Plastics Conveyor Belting of Textile Construction for General Use – BS 490-3:1991.

Electrical Wiring – SANS 10142; Welding – SABS 044; Structural Steel – SABS 1431; Preparation of Steel Surfaces – SABS 064; Quality Control – SABS ISO 9000 to SABS ISO 9004.

C3.5 Management

C3.5.1 Management of the Works

C3.5.1.1 Planning and Programming

The project shall be managed in terms of 5 primary milestones; i.e. detail design complete, factory acceptance complete, shipping start/finish, installation start and handover complete.

C3.5.1.1.1 Detail Design Complete

The detail design will be completed once the Client has signed off the complete data pack.

- Letter of Award
- Technical clarifications
- Contract signing
- Engineering
- Design development
- Design sign-off

C3.5.1.1.2 Factory Acceptance Complete

- The Engineer or his duly authorised representative has signed off equipment.
- The Contractor has signed off equipment and in particular by the individual responsible for quality assurance, the Engineer or his duly authorised representative.

C3.5.1.1.3 Shipping Start/Finish

- All relevant paperwork in place
- Equipment delivered to Site
- Equipment signed off by the Engineer or his duly authorised representative
- Equipment signed off by the Contractor and in particular the Contractor's Sire Representative.

C3.5.1.1.4 Installation Start Date

- Site has been formally handed over to the Contractor.
- All regulatory requirements have been met.

C3.5.1.1.5 Site Handover Complete

- Commissioning
- Acceptance testing
- Taking Over
- Confidence trial

C3.5.1.2 Sequence of the Works

The successful tenderer shall be required to sequence the works in accordance with the programme of the contractor that will be executing the main building contract.

C3.5.1.3 Management Meetings

The successful tenderer shall be required to attend management meetings at OR Tambo International Airport to discuss issues relating to the project. The frequency of the meetings shall be two per month. At least one person attending these meetings must have the authority delegated to them to make decisions regarding planning, change management and project finance. Depending on circumstances and subject to agreement by both contracting parties, the meeting frequency may be adjusted.

C3.5.1.4 Daily Records

The Contractor shall keep on site a set of minutes of all site meetings, daily site events, daily site incidents, daily records of resources (people and equipment employed), a site instruction book, a complete set of contract working drawings and a copy of the procurement document and make these available at all reasonable times to ACSA persons concerned with the contract.

The Contractor shall maintain a daily site record of all activities conducted during the field activities. This record shall include a detailed list of all work done, any personal injuries related to the fieldwork, and any relevant comments

In addition, the following documents shall be maintained as part of the daily site records:

- Programme
- QA Programme
- Safety Statistics
- BOM on site
- Site Variation Orders

Confidential

C3.5.1.5 Permits

The Contractor shall not be compensated for costs relating to ACSA required permits, nor for labour/time spent in obtaining it. An allowance must be made in the Activity Schedule in this regard.

The Contractor must ensure that he/she is, at all times, familiar with ACSA's safety and security requirements relating to permits in order for no work to be delayed as a result thereof. This will include the permit application process.

Note that (within reason) the Contractor will have no claim against ACSA in the event that a permit request is refused.

The following table is not all inclusive, but is provided for illustration purposes:

Permit	**Required by/for**	**Department**
AVOP – Airside Vehicle Operator permit	All drivers of vehicles on airside	ACSA Safety
Airside Vehicle Permit	All vehicles that enter airside	ACSA Safety
Basement Parking permit	All vehicles allowed to enter the delivery basement	ACSA Parking
Personal permit	All persons employed on the airport	ACSA Security
Cell phone permit	All persons taking cell phones to airside	ACSA Security
Lap top permit	All persons taking lap top computers to airside	ACSA Security
Camera permit	All persons taking cameras or camera equipment to airside	ACSA Security
Hot Works Permit	All welding and/metal cutting work	ACSA Safety

Proof of having attended the airside induction training course is required for all personal permit applications. Persons applying for an AVOP must provide proof of having attended an AVOP course. Fees are levied for these courses. Fees are further levied for all permit renewals and refresher courses - where applicable.

C3.5.1.6 Insurance Provided by the Employer

Refer to General Conditions of Contract

C3.5.1.7 Performance Bond

Refer to General Conditions of Contract

C3.5.1.8 Storage and Delivery of Equipment

The Contractor shall not be allowed to store/deliver materials or occupy any other area such as sidewalks, walkways, roads or any other public areas, other than the dedicated area that will be marked out. Under no circumstances will construction traffic, deliveries, etc. be allowed through and via the normal airport traffic routes and such construction traffic must be strictly controlled and channelled via the access routes to be specified for this purpose.

Confidential

C3.5.2 Health and Safety

The successful tenderer shall at all times comply with the OHS Act of 1993 (as amended) and all works shall be done in accordance with this act. All installations and equipment shall also comply with the above-mentioned act and the system shall be designed in such a way that it will be safe at all times including periods of breakdown and maintenance.

C3.6 Maintenance, Training and Documentation

C3.6.1 Maintenance

All preventative maintenance for all equipment and components supplied shall be fully covered for the defects liability period.

C3.6.2 Operating Manuals

These manuals shall provide sufficient information for the operation of the system and shall include the following as a minimum:

- Description of all parts and operations
- Description of all controls and their functions
- Procedures for starting and stopping
- Emergency and/or alternate procedures in the case of breakdowns, power failures, etc.
- Fault finding
- Daily checks on start-up

C3.6.3 Maintenance Manuals

These manuals shall have all the information to ensure that the system will be properly maintained. It shall be comprehensive to the extent that a technician can service the system. Fault diagnostics shall also be included so that faults can be traced and components are exchanged with a minimum of difficulty. Sections covering the following aspects shall be included as a minimum:

- Trouble shooting and fault finding.
- Preventative maintenance, which shall include a comprehensive check, list for each and every type of service.
- A list of all parts and non-standard tools required
- A recommended list of spares that must be kept in stock as well as minimum spare stock levels.

Confidential

Tenderers shall provide a full and comprehensive maintenance activity schedule as part of the tender submission. The schedule shall entail the following information for each type of component/ equipment:

- Description of activity
- Frequency of activity
- Resources required; i.e. tools, spare parts, consumable & manpower
- Time per activity
- Various types of services
- Total man-hours required to complete each type of service

C3.6.4 Drawings

Drawings shall be specific to this Contract and not marked-up standards. Two bound A3 sets as well as a copy on magnetic media, of the complete installation, that shows the as built installation must be completed and handed over. This may form part of the Maintenance Manuals.

C3.6.5 Spare Parts

The Contractor for the duration of the defect liability period stock spare parts. A detailed list of spares parts as well as prices must accompany the Tender submission; proprietary equipment and components to be flagged accordingly. This parts list must be upgraded to also form part of the final documentation and must then include a full inventory of replacement parts, parts descriptions, identification, quantities, name of suppliers and part numbers. Please note that spare parts required for commissioning and testing purposes shall not be a measurable item.

C3.6.6 Training

C3.6.6.1 Operating Staff

Operating staff is defined as the staff that will operate the system as well as nominated representatives from the Client. The training syllabus shall be developed in accordance with the Operating Manuals. Training shall include a written test as well as an individual practical test.

C3.6.6.2 Maintenance Staff

Maintenance staff are defined as the staff that will normally maintain the system so as to ensure that it perform at optimum levels at all times, the Operating Technicians as well as nominated representatives from the Client. The syllabus shall be the Maintenance Manuals. Training shall include a written test as well as an individual practical test.

C3.1.2 Employer*'s objectives and purpose of the *works

In brief, the Contractor will be responsible for the **RFP Replacement of 2 X Carousel Conveyor belts at Chief Dawid Stuurman International Airport (CDSIA).**

:

The *Contractor* prepares a Detailed Scope of Services based on the submission of a Scope of Works document prior to commencing with any Works/Activity. The work shall be executed with **No** interruption to the airport's operations, thus some of the work will be done at night. The aim of this capital project is to replace Carousel Conveyors at Chief Dawid Stuurman International Airport (CDSIA).

REASON FOR THE PROJECT: The aim of this capital project is to replace 2 x Carousel Conveyors at Chief Dawid Stuurman International Airport (CDSIA).

Expected Project Duration: The work must be done within 14 months from the start date.

C3.2 TRANSFORMATION AND EMPOWERMENT

Historically, in South Africa there has been a lack of investment in skills development and inequality in the distribution of wealth for a significant portion of the population. A number of Government initiatives such as the National Development Plan (NDP) have been developed to address these challenges.
ACSA fully supports socio-economic development and transformation through its facilitation of Supplier Development initiatives. Therefore, tenderers are required to submit their commitment to Supplier Development for the duration of this contract.
ACSA has an Integrated Transformation Strategy, the overall objective of which is to support the Government's National Agenda of Job Creation through Transformation, with an external focus on Skills Development, Enterprise Development and Preferential Procurement. This implies that ACSA must employ rigorous transformation imperatives with respect to all procurement. Transformation within the Built Environment's Professions means the empowerment of all black people, with particular focus on supporting Black women, youth, and people with disabilities, in order to increase the number of black people that manage, own and control enterprises and productive assets in this sphere. The transformation of small consulting practices into sustainable medium or large firms will require opportunities provided to existing emerging built environment consulting firms, as well as newly formed firms entering into the construction
services industry.

Towards this end, the following initiatives have been identified for this Project:

Enterprise and Supplier Development Initiatives

It is a requirement of this project that the successful tenderer enters into a contract (either through partnership, joint ventures or sub-contractors) with Targeted Enterprise(s) as defined in the Contract Data to perform a minimum of twenty five percent (30%) of the tendered contract value.

Confidential

Tenderers must state transformation deliverables that are both achievable and measurable as the successful tenderer will be required to issue comprehensive monthly reports in response to this tender requirement. The monthly report will be assessed by ACSA"s Internal Transformation Committee, which is accountable for implementation of ACSA"s Transformation initiatives.

C3.2.1 Definition of a Targeted Enterprise

A registered built environment professional firm contracted (either by Joint Venture, partnership or sub-contracting) by the tenderer to perform a specified percentage of work stated in the Contract Data under the guidance of the tenderer and which complies with the following:

a) *does not share equity holding with the tenderer; and*
b) *is registered in terms of the Company's Act, 2008 (Act No. 71 of 2008) or Close Corporation Act, 1984 (Act No. 69 of 1984); and*
c) *is registered with the South African Revenue Service; and*
d) *is at least an Exempted Micro Enterprise (EME) with a B-BBEE Status of "Level Two "Contributor", as defined in the Amended Codes of Good Practice for measuring Broad-based Black Economic Empowerment (published in Government Gazette No. 36928 on 11 October 2013) with at least 1 (one) registered ECSA professional in the applicable discipline as a permanent employee; or*

e) is at least a Qualifying Small Enterprise (QSE) with a B-BBEE Status of "Level Two Contributor", as defined in the Amended Codes of Good Practice for measuring Broad-based Black Economic Empowerment (published in Government Gazette No.36928 on 11 October 2013) with at least 2 (two) registered ECSA professionals in the applicable discipline as permanent employees; and

f) has entered into a written relationship agreement of co-operation and assistance with the tenderer for the duration of the contract.

C3.2.2 Participation of Targeted Enterprise(s)

The involvement of Targeted Enterprise(s) in the project management, manufacturing and testing is a mechanism to broaden the economic share of the national spend on engineering services and a means to hasten and improve the transfer of technical skills.

The percentage specified for Targeted Enterprise shall be applicable to the management, manufacturing and testing aspects of the project.

C3.2.3 Sanctions for non-compliance with the transformation proposal

In the event that the tenderer does not meet the specified target of work value to the Targeted Enterprise, ACSA shall levy a penalty. The penalty payable is 50% of the value by which the cumulative value of the payments to the Targeted Enterprise fails to meet the specified percentage. The Targeted Enterprise(s) shall not be allowed to sub-contract any work that forms part of the specified participation percentage.

Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
ACSA	Airport Company South Africa
CDSIA	Chief Dawid Stuurman International Airport

Confidential

SANS	South African National Standards
OHS ACT	Occupational Health and Safety Act
PO	Purchase Order
OEM	Original Equipment Manufacture
RSA	Republic of South Africa
UOM	Unit of Measure

Extent of the Works

The scope of works, as outlined below, does not necessarily provide a comprehensive list of all activities and deliverables:

- All work will be performed in a live operational environment, mostly in security controlled areas and normal airport operations may not be interrupted
- Condition assessment of equipment and controls – both those that will be reused and those that will be replaced
- Condition assessment of existing system (including its design, functionality and hardware)
- Ensuring that no existing system functionality is reduced or limited by the end product (i.e. the Works).
- Ensuring the Works (including all new system functionality) complies with all applicable safety legislation AND industry best practise
- On-site verification of all measurements
- Decommissioning, disassembling and disposal of all redundant parts / system components
- Condition assessment of all old system components and moving to spares rooms and booking into stock all system components that can be reused in the baggage system
- Removal and safe disposal of all parts of the existing installation that ACSA Mechanical Maintenance do not want to keep
- Removal and safe disposal of all rubble from Site on a daily basis.
- The design of complete functional systems where applicable
- All electrical works such as wiring, motor control systems, field equipment, etc. where applicable
- All system hardware and software required to effectively control the systems
- All signage such as height restriction, danger and all other signage as may be

required in terms of the OHS Act.

- Full operating and maintenance manuals
- All required training

The Contractor will be fully responsible for meeting all requirements in this document regarding the Works.

For each piece of equipment, all work will be carried out to the standards as required by the Original Equipment Manufacturer (OEM) as well as any applicable governing law and/or regulations. Where OEM standards differ from those required by this document the more stringent requirement shall apply.

The Contractor will be responsible for providing staff which are sufficiently skilled and qualified for successful execution of the works.

The Contractor will ensure that his/her staff compliment is of a sufficient quantity to allow for uninterrupted supply of labour in the event of his/her staff taking sick leave, paid leave and will allow for all staff related eventualities.

The Contractor shall continuously ensure that all staff is suitable, able and competent for the duties required of them. The Contractor shall further ensure that any staff member reasonably suspected of partaking in criminal activities is immediately removed from site and his permit returned and/or cancelled at the ACSA Permit Office.

All work shall be performed within the required time period as provided in the project plan. Any work impacting on operations shall be attended-to until restored to good reliable condition. No project work may be left unattended or incomplete for the next day or shift unless agreed to by the project manager. All repair work shall carry a defect free guaranteed for a period of 12 months after completion of work.

All work shall be charged according to the bill of quantities. However, no labour shall be charged for any non-scheduled work, repair work or other work when carried out by the scheduled project team. The on-site maintenance contractor shall be notified prior to the project commencement. A handover shall take place between the project contractor and the maintenance contractor before and after completion of the *works*.

The Contractor will be responsible for holding all tools and/or special equipment that might be required for the execution of the works, either on site or on their premises in order to comply with the requirements of this contract. Any exclusion to the above should be clearly communicated in the returnable schedules when submitting the tender.

The Contractor shall ensure that, unless a special arrangement is made with the Project Manager, all senior staff members and on-site support staff is always immediately reachable via cell phone.
The Contractor shall ensure that all maintenance staff are issued with uniforms that will comply with a minimum requirement as agreed with the Project Manager from time to time. Current airport requirements are: safety shoes, ear protection equipment and a uniquely numbered retro reflective jacket (for easy identification via CCTV).

Generic Specifications

All work shall conform to all the relevant SANS standards, OHS ACT 85 of 1993 regulations and all other legislations that might be relevant to this Contract and the execution thereof.

All work shall be carried out in accordance with prevailing industry norms and best practice and will at all times comply with OEM requirements.

Confidential

Environment
The Contractor will keep noise and dust levels to a minimum. At no time shall his/her work result in nuisance, interference or danger to the public or any other person working at the Airport.

At no time shall the Contractor:
- allow any pollutive or toxic substance to be released into the air or storm water systems
- interfere with, or put at risk, the functionality of any system or service
- cause a fire or safety hazard

Daily records
The Contractor shall keep accurate daily records of staff attendance, progress on the works, safety inspections and exception reports. Records shall be kept on site and will be available for scrutiny by the Project Manager at any time. All records shall be in a format as agreed with the Project Manager.

Proof of compliance with the law
The Project Manager may at any time request from the Contractor reasonable proof that the Contractor is in compliance with applicable laws or regulations.

Cell phones and two-way radios
Use of cell phones on airside is **not** permitted unless the user is in possession of an appropriate Airport permit for the device. Cell phone permit issuing authority lies with the ACSA Security department.

The Contractor will **not** be allowed to use two-way radios at the Airport unless these radios are of the type, model and frequency range as approved by the ACSA IT department.

Protection of the public
The Contractor shall take special care in order not to harm or endanger the public in any way. Work shall be sufficiently hoarded and guarded in order to safeguard children and the general public from injury relating to machinery, work or other.

Barricades and lighting
Where hoarding, barricades or lighting is required in the execution of the Works, the Contractor shall provide same. Hoarding, barricades and lighting shall comply with industry accepted norms and standards and may not be used for purposes of advertising or any other purpose than safeguarding the Works.

Management and start up.

Management meetings

The Contractor will be expected to attend meetings relating to operations, contract management and other issues that may arise from time to time. As far as is practicable, the Contractor will make all required persons available for these meetings. The Contractor shall not submit claims for payment for staff attending any of these meetings.

Regular meetings of a general nature may be convened and chaired by the *Project Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:

Confidential

Risk register and compensation events	Weekly on Mondays at 10H00	Onsite	Employer and Contractor
Overall contract progress and feedback	biweekly on Fridays at 9H00	Onsite	*Employer*, *Contractor* and *Supervisor*

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *works*. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

Health and safety risk management

The *Contractor* shall comply with the health and safety requirements contained in this document.

The Project Manager shall be entitled to fine the Contractor an amount of **R3000.00** for each non-conformance to Health and Safety matters. This shall not transfer any of the Contractor's responsibilities in this regard to the Employer by any means.

The Contractor shall be fully responsible for compliance to the Occupational Health and Safety Act for all persons, equipment and installations relating to this Contract. The Contractor is expected to sign the undertaking in this regard as attached in the annexes.

It shall be the Contractor's responsibility to ensure that all relevant labour and safety legislation is adhered to in rostering staff.

All persons on company premises shall obey all health and safety rules, procedures and practices. In particular, NO SMOKING signs and the prohibition of the carrying of smoking materials in designated areas shall always be obeyed. A copy of the Safety Rules booklet is available on request from the ACSA Safety Department.

All the applicable requirements of the Occupational Health and Safety Act (1993) and Regulations and any amendments thereto, shall be met. Where the OHS Act prescribes certification of competency of persons performing certain tasks, proof of such certification shall be provided to the Project Manager.

The contractor's Workmen's Compensation fees must be up to date. A copy of the Contractor's WCA registration shall be produced on request.

The following areas in the company are declared as "HOT WORKS PERMIT" areas:

All airside areas

All basement areas

All areas accessible to the public

All enclosed areas

The terminal building

Any process in the above mentioned areas involving open flames, sparks, or heat shall be authorised by the issue of a permit to work - obtainable from the ACSA Safety department. Any work done under the protection of a permit to work shall be in strict compliance with every prescription regarding the permit.

Safety equipment shall be used where applicable (e.g. safety, goggles, boots, harness, etc.) The Contractor, at his/her own expense shall provide such equipment, for his/her employees. The Contractor shall apply the necessary discipline and control to ensure compliance by his workers.

All Contractors must ensure that his/her employees are familiar with the existing emergency procedures and must co-operate in any drills or exercises, which might be held. Emergency / fire equipment and extinguishers shall not be obstructed at any time

No person shall perform an unsafe / unhygienic act or operation whilst on Company premises.

No unsafe/dangerous equipment or tools may be brought onto or used on Company premises. The Company reserves the right to inspect all equipment/tools at any time and to prevent/prohibit their use, without any penalty to the Company and without affecting the terms of the Contract in any way.

The Company reserves the right to act in any way to ensure the safety/security of any persons, equipment or goods on its premises and will not be liable for any cost or loss evoked by the action. This includes the right to search all vehicles and persons entering, leaving or on the premises and to inspect any parcel, package, handbag and pockets. Persons who are not willing to permit such searches may not bring any such items or vehicles onto the premises.

The Contractor shall maintain good housekeeping standards in the area where he is working for the duration of the contract.

At no time must the Contractor interfere with, or put at risk, the functionality of any fire prevention system. Care must also be taken so as to prevent fire hazards.

The Contractor is required to issue all staff with standard uniforms. This shall as a minimum include: safety shoes, overalls (clearly marked with Contractor's company logo) and numbered reflective jackets (as per Airport requirements). All costs relating to uniforms shall be for the Contractor's account.

Confidential

Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints stated in this document

Quality assurance requirements
All work must be executed in accordance with prevailing industry norms and standards relating to quality. In this regard, the Contractor will be expected to draft quality plans for the Project Manager from time to time.

Invoicing and payment

Within two days of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Project Manager's* payment certificate.

The *Contractor* shall address the tax invoice to the following Address,

Airports Company South Africa SOC Ltd
Chief Dawid Stuurman International Airport,
Allister Miller Drive
Walmer
Gqeberha
6000

and include on each invoice the following information:

Name and address of the *Contractor* and the *Project Manager;*
The contract number and title;
Contractor's VAT registration number;
The *Employer*'s VAT registration number 4930138393;
Description of work done by cross reference to *Project Manager*'s certificate;
Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
Quote PO number as a reference

The Contractor should arrange with ACSA's finance department for making all payments electronically.

Invoices should be submitted via email to Invoices.Acsa@airports.co.za

Provision of bonds and guarantees

The form in which a bond or guarantee required by the *conditions of contract* (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer*'s right to termination stated in this contract.

Note:
These sizes are standard for the units. The contractor must verify the sizes before installation to ensure accuracy in order to prevent delays.

Storage

ACSA will provide storage of the parts at airport premises. It will be the contractor's responsibility to move the parts from the store to installation sites.

Disposal

The Contractor is required to remove the existing units and safely dispose of. A disposal certificate will be required by the employer.

Subcontracting

Should any part of the works be subcontracted, the Contractor will be responsible for all Works as if it was done so by the Contractor.

No casual labour (i.e. "off the street" labour) may be employed by the Contractor unless pre-arranged with ACSA. Whenever this is required, the Contractor shall come to a suitable arrangement with ACSA regarding sourcing and screening of such individuals.

Resources

Minimum requirements of people employed on the Site

A schedule of key personnel to this Contract will be provided to the Project Manager at commencement of this Contract. This will, as a minimum, include all persons from technician/artisan level to management level. For the full duration of this Contract, none of these persons will be replaced by a person of lesser ability or qualification. All on-site staff leaves shall be reported and agreed with the Project Manager. The Project Manager may request the replacement of any person with unsatisfactory performance or fails to comply with this contract.

It is the contractor's responsibility to ensure that there is always sufficient competent staff to perform the works as planned. It shall be the Contractor's responsibility to ensure that all relevant labour and safety legislation is adhered to in rostering staff.

All key personnel are required to have personal access permit to access the site.

The Contractor shall not be compensated for costs relating to ACSA required permits, nor for labour/time spent in obtaining it. An allowance must be made in the tender price in this regard.

The Contractor must ensure that he/she is, at all times, familiar with ACSA's safety and security requirements relating to permits in order for no work to be delayed as a result thereof. This will include the permit application process.

Note that (within reason) the Contractor will have no claim against ACSA in the event that a permit request is refused.

The following table is not all inclusive, but is provided for illustration purposes:

Permit	Required by/for	Department

AVOP – Airside Vehicle Operator permit	All drivers of vehicles on airside	ACSA Safety
Airside Vehicle Permit	All vehicles that enter airside	ACSA Safety
Basement Parking permit	All vehicles allowed to enter the delivery basement	ACSA Parking
Personal permit	All persons employed on the airport	ACSA Security
Cell phone permit	All persons taking cell phones to airside	ACSA Security
Lap top permit	All persons taking lap top computers to airside	ACSA Security
Camera permit	All persons taking cameras or camera equipment to airside	ACSA Security
Hot Works Permit	All welding and/metal cutting work	ACSA Safety

Proof of having attended the airside induction training course is required for all personal permit applications. Persons applying for an AVOP must provide proof of having attended an AVOP course. Fees are levied for these courses. Fees are further levied for all permit renewals and refresher courses - where applicable

Construction

Completion, testing, commissioning and correction of Defects

Work to be done by the Completion Date

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

	Item of work	**To be completed by**
	Handover and Closure Report	Within 5 days after Completion

C3.2 *Contractor*'s Works Information

The tenderer to provide details or specification of parts to be used for the

Confidential

Confidential

C4 Site Information

1 Site location

Note that access to the site is through the Main Gate and that the site is on the airside of the airport.

2 Site Data

Note that the following site data is for tender purposes only. It is the responsibility of the Contractor to verify the data for design purposes.

It is the Contractor's responsibility to acquaint himself with the site conditions as well as the nature and strata of material on site. No additional claims will be entertained over and above the tender rates as submitted by the Contractor due to the lack of knowledge by the Contractor about the site conditions.

Confidential

All the material and equipment being supplied in terms of this Contract shall be suitable for continuous operation at the total specified output or capacity under the following conditions:

Applicable site conditions	**Unit**	**Value**
Record high (January)	°C	40.7
Record low (August)	°C	-0.5
Average high	°C	22.3
Daily mean	°C	22
Average low	°C	13.5
Corrosion conditions	-	Severe
Pollution conditions	-	Moderate
Average relative humidity	%	74

Electrical network status	**Value**
Maximum design short circuit current at 400V point of supply	50 kA
System nominal voltage	11 / 0.400 / 0.230 kV
System highest voltage	12 / 0.45 / 0.26 kV
Contractual voltage	11 / 0.42 / 0.242 kV
Frequency + possible variation	50 Hz ± 1%
Neutral grounding system	Solid
Settings of upstream protection relays	Shall be provided on site