ISO 9001:2008 Certified

NYAYO TEA ZONES DEVELOPMENT CORPORATION

TENDER NO. *NTZDC/TN/02/2017-2018*

SUPPLY, INSTALLATION AND COMMISSIONING OF CTC TEA MACHINERY FOR KIPCHABO TEA FACTORY

SEPTEMBER, 2017

DATE OF ISSUE: 19TH SEPTEMBER, 2017

SUBMISSION DATE: 3RD OCTOBER, 2017

SECTION I – INVITATION TO BID

Supply, Installation and Commissioning of CTC Machineries at Kipchabo Tea Factory

The Nyayo Tea Zones Development Corporation, one of the leading tea producing Companies in Kenya, invites sealed bids from eligible candidates for Supply, Installation and Commissioning of CTC Tea Machineries for Kipchabo Tea Factory third line as per the specifications herein.

1.1 The detailed breakdown of the requirements can be obtained in the schedule of requirements/price schedule inside the bid document.

1.2 Interested eligible candidates may obtain further information from and inspect the Bid documents at the Procurement Office, Nyayo Tea Zones Development Corporation, Nyayo House, 11th Floor, during normal working hours (08:30 – 15:30 local time on Mondays to Fridays except during lunch time from 13:00 to 14:00 hours and public holidays.).

1.3 Completed Bid documents are to be enclosed in plain sealed envelopes marked with Bid reference number and be deposited in the Tender Box located at the 11th floor of Nyayo House, Nyayo Tea Zones Development Corporation, **P. O. Box 48552-00100, NAIROBI, Tel: 254-020-315650-7**so as to be received on or before **October 3rd 2017 at 12.00 Noon**

1.4 Prices quoted shall clearly show if all taxes are exclusive or inclusive; and be in Kenya Shillings. They shall remain valid for a period of ninety (90) days from the closing date of the Bid.

1.5 Bids will be opened immediately thereafter in the presence of the Candidates or their representatives who choose to attend at the Nyayo Tea Zones Development Corporation's Boardroom on the 11th Floor, Nyayo House.

1.6 The Nyayo Tea Zones Development Corporation reserves the right to accept /reject all or part of the Bids and is not bound to give reasons for doing so.

For: Managing Director
Nyayo Tea Zones Development Corporation
Nyayo House, 11th Floor
P O Box 48552-00100
NAIROBI
Tel. 254-020-315650-7

info@teazones.co.ke

FORM OF BID

TO: The Managing Director
Nyayo Tea Zones Development Corporation
Nyayo House, 11th Floor
P. O. Box 48552-00100
NAIROBI, KENYA

Gentlemen:

Having examined the bidding documents Nos……. *[insert numbers]*, the receipt of which is hereby duly acknowledged, we the undersigned, offer to Supply, Install and Commission CTC Machinery for Kipchabo tea factory third line in conformity with the said bidding document for the sum of
……..……
……..……...…….....
(Figures)…….…...……. ***(Inclusive of all taxes)*** or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.
We undertake to commence the works in accordance with the delivery
Schedule specified in the Schedule of Requirements if our bid is accepted.

We agree to abide by this Bid for a period of ninety (90) days from the date of Bid submission prescribed in the Invitation to Bid and it shall remain binding upon us and may be accepted any time before the expiration of that period.
Unless and until an Agreement is prepared and executed, this Bid together with your written acceptance thereof shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any Bid you may receive.
We hereby agree that any errors in our Bid shall be adjusted as defined in the

Bid Document under instructions to Bidders.

Dated this _____ day of _____ 2017

(Name) _____

(Signature)_____

In the capacity of _____

Duly authorized to sign Bids, for and on behalf of
_____

P. O. Box _____Code_____

Name of Witness _____Address _____

Signature of Witness

_____

SECTION II - INSTRUCTIONS TO BIDDERS

2.1 Eligible Bidders

2.1.1 This Invitation for Bids is open to all eligible Bidders as described in the Invitation to Bid. Successful Bidders shall complete the supply and installation by the intended completion date specified in the Schedule of Requirements Section III.

2.1.2 The procuring entity's employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the Bid.

2.1.3 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices.

2.2 Eligible Goods

2.2.1 All materials to be used under the contract shall have their origin in eligible source countries.

2.2.2 For purposes of this clause, "origin" means the place where the goods are manufactured, mined, grown, or produced. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components

2.2.3 The origin of materials is distinct from the nationality of the Bidder.

2.3 Cost of Bidding

2.3.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the procuring entity, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

2.4. The Bid Document

2.4.1 The Bid document comprises the documents:

(i) Invitation to Bid
(ii) Form of Bid
(iii) Instructions to Bidders
(iv) Technical Specifications
(v) Price Schedules
(vi) Bid Security Form
(vii) Contract Form
(viii) Performance Security Form
(ix) Confidential Business Questionnaire

2.4.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bid documents. Failure to furnish all information required by the Bid documents or to submit a Bid not substantially responsive may result in the rejection of its Bid.

2.5 Clarification of Documents

2.5.2 A prospective Bidder requiring any clarification of the Bid document may notify the Procuring entity in writing or by post at the entity's address indicated in the Invitation to Bid. The Procuring entity will respond in writing to any request for clarification of the Bid documents, which it receives not later than three (3) days prior to the deadline for the submission of Bids, Written copies of the Procuring entities response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective Bidders that have received the Bid document.
These clarifications may be sent to:

Elijah B Mayieka
Procurement & Supplies Officer
Nyayo Tea Zones Development Corporation
P O Box 48552-00100
NAIROBI
Tel. 254-020-315650-7
Email: emayieka@teazones.co.ke

2.5.3 The procuring entity shall reply to any clarifications sought by the Bidder within 3 days of receiving the request to enable the Bidder to make timely submission of its Bid.

2.6 Amendment of Documents

2.6.1 At any time prior to the deadline for Bid submission, the Procuring entity, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the Bid document.

2.6.2 All prospective candidates that have received the Bid documents will be notified of the amendment in writing or through email and will be binding on them.

2.6.3 In order to allow prospective Bidders reasonable time in which to take the amendment into account in preparing their Bids, the Procuring entity, at its discretion, may extend the deadline for the submission of Bids.

2.7 Language of Bid

2.7.1 The Bid prepared, any correspondences and documents relating to the Bid document shall be written in English language, any printed literature furnished by the Bidder written in another language shall be accompanied by an accurate English translation of the relevant passages in which case, for purposes of interpretation of the Bid, the English translation shall govern.

2.8 Documents Comprising of Bid

2.8.1 The Bid prepared by the Bidders shall comprise the following components:

(a) a Bid Form and a Price Schedule completed in accordance with paragraph 2.9, 2.10 and 2.11 below
(b) documentary evidence established in accordance with paragraph 2.1.2 that the Bidder is eligible to Bid and is qualified to perform the contract if its Bid is accepted;
(c) documentary evidence established in accordance with paragraph 2.2.1 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the Bid documents; and

2.9 **Bid Forms**

2.9.1 The Bidder shall complete the Bid Form and the appropriate Price Schedules furnished in the Bid documents, indicating the works to be done, a brief description of the works, their country of origin, quantity, and prices.

2.10 **Bid Prices**

2.10.1 Bidder shall indicate on the appropriate Price Schedule the unit prices and total Bid price.

2.10.2 Prices indicated on the Price Schedule shall include all costs including taxes and delivery of materials to the construction site of the procuring entity.

2.10.3 Quoted prices by the Bidder shall be fixed during the contract performance and shall not be subject to variation on any account. A Bid submitted with an adjustable price quotation will be treated as non-responsive and will be rejected, pursuant to paragraph 2.22

2.11 **Bid Currencies**

2.11.1 Prices shall be quoted in Kenya Shillings or any other currency easily convertible to Kenya Shillings unless otherwise specified in the Appendix to Instructions to Bidders.

2.12 **Bidders Eligibility and Qualifications**

2.12.1Pursuant to paragraph 2.1. The Bidder shall furnish, as part of its Bid, documents establishing the

Bidder's eligibility to Bid and its qualifications to perform the contract if it's Bid is accepted.

2.12.2The documentary evidence of the Bidders eligibility to Bid shall establish to the Procuring entity's satisfaction that the Bidder, at the time of submission of its Bid, is from an eligible source country as defined under paragraph 2.1

2.12.3The documentary evidence of the Bidders qualifications to perform the contract if its Bid is accepted shall be established to the Procuring entity's satisfaction;

(a) that the Bidder has the financial and technical capability necessary to perform the contract;

(b) that, in the case of a Bidder not operating within Kenya, the Bidder is or will be (if awarded the contract) represented by an Agent in Kenya or provide prove that contract performance will not be affected and disruption will lead to penalties equivalent to the loss realized by the procuring entity.

2.13 Works eligibility and Conformity to Bid Documents

2.13.1 Pursuant to paragraph 2.2 of this section, the Bidder shall furnish, as part of its Bid documents establishing the eligibility and conformity to the Bid document.

2.13.2 The documentary evidence of conformity of the works to the Bid documents may be in the form of literature, structural drawings, and shall consist of:

(a) A clause-by-clause commentary on the Procuring Entity's Technical Specifications demonstrating substantial responsiveness of the materials and service to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.

2.13.3 For purposes of the documentary evidence to be furnished pursuant to paragraph 2.13.3(a) above, the Bidder shall note that standards for workmanship and materials by the Procurement entity in its Technical Specifications, are intended to be descriptive only and not restrictive.

2.15 **Validity of Bids**

2.15.1 Bids shall remain valid for 90 days or as specified in the Invitation to Bid after the date of Bid opening prescribed by the Procuring entity, pursuant to paragraph 2.18. A Bid valid for a shorter period shall be rejected by the Procuring entity and treated as non-responsive.

2.15.2 In exceptional circumstances, the Procuring entity may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The Bid security provided under paragraph 2.14 shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid security. A Bidder granting the request will not be required nor permitted to modify its Bid.

2.16 **Format and Signing of Bid**

2.16.1 The bidder shall prepare two copies of the Bid, clearly marking each **"ORIGINAL BID"** and **"COPY OF BID,"** as appropriate. In the event of any discrepancy between them, the original shall govern.

2.16.2 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to a contract. All pages of the Bid, except for unlamented printed literature, shall be initialed by the person or persons signing the Bid and stamped.

2.16.3 The Bid shall have no interlineations, erasures, or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.

2.17 Sealing and Marking of Bids

2.17.1 The Bidder shall seal the original and each copy of the Bid in separate envelopes, duly marking the envelopes as ***"ORIGINAL"*** *and* ***"COPY."*** The envelopes shall then be sealed in an outer envelope.

2.17.2 The envelope shall bear the tender number and addressed as indicated below:

TENDER NO: /NTZDC/TN/01/2017-2018; SUPPLY, INSTALLATION AND COMMISSIONING OF TEA MACHINERY FOR KIPCHABO TEA FACTORY, BEARING DO NOT OPEN BEFORE; OCTOBER 3RD 2017 at 12.00 NOON.

ADDRESSED TO:

THE MANAGING DIRECTOR,
NYAYO TEA ZONES DEVELOPMENT CORPORATION,
NYAYO HOUSE, 11TH FLOOR,
P.O. BOX 48552-00100,
NAIROBI –KENYA.

2.17.3 If the outer envelope is not sealed and marked as required in paragraph 2.17 the Procuring entity will assume no responsibility for the Bid's misplacement or premature opening.

2.18 **Deadline for Submission of Bids**

Bids must be received by the Procuring entity at the address specified under paragraph 2.17.2 not later than **Tuesday 03rd October, 2017 at 12.00 Noon.**

2.18.1 The Procuring entity may, at its discretion, extend this deadline for the submission of Bids by amending the Bid documents in accordance with paragraph 2.6, in which case all rights and obligations of the Procuring entity and candidates previously subject to the deadline will therefore be subject to the deadline as extended

2.19 Modification and Withdrawal of Bids

2.19.1 The Bidder may modify or withdraw its Bid after the Bid's submission, provided that written notice of the modification, including substitution or withdrawal of the Bids, is received by the Procuring entity prior to the deadline prescribed for submission of Bids.

2.19.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of paragraph 2.17. A withdrawal notice may also be sent by cable, email but followed by a signed confirmation copy, postmarked not later than the deadline for submission of Bids.

2.19.3 No Bid may be modified after the deadline for submission of Bids.

2.19.4 No Bid may be withdrawn in the interval between the deadline for submission of Bids and the expiration of the period of Bid validity specified by the Bidder on the Bid Form. Withdrawal of a Bid during this interval may result in the Bidder's forfeiture of its Bid security, pursuant to paragraph 2.14.8

2.19.5 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.

2.19.6 The procuring entity shall give prompt notice of the termination to the Bidders and on request give its reasons for termination within 14 days of receiving the request from any Bidder.

2.20 Opening of Bids

2.20.1 The Procuring entity will open all Bids in the presence of Bidders' representatives who choose to attend, at the said time and location specified in the Bid document.

The Bidders' representatives who are present shall sign a register evidencing their attendance.

2.20.2 The Bidders' names, Bid modifications or withdrawals, Bid prices, discounts and the presence or absence of requisite Bid security and such other details as the Procuring entity, at its discretion, may consider appropriate, will be announced at the opening.

2.20.3 The Procuring entity will prepare minutes of the Bid opening.

2.21 Clarification of Bids

2.21.1 To assist in the examination, evaluation and comparison of Bids the Procuring entity may, at its discretion, ask the Bidder for a clarification of its Bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the Bid shall be sought, offered, or permitted.

2.21.2 Any effort by the Bidder to influence the Procuring entity in the Procuring Entity's Bid evaluation, Bid comparison or contract award decisions may result in the rejection of the Bidders' Bid.

2.22 Preliminary Examination

2.22.1 The Procuring entity will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.

2.22.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantify, the unit price shall prevail, and the total price shall be corrected. If the candidate does not accept the correction of the errors, its Bid will be rejected, and its Bid security forfeited. If there is a discrepancy between words and figures the amount in words will prevail. All in all, the award shall be based on the corrected figure.

2.22.3 The Procuring entity may waive any minor informality or non-conformity or irregularity in a Bid which does not constitute a material deviation, provided such waiver does not prejudice or effect the relative ranking of any Bidder.

2.22.4 Prior to the detailed evaluation, pursuant to paragraph 2.23 the Procuring entity will determine the substantial responsiveness of each Bid to the Bid documents. For purposes of these paragraphs, a substantially responsive Bid is one, which conforms to all the terms and conditions of the Bid documents without material deviations. The Procuring entity's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.

2.22.5 If a Bid is not substantially responsive, it will be rejected by the Procuring entity and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

2.22.6 The Company reserves the right to waive minor deviations in the evaluation criteria if they do not materially affect the capability of an applicant to perform.

2.23 Conversion to Single Currency

2.23.1 Where other currencies are used, the procuring entity will convert these currencies to Kenya Shillings using the selling exchange rate on the date of Bid closing provided by the Central Bank of Kenya.

2.24 Evaluation and Comparison of Bids

2.24.1 The Procuring entity will evaluate and compare the Bids which have been determined to be substantially responsive, pursuant to paragraph 2.22

2.24.2 The Bid evaluation committee shall evaluate the Bid within 14 days of the validity period from the date of opening the Bid.

2.24.3 A Bidder who gives false information in the Bid document about its qualification or who refuses to enter into a contract after notification of contract award shall be considered for debarment from participating in future public procurement.

2.25 Preference

2.25.1 Preference where allowed in the evaluation of Bids shall not exceed 15%.

2.26 Contacting the Procuring entity

2.26.1 Subject to paragraph 2.21 no Bidder shall contact the Procuring entity on any matter related to its Bid, from the time of the Bid opening to the time the contract is awarded.

2.26.2 Any effort by a Bidder to influence the Procuring entity in its decisions on Bid, evaluation, Bid comparison, or contract award may result in the rejection of the Bidder's Bid.

2.27 Award of Contract

2.27.1 The determination will take into account the Bidder financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidders qualifications submitted by the Bidder, pursuant to paragraph 2.12.3 as well as such other information as the Procuring entity deems necessary and appropriate.

2.27.2 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's Bid, in which event the Procuring entity will proceed to the next lowest evaluated Bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

(b) **Award Criteria**

2.27.3 The Procuring entity will award the contract to the successful Bidder(s) whose Bid has been determined to be substantially responsive and has been determined to be the lowest evaluated Bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

2.27.4 Awards shall not be subject to appeals

(c) **Procuring entity's Right to vary the contract**

2.27.5 The Procuring entity reserves the right at the time of contract award to increase or decrease the scope of works originally specified in the Schedule of requirements without any change in unit price or other terms and conditions

(d) **Procuring entity's Right to accept or Reject any or All Bids**

2.27.6 The Procuring entity reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder or Bidders of the grounds for the Procuring entity's action

2.28 Performance Security

The successful bidder shall be expected to furnish the procuring entity with a performance security from a reputable Bank equivalent to 10% of the total tender sum quoted.

2.29 Notification of Award

2.29.1 Prior to the expiration of the period of Bid validity, the Procuring entity will notify the successful Bidder in writing that its Bid has been accepted.

2.29.2 The notification of award will constitute the formation of the Contract but will have to wait until the contract is finally signed by both parties

2.29.3 Upon the successful Bidder's furnishing of the performance security pursuant to paragraph 2.28, the Procuring entity will promptly notify each unsuccessful Bidder and will discharge its Bid security, pursuant to paragraph 2.14

2.30 Signing of Contract

2.30.1 At the same time as the Procuring entity notifies the successful Bidder that its Bid has been accepted, the Procuring entity will send the Bidder the Contract Form detailing contract format.

2.30.2 The parties to the contract shall have it signed within 30 days from the date of notification of contract award unless there is an administrative review request.

2.30.3 Within thirty (30) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring entity.

2.30.4 All payments to the successful bidder shall be by Cheque , EFT or RTGS

2.31 Corrupt or Fraudulent Practices

2.31.1 The Procuring entity requires that Bidders observe the highest standard of ethics during the procurement process and execution of contracts when used in the present regulations, the following terms are defined as follows;

(i) "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and

(ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring entity, and includes collusive practice among Bidder (prior to or after Bid submission) designed to establish

(iii) Bid prices at artificial non-competitive levels and to deprive the Procuring entity of the benefits of free and open competition;

(iv) 'Collusive Practice' means a scheme or arrangement between two or more bidders, with or without the knowledge of the Company, designed to establish bid prices at artificial, noncompetitive levels, and

(iv) 'Coercive Practice' means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or effect the execution of a contract.

2.31.2 The procuring entity will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

2.31.3 Further a Bidder who is found to have indulged in corrupt or fraudulent practices risks being debarred from participating in NTZDC future procurements.

Appendix to Instructions to Bidders

The following information regarding the particulars of the Bid shall complement and supplement or amend the provisions of the instructions to Bidders. Wherever there is a conflict between the provision of the instructions to Bidders and the provisions of the appendix, the provisions of the appendix herein shall prevail over those of the instructions to Bidders

INSTRUCTIONS TO BIDDERS REFERENCE	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO BIDS
2.32.1	*Qualification requirements.;* *(a) The bidder shall furnish details of the experience and past performance with respect to machinery supply and installation works. Evidence of this shall be LSOs (minimum 2 LSOs) as proof and, shall be presented with this bid on submission date* *(b) Have legal capacity to enter into a contract; Evidence shall be a letter showing that the bidder has not been debarred which shall be in bidder's letter head.* *(c) Copies of original documents defining the constitutional or legal status i.e. Certificate of registration by the National Treasury for AGPO programme, valid tax compliance certificate, certificate incorporation, and any other relevant statutory documents.* *(d) Not be under a declaration of ineligibility for corrupt and fraudulent practices. Bidders to provide written testimonial in their letter head.* *(e) A bid security of Kshs. 100,000.00 from a reputable Bank should be submitted together with this bid.* *(f) Manufacturer's authorization letter* ***The above requirements are mandatory and any bidder not meeting any of the above shall be treated as non-responsive.***
2.32.2	*The qualification statement shall be drawn on bidder's letterhead, signed and stamped.*
2.32.3	*A statement declaring bidder is not ineligible for corrupt and fraudulent practices shall be drawn on bidder's letterhead, signed and stamped.*
2.32.4	*Under technical evaluation, the following shall be considered: -* •*Conformity to Specifications* •*Technical capability and capacity – proof of experience in similar works in Kenya* •*Safety Requirements*
2.32.5	*Under commercial evaluation, the following shall form part of the basic of evaluation;* *a) Price* *b) Delivery Schedule* *c) Terms of payment*

DETAILED MARKING SCHEME BOTH FOR TECHNICAL & COMMERCIAL CRITERIA			
No.	**Criteria**	**SPECIFIC SCORE**	**Target score**
		%	**%**
Technical			
1. Conformity to specifications	Conformity to the technical specifications in Section IV of the tender document	20	20%
2. Electrical Panels	1. Compactness in controls 2. Quality works and parts	2	2%
3. Safety Requirements	Painting / finishing 1. Quality 2. Safety	3	3%
4. Support Services	1. Training 2. Accompanying essential standard spares 3. Drawing/manuals	7	7%
5. Warranty Period	Warranty period	3	3%
6. Technical capability and capacity (Proof of experience in similar works in Kenya over the past five years)	Nil projects	0	15%
	Below Two projects	5	
	Above two projects	10	
Total technical score			**50%**
Commercial			
1. Price		25	25%
2. Delivery timelines (supply, installation & commissioning)	Under 150 days	2.5	2.5%
	More than 150 days	0	
3. Terms of payment	Flexible repayment terms with credit period exceeding 270 days after installation	22.5	22.5%
	Payment required in the process of working with credit less than 270 days after installation	10	
	Deposit required before commencement – No credit facility	0	
Total commercial score			50%
Total score (total technical score + total commercial score)			**100%**

SECTION IV - TECHNICAL SPECIFICATIONS

General Information

3.1 This specification describes the basic requirements of the machinery. Bidders are requested to submit with their offers the detail specifications.

3.2 Bidders must indicate on the specifications sheets whether the machinery comply with each specified requirement.

3.3 All the machinery to be supplied shall not be less than those required in the specifications. Deviations from the basic requirements, if any, shall be explained in detail in writing with the offer, with supporting data such as calculation sheets, etc. the procuring entity reserves the right to reject the tender, if such deviations shall be found critical to the use and operation of the procuring entity.

3.4 The Bidders are requested to present information along with their offers as follows:

(i) Information on proper representative and/or back-up plan incase deviation is evidenced including their names and addresses

KIPCHABO CTC TEA MACHINERY SPECIFICATIONS.

CTC SPECIFICATIONS

1. 1No. ROTORVANE 450mm (18")

All internal components in contact with leaf must be made of abrasion resistant food quality stainless steel. (AISI 304)
Latest model 450mm (18") diameter machine having a 205mm (8") pitch worm and supplied complete with all forward vanes and iris end plate for initial rolling in CTC manufacture.
To be driven by a totally enclosed fan cooled 30HP, 1440 RPM, 415VOLTS, 50HTZ Ac motor through reduction gearing and v belts so as to produce rotor speed of 35 RPM at the main shaft. The drive pulleys and v- belts should be fully enclosed by the guard. A guard should also enclose all open rotating shafts.
The leaf inlet opening to machine barrel to be collared by a4.8mm (3/16") stainless steel plate welded to barrel so as to provide a 305mm (12") square opening with sides 102mm (4") high above the barrel.
The discharge end to have a 1.5mm stainless steel AISI 304 discharge chute fixed to outer lower half the circumference of the barrel by bolting.
The discharge should also be provided with a stainless-steel guard suitable designed to cover the entire front of the rotor vane.
NB: The barrel vanes, resistors and worm to be all stainless steel.
The unit to be supplied with necessary safety guards (pulleys and belts must be fully enclosed in the guard). The guard should be made from perforated SS sheets 1.5mm thick. Maintenance tools especially for barrel and bridge and instruction manuals must also be supplied and machine finished to be painted over a primer with Mercedes Green paint. Sufficiently long holding down bolts of 19mm (3/4" diameter with nuts and washers as will be required for site work to be supplied together with properly dimensioned foundation and machine drawings including a packing list.

SPARES
A spare bearing(s) (Thrust) for the main shaft, 1 No. main shaft, bushes for the bridge and gable, and spare bridge to be supplied with the machine.

2. 1 No. TRIPLEX CTC MACHINE WITH INTEGRAL BALL BREAKER.

To be triplex CTC machine having 330mm (13") diameter 8 tpi (or metric equivalent) stainless steel cutting rollers. The rollers width to be (42") and should be driven by suitably sized motors to the specs below.
The Roller segments to be of high quality non-magnetic stainless steel AISI 304.
The segment rings to be seamless forged.
Power Transmission to segments: Rollers will be through two-output-shaft gearbox with 1:10 ratio coupled to rollers by universal couplings of heavy duty standard.
The CTC unit to be integrally fitted with a full belt width ball breaker at the final discharge end housed in stainless steel sheet metal casing having 152mm wide discharge opening. The casing to be easily and quickly removable in case of a breakdown or purposes of cleaning. The design of the casing should be such as not to allow any spillages and observe maximum safety during operations.
Ball breaker stainless steel shaft of 38mm diameter mounted on pillow block ball bearing to have 9mm diameter stainless steel beater rods welded to 4250mm diameter by 6mm thick mild steel discs and the driving motor to be direct coupled 2hp, 960 rpm, 415 volts, 3 phase, 50 Htz AC.
Conveyors should be independently driven by means of a gearbox and not by chain and sprocket. Conveyors should also have a zero-tracking device.
The unit to be supplied complete with strong iron chassis and supports, conveyors, tensioners, water jets spray connections, overload clutch systems, worm spreader, moving covers over the three CTC cuts with properly designed drives and suitable speed, magnet assembly above the belt and effective over the entire width of the belt, safety guards sufficiently anchored by bolts and integrated with limit switches to enhance safety, nuts and washers.
The conveyor belts to be endless, self-aligning, food quality, 2 ply construction 4mm thick and made out of plain dry rubber or PVC with tension of 24 N/mm. The Anchor bolts should be sufficiently long 19mm (3/4") diameter c/w nuts and washers.
The entire unit to be finish-painted over a primer with Mercedes Green Paint.
NB: All roller covers to be made from AISI 304 stainless steel.

SPARES
Complete Maintenance tool kit, a complete set of V belts and CTC conveyor belts, A Set of bearing blocks c/w bearings, A set of Micro dial blocks, Operation and maintenance manuals, necessary drawings and a packing list to be supplied with the machine.
The CTC machines to preferably incorporate the following features: -

1. Slow speed and high speed rollers to be interchangeable.
2. Axial pitch adjustment device.
3. Bolt free cassette type roller housing.
4. A de-jamming mechanism that allows the rollers to resume approximately the original setting.
5. Single knob fine cut meshing setting.
6. The roller lift mobile crane.
7. Automatic roller covers cleaning mechanism.

8. Adequate safety aspects to protect working staff from all moving parts i.e. all pulleys, belts, spreaders and other moving parts should be fully enclosed in the guards made from 1.5mm stainless steel perforated sheet.
9. 2 No. swivel controlled roller trolley 2 roller capacity.

MOTORS

All motors shall be ABB high power factor (H.P.F), High efficiency motors or equivalent.
All geared motors shall be supplied with food Grade Oil (BP Shell cassida GL320 or equivalent).

ELECTRICAL PANELS

All controls (starters) for the Rotor Vane and the CTC shall be incorporated in the same panel. Shall be manufactured for food industry and shall be free standing with mild steel plates. Shall be coated with dry powder epoxy paint. Final colour shall be Tango Orange (06E51).
NB: The Panels shall be supplied weird completely up to the termination blocks.
The motor control centres shall meet the recommendations given in the latest editions of the following standard: -
IEC 439-1 - Construction Clauses
IEC 529 - Degree of protection
IEC 68-2-11 - Defining resistance to salt and mist
IEC 66-2-30 - Defining resistance to damp heat
The motor control centre shall be designed for a rated voltage of 415 volts T.P.N
The control voltage shall be 240 volts S.P.N

The Busbar shall be braced with special insulators and rated for 415-460 volts T.P.N
The degree of protection –IP54.
The panel shall consist of Telemecanique Product (Genuine) product from France) or Equivalent.
All Main M.C.C.Bs, motor rated M.C.Cs shall be of the Type Tested Assembly.
All protection shall be M.C.Bs (3 phase or Single phase) and M.C.C.Bs (Adjustable setting)
All starters shall be wired in sequential operation.
All Panels shall not be more than 2200mm in height and must be compact and neatly in size and construction.
All panels shall be bottom cable tray.
The Panel shall incorporate:

- Emergency lockable Stop Button to control all the motors control circuits
- Start Buttons(green)
- Stop Buttons(Red)
- Run indicators(Green)
- Trip indicators(yellow)
- RYB indicator lights(Red, Yellow, blue)
- 96mmx96mm mains Ammeter for each motor
- Digital 3 phase 4 wire kWh meter flash type.

Wiring Drawing/Manuals

A complete wiring drawing should be supplied with the control panel.
The components in the control panel should be labeled to match the wiring drawing. The machine should be supplied with an operations and maintenance manual.

CRITICAL SPARES FOR CTC

1. Spare set of CTC Belt conveyors- One for each cutting unit.
2. Spare set for each CTC Rollers for each cutting unit complete with bearings and housings
3. Complete set of spare V-Belts for each cutting unit.
4. Nos. spare cardan joints- universal joints.
5. One spare motor- largest size (30Hp.)
6. 6.A set of complete micro dial block for each cutting unit

FERMENTING SPECIFICATIONS

3. 1 No. CONTINUOUS FERMENTING MACHINE (CFM)

Product Specification

The product to be fermented is dhool, processed from withered tea leaf which has been macerated through a Rotor vane and Triplex CTC, with the following physical characteristics and process parameters:

Colour - Green
Moisture Content (w/w) 68% - 70%
Throughput 600 kgs.hr Made Tea
Moisture content of made tea 3.0%

Process Parameters

Total Fermentation time/duration 90 +/- 10 minutes
Dhool temperature 22°C - 35°C
Dhool depth Optimum 4 inches (100mm)
Maximum 5 inches (127mm)
Maximum Process Air RH 95%

Scope of Supply

Two stage continuous fermenting machines, each stage or fermenter to be complete with the following: -

- Ex-CTC feed Conveyor (to match CTC width)
- Endless band perforated PE belt
- Feed and all other Conveyors complete with food quality PVC belt
- Feed conveyor from CFM-1 to CFM-2
- Drive units – gearboxes and corresponding drive assemblies.
- Blower and corresponding rotary disc-type Humidifier, duct-work and plenum chambers complete with air flow rate and pressure control baffles.
- Spreader complete with depth gauge on both sides.
- Leaf Up-turners
- Ploughs – (Comb type)
- Mid ferment Ball Breaker
- Rotary cleaning brush
- Automatic on line continuous belt cleaning system c/w a suitably sized booster pump.
- Control Panel – Motor control and instrumentation display panel
- Instruments complete with field wiring cables

CRITICAL SPARES - as per manufacture’s recommendations

GENERAL DESIGN CRITERIA

Dimensions:

The CFM shall comprise two stages of equal lengths each, modular in design and of similar features as outlined below unless otherwise specified. The first stage fermenter unit shall feed the second stage unit (after mid-ferment ball breaking) in a straight line.

The total and effective fermenting belt width shall be 2200mm and 2000mm (or more depending on side margins) respectively.

Where "effective", in this context, refer to the area over which fermentation is expected to take place.

Calculations to support the overall fermenter lengths should be submitted within the technical proposal.

Fermenter height should not exceed 1500mm (1.5m).

There must be a cat walk (platform) to enhance accessibility along the Two stages of fermenting units.

MATERIAL FOR CONSTRUCTION AND GENERAL INSTRUCTIONS:

All parts in contact with the product and process air shall be constructed using AISI 304 Stainless Steel. Product contact surfaces should be free of pitting, pinholes and any hairline cracking that can cause material penetration and cleaning difficulties.

Use of perforated PVC for belting material in the main fermenter body is NOT acceptable.

The Plenum chamber design and construction must allow uniform air distribution across and along the chamber. The chamber shall be constructed using 1.5mm AISI 304 Stainless Steel, creased OR framed as proof of compliance.

The CFM feed conveyor (PVC) belt shall be food quality. A certificate from recognized regulatory bodies e.g. FDA is required as proof of compliance.

Ducts, plenum and other enclosures shall be provided with either sliding inspection windows and/or hinged inspection doors. In the former case the window shall be fitted with shatter-proof clear glass or 3mm thick Perspex. All hinges must be placed on the outside of the equipment and be accessible for easy cleaning.

RESIDENCE TIME, DHOOL DEPTH AND TEMPERATURE CONTROL

The residence time control shall be achieved through a Variable Frequency Drive (VFD) which shall be calibrated and factored, for each CFM, to display the residence time in minutes.

Use of gear trains and Stepped pulley arrangements as a means of speed variation shall not be accepted.

The Spreader shall be made out of AISI 304 stainless steel with the paddles/blades serrated, and should not cause compaction of dhool during operation.

The spreader shall be mounted to enable easy variation of the spreader height and subsequently dhool depth. A rule with calibrations in metric (mm) and corresponding readings in inches should be provided on the fermenter body to aid in the accurate adjustment of the spreader height.

The air control baffles in the main and module ducts should be operated from fully open, half open to fully closed positions, with these positions clearly marked on the control lever mechanism. The system must be able to produce the following dhool temperature profile (see graph below), within an accuracy of +/-2°C in the course of fermentation, without drying the top layer of dhool. The process air temperature should be regulated by a pre-heater utilizing steam through high efficiency heat exchangers.

LEAF UPTURNERS AND PLOUGHS

Each stage of the fermenting machine shall be equipped with one Leaf Up-turner and a Plough with the Up-turner positioned midway along the machine. In its operation, the Up-turner shall be effective in turning/exposing the bottom layer of dhool to the surface without compacting dhool onto the PE belt. Both Up-turner and ploughs shall be made out of AISI 304 Stainless Steel.

BEARINGS:
All bearings must be of GENUINE SKF OR EQUIVALENT make and easily accessible for inspection and lubricating. All bearings shall be protected from any form of material/particle ingress.

LUBRICATION
All lubrication oils and greases shall be food grade.

CLEANING
NB: If not a standard feature, the system specified below should be quoted for as a separate optional item over and above any existing system.
Each fermenting machine shall be equipped with a WASH-IN-PLACE (WIP) system to enable the semi-automatic cleaning of the belt on the return circuit (load free). The system shall operate on the following principle; Washing nozzles or jets to spray water or cleaning fluid over a given contact surface area and located such that the dirty surface is subjected to direct impingement by the cleaning spay. A secondary set of nozzles to provide air jets onto cleaned wet surface for blow-drying purposes. The cleaning fluid should either be recoverable through a system of re-circulation pipes, strainers and reservoir tank OR drained away.

INSTRUMENTATION
The following instruments shall be supplied with the fermenting machines:
- Manometers
- Thermometers for each module (for process air and dhool temperature sensing)
- Throughput timer/gauge
- Precision Hygrometer

Display for these instruments MUST be mounted on the machine where the Operator can have easy access. The display unit should not be less than 4" OR 100mm.

BELT ALIGNMENT
Both units must be fitted with a belt alignment mechanism preferably a pneumatic system.
This should be capable of ensuring that the belt is aligned throughout the processing and cleaning time.
All necessary guarding should be incorporated.

COLOUR
The CFM frames shall be painted Mercedes green.

ELECTRICAL SPECIFICATIONS
Motors
All motors shall be ABB or equivalent High Power Factor (H.P.F.), High efficiency motors or equivalent. All geared motors shall be supplied with Food Grade Oil (BP Shell Cassida GL 320 or equivalent).
Panel
Shall be manufactured for food industry and shall be free standing with mild steel plates. Once dried, it shall be coated with dry powder epoxy paint and cured in the oven at least 160° C -

180°C for not less than 15 minutes. An even film thickness of 90-100 micron must be achieved on the final product. Final colour shall be Tango Orange (06E51). The Panels shall be supplied wired completely up to the termination blocks.
The motor control centers shall meet the recommendations given in the latest editions of the following standard: -
IEC 439-1 - Construction Clauses
IEC 529 - Degree of protection
IEC 68-2-11 - Defining resistance to salt and mist.
IEC 66-2-30 - Defining resistance to damp heat
The motor control centre shall be designed for a rated voltage of 415 volts T.P.N.
The control voltage shall be 240 volts S.P.N.
The Busbar shall be braced with special insulators and rated for 415-460 volts T.P.N.
The forms according to IEC 439-1 shall be Form 4.
The degree of protection – IP54.
The Panel shall consist of Telemecanique Product (Genuine Product from France) OR equivalent.
All Main M.C.C.Bs, motor rated M.C.Cs shall be of the Type Tested Assembly. (Partially type tested assembly shall not be acceptable).
All protection shall be M.C.Bs (3 phase or Single phase) and M.C.C.Bs (Adjustable setting).
The Panel shall be wired such that all starters are provided with timers to defeat any other motor starting before the motor being started attains its full speed.
All components for the starters should be selected as per type 2 co-ordination.
All starters shall be wired in sequential operation.
All panels shall not be more than 2200mm in Height and must be compact and neat in size and construction.
All panels shall be bottom cable entry.
The Panel shall consist of group Power Factor Correction Gears (free of PCBs, Dry Powder Type). PF correction assumed to be from 0.7 to 0.95 PF lagging.

The Panel shall incorporate:
• Emergency lockable Stop Button to control all the motors control circuits,
• Start Buttons (Green),
• Stop Buttons (Red),
• Run Indicators (Green),
• Trip Indicators (Yellow),
• RYB Indicator lights (Red, Yellow, Blue),
• 96mm x 96mm Mains Voltmeter with phase Selector Switch,
• 96mm x 96mm Mains Ammeter with Selector Switch,
• Digital 3 phase 4 wire kWh meter flash type.

WIRES
All wires must be insulated for a maximum voltage of 600 volts and the following colour codes shall be used during the wiring: -
1. 3 phase 415 volts AC Power Mains - Red
2.Neutral of Power Mains - Black
3.AC Primary Control - Yellow
4.Earth Wire - Green/Yellow
5. Strange voltage and DC circuits - Orange
6 Measuring circuits - White

DOCUMENTATION, DRAWINGS, MANUALS AND TRAINING

In the TECHNICAL PROPOSAL, a complete set of instructions and drawings, in accordance with the requirements of the Supply of Machinery Regulations, must be provided by the supplier. Drawings to clearly show the plan and side elevations as per the layout instructions above i.e. first stage machine to feed the second stage in a straight-line layout.
Any aspect of design, pertaining to CFMs, that is not covered in these set of specifications but the Tenderer feels to be either complementary to or is equivalent to those stated herein, should form part of the technical proposal (as options) and where relevant shall be quoted for separately.
Test certificates must be provided by the supplier for all electrical systems in line with specifications above.
Operating and maintenance manuals shall be supplied with the machines and the Tenderer shall conduct training for the Machine Operators and Artisans until they are proficient in the operations and maintenance of the machines.
A project plan, in weeks, detailing the CFM production period, delivery, installation commissioning and other key milestones shall be submitted with the rest of technical proposal.
Critical Spares
1) A complete main fermenting (PE) belt for each fermenting unit.
2) 1 No. complete main drive Gearbox.
3) 1 No. Conveyor cleaning brush (rotary) for each fermenting unit.
4) 1 No. connecting PVC belt for each fermenting units.

DRIER SPECIFICATIONS

4. 1No.FLUID BED DRIER WITH CYCLONES

Capacity
Minimum throughput of 600 kgs. MT/hr at 70% moisture content of withered leaf and moisture content of fired tea of 2.5 to 3%. Minimum evaporative capacity of 1400kg/hr of water.
Quality
The fired teas to be black brisk, bright, thick, pungent and free of any case hardening, balling and stewiness. The teas should be clean of fibre and black in appearance.

Operations
The dryer should be robust, automated functions for control of throughput, feed conveyor speed, hot air blower speed, easy to operate preferably with single point controls for effective fluidization and temperatures in the entire drying zones. Fluidization levels should be gentle and such as not to create turbulence that cause high abrasion of Tea Particles resulting in loss of bloom, brightness and exposure of fibre in the end product. The height of fluidization bed should not exceed 8" from the grid plate (under normal working conditions). The drier should incorporate proper Air Balance systems eliminating condensation of fully saturated air and fly off or any fall-through.

Working Conditions
Steam Pressure: 8 Bar
Consumption: About 3.0kg steam/kg of made tea
Maximum Process Temperature: 140°C in the hot zone

Constructions

Plenum Chamber

The chamber should be constructed such that there is proper air distribution along the entire length. The Plenum Chamber to be of Aero Dynamic profile achieving proper fluidization, velocity and pressure along the length of the drier.

Should be made of carbon steel of minimum thickness 1.5mm and fully insulated with mineral wool. The sides of the chambers and floors must ensure there are no air leaks.

The Chambers should be suitable reinforced with RHS or angle iron. Should have conveniently positioned opening of minimum dimension of 450 x 450mm for cleaning and inspection.

Drying Chamber

Minimum drying area expected 120ft preferably with vibrating bed to ensure uniform and true fluid like movement of tea particles over the entire drying length. The chamber should be fabricated from AISI 304 food quality stainless steel of 1.5 mm minimum thickness with appropriate structural reinforcement. The fluidizing grid should be 2mm thick AISI 304 Stainless steel plate with longitudinal/transverse slots performance extending over the whole length. The grid plate should be rigidly supported. Sufficient observation/inspection windows to be provided in the vertical panels. To consist of difference temperature zones for hot and warm sections. A product control gear to be provided along the entire drier side (cat walk).

Feed Distribution/Ball Breaker

The system should comprise of a stainless-steel feed hopper and an adjustable AISI 304 stainless steel spreader for dhool leveling and control with own drive.

The ball breaker fitted at the feed end should have a suitable drive motor of not less than 2hp, 960 rpm and stainless steel beater rods enclosed in an AISI 304 SS sheet cover to open and clean. The ball breaker should pulverize all fermented dhool prior to drying without incidence of balls or opening of leaf.

The Exhaust/Setting Chamber

The chamber should consist of 1.5mm thick AISI 304 stainless steel suitably reinforced. The system should consist of exhaust pipes and de-dusting equipment. It should create slight negative pressure in the chamber and be free of tea blowouts. It should incorporate a suitable dust reclaimer. The system should be easy to maintain.

1 No. Dryer Feed Conveyor

To be food quality PVC materials with at least 2 ply construction, 4mm thick and preferable endless with appropriate tension adjusting mechanism.

To be provided with suitable frames, rollers and supporting stainless steel sheets and made in such a way to avoid PVC damage when tea is lodged at the rollers.

Belt to be of sufficient width (not less than 610mm) to ensure even loading of fermented tea to the chamber. There should not be tea fall off during conveyance.

The Belt should also have a tea retaining hopper c/w a spreader.

1 No. Dryer Discharge Conveyor

To be installed at the discharge end and be made of cotton/canvas 4mm thick type. The conveyor to be driven by a geared motor of 2HP, and be of sufficient width (not less than 540mm) and 3.8m long.

Should be incorporated with a weighing device/mechanism to monitor drier performance c/w a separate display monitor/board.

Should be capable of performing cumulative totals of dryer performance throughput figures for the entire processing i.e. hourly, daily, monthly and yearly.
To be free standing to a height of 1.3 m
All safety guidelines to be observed.

Lighting
The drying chamber and the dust extraction chambers be fitted with suitable sealed lights for inspection through the inspection windows.

Heat Exchanger
The steam to air heat exchanger should be capable of raising air temperatures from 20°C to 150°C.
To be aluminum finned steel tubing suitable for a maximum working pressure of 150psi.
The fouling of finned surface not to exceed 15% for steady efficiency.
The tubing to be 10"OD x 13 SWG to AST 214 BS 3059/3 ERW. The fins keyed to the tube by grooving.
The casing to be galvanized and of 16-gauge thickness.
The steam flow to the head exchanger will be automatically regulated to maintain the desired temperature in the plenum chamber.
Heat Exchanger shall have all the fittings to guarantee efficiency.
Each radiator bank to have an isolating valve in the steam line and full complement of strainer, trap, steam sensor chambers and non-return valves. The line to be free of any water hammer.

The Steam System
The main steam line supplying to the radiator must be suitably sized to optimize on the required throughput. All the steam pipes used must be black heavy class "C" (BS 1387). All fittings must be SPIRAX SARCO U.K.
The three-inch diameter line must comprise of an isolating valve, steam separator with matching strainer, steam sensor chamber, steam trap and check valve.

Critical -The system to incorporate a properly sized flash vessel BS 4504, with pressure release and gauge to utilize heat from the heat vessel.

Fans
These must be of high efficiency centrifugal fans of carbon steel and be able to generate the required airflow at static heads of 2" water. Must be fitted with suitable dampers to regulate the air flow. They must be fitted with safety guards. The noise level from the fans must not exceed 76 db. A test report from a reputable independent body such as KBS would be needed for noise level.

Instruments and Controls
All motors are standard and suitable for a supply of 415 volts, 3 phases, 50 HZ and have 1 P-54 level protection.
To have insulation class "F" as per BS 2757.
The drier to have a separate capillary thermometer 0-200° C for measuring inlet and exhaust temperature for each of the three sections. This is expected to have an alarm system incorporated to alert the operator when the drier exceeds the set limits/(max/min) for each temperature gauge. A capillary thermograph temperature recorders for both inlet and outlet temperatures in each firing zone will be installed (3Nos).

The temperature gauge to be a minimum of 12" diameter for ease of reading by the operator. High quality water manometers to be installed in each drying section (3 in Nos.) to indicate the pressure in the drying chamber.

Electrical Panel
To comprise of a sturdy, carbon steel panel with separate MCCB's for all motor circuits, control and lighting circuit.
Star Delta starters for each motor provided.
Panel lights must indicate ON/OFF/TRIP status for each motor.
All Electrical wiring must withstand the dryer temperatures.

Critical Spares
1) 2 No. Motors for the critical functions i.e. main drive and cyclone.
2) Temperature probe for each check section.
3) 2 No. Speed variable drives – one large and one small for critical areas.

SORTING SPECIFICATIONS

5. 2No. PRE-SORTERS

PRE-SORTER WITH FIBRE EXTRACTION ROLLER 12" x 48" LONG COMPLETE WITH A TEA RETAINING HOPPER

CAPACITY: 600 KG/HR
The Support Structure should be made from 75mm x 75mm x 4mm RHS. The vertical height of the dimple tray at the ball extractor should be 1000mm high and 750mm high at the fine tea discharge chute end.

Unfired balls extractor
To be made from stainless steel mesh No. 5 gauge 22 with the pre-sorter feed hopper. The hopper should be rectangular in shape fitted with a feed control mechanism such that it is possible to control the amount of tea going to the dimple tray.

Pre-sorter Tray
To be made from 1.0mm AISI 304 stainless steel and to have dimples suitably and evenly spaced throughout. The tray should be 180" by 48".
Attached along its length, is a common fibre collector chute of stainless steel 1.0mm for collecting fibre from the PVC roller fibre chutes.

The Crank
The crank should be driven via pulleys and belts by a suitably fixed, 3 phase, 50Hz, AC motor so as to effect suitable crank and crankshaft throw of 25mm.The crank movement should be harmonized to assume soft throw with minimum vibration.
The screen mesh for the fine tea discharge should be of stainless steel, gauge 22 measuring the full width of the pre-sorter and of minimum 30" in length.
Confirm the orientation of the discharge chutes before manufacture.

The fibre extractor rollers
The Pre-sorter rollers should be 12" in diameter by 48" width and made from highly polished PVC material. Each pre-sorter should have six (6) PVC rollers fitted with suitable steel shafts

1½" in diameter and mounted on vertically adjustable take-up bearings fixed on the support flap. The roller lowering mechanism should be such that the rollers can be lowered within ½" of the try and upwards to 4" of the same.
The rollers to be driven via pulley & V-belts by a suitably sixed geared motor, 960 rpm, 3 phase, 50Hz, AC. Engineering Felts Pressure Pads should contact a minimum 25% of roller circumference and backed by a strong metal plate support. The pulleys, V-belts, sprockets and chains should be fully enclosed in a guard. At each roller length, there should be a fibre collector chute made from 1.5mm stainless steel and leading to the common collector chute along the dimple tray.
All necessary bolts, nuts, washers, screws and Engineering Felts should be provided.

2No. Tea retaining hopper over pre-sorters
To be made from 1.5mm stainless steel sheeting with hopper base and supporting members made from 2"x2"x¼" angle iron sides and end to be vertical from top but tapering thereafter to match the size of the discharge apertures.
The supporting stands shall be made from 40mm x 40mm x 3mm. R.H.S. to match the required height.
To be fabricated as per the drawing provided

6. *4No.COTTON CANVAS BELT CONVEYORS 610MM (24") C/W FIBRE EXTRACTOR ROLLERS FOR PRIMARY PROCESSED TEAS*

Should take all constructional details for cotton conveyor as prescribed but with the following additional requirement;
1) Two adjustable nylon brushes pressing on the return belt at the discharge end.
2) Bar magnet to be fitted above the belt with a suitable height so as to attract metallic non-tea materials easily.
3) Should have a reasonably sized s.s steel retention hopper to receive teas for conveyance.
4) Length between header pulley shaft center line and the tail pulley shaft center line to be 6 meters
5) To inclined from one end to a height of 2.6mtrs with suitable stands.
6) To have fibre extractor rollers incorporated with details as prescribed for construction details of fibre extractor.
7) All safety guidelines to be observed

7. *3No. FINAL VIBRATORY SCREEN SORTER 1219MM DIAMETER (48" DIAMETER)*

The decking and screens assemble components to be connected together preferably by use of stainless steel quick release toggle clamps but other modes of connection if clearly specified or described and indicated on a drawing may be considered. The unit to be capable of sorting up to 750kg (1653lb) MT/hr. Effective diameter to be 1219mm (48") with an overall height of about 1750mm (5' – 9"). Adjustable rotating weights and dust cover to be provided, and the unit to be supported on a fabricated steel base suitably designed for factory concrete floor mounting with minimum vibration. Each deck to have a stainless-steel screen mesh as under: -

Deck Mesh Gauge
A No.14 26
B No.24 29
C No.30 30

D No.40 32
E No.60 32
Spare sets of meshes No.26 29
No. 32 30

8. 1No. PVC CONVEYORS FRAME WORKS

Framework
The conveyor framework should be made from 30mm x 30mm x 3mm thick RHS. Or equivalent to provide for adequate strength.
Drum Rollers
The drum pulleys shall be 150mm (6") in diameter. The trailing drum pulley shall allow for easy fitting and removal of the endless belt. An adequate belt tensioning mechanism at the rear end of the conveyor shall be provided. The pulley shaft should have a diameter of 1½".
The Header Pulley
To be chain driven by a suitably sized geared motor, 3 phase, 50 Hz. So as to affect a belt speed of 27m/min (90ft/min). Motor should be of heavy duty type. The idle rollers to be 2½" in diameter and running freely in sealed ball bearings. These rollers should be fitted on the conveyor frame by upright stiffeners or separate brackets.
Skid plate
The skid plate shall be made of 1.5mm stainless steel sheet metal fitted perfectly flat and bent over the full length of RHS to form a trough type bed.
Conveyor Guarding
The conveyor shall be covered fully along its entire vertical sides with 1.5mm G.I. The open rotating shafts (bearing) and the rear drum shall be fully guarded using expanded metal. The lengths of the guards shall be in sections of 2mtr each where possible. The guards shall be secured by means of bolts and nuts.
Bar Magnet
It will be placed above the conveyor framework so that it picks magnetic materials from the leaf. The length of the bar magnet should be equal to the width of the belt.
PVC BELT
The PVC belt shall be vulcanized on site after all the conveyors have been assembled.
Application
The belt is intended for use in conveying withered tea leaf with moisture content ranging from 65% to 72%.
Specifications
The PVC belt shall be food grade; FDA approved and shall be 3.2mm – 4mm thick of 2 ply construction, with operating temperature of above 50 degrees.

9. 2No. COTTON CANVAS CONVEYORS FRAME WORKS

Conveyor Frameworks
The conveyor framework should be made from 25mm x 25mm x 3mm thick RHS.
Drum Rollers
The pulleys should be of diameter 5". The tail pulley should allow for easy fitting and removal of the endless belt. A belt tensioning mechanism at both ends of the conveyor should be provided. The pulley shaft should have a diameter of 1½".
The Header Pulley
To be chain driven by a suitably sized geared motor, 3 phase, 50 Hz. So as to affect a belt speed of 27m/min (90ft/min). Motor should be of heavy duty type. The idle roller to be 2½" in

diameter and running freely in sealed ball bearings. These rollers should be fitted on the conveyor frame by upright stiffeners or separate brackets.

Skid Plate

The skid plate should be made from 1.5mm galvanized sheet metal fitted perfectly flat and bent over the full length of RHS to form a trough type bed.

Conveyor Guarding

The conveyor should be covered fully along its entire vertical sides with 1.5mm G.I. Sheet as shown on the drawing provided. The open rotating shafts (bearing) and the rear drum should be fully guarded using expanded metal. The lengths of the guards should be in sections of 2m each where possible. The guards should be secured by means of bolts and nuts.

Other requirements for cotton canvas conveyor frame work

- Provide adjustable Nylon brush pressing on the return belt at discharge end so as to effectively brush off adhered teas off the belt.
- Install top sheet cover and underside trays along the entire conveyor length complete with a removable collection tray at the lower end.
- Belt speed 54 r.p.m.
- Provide conveyors stands. Provide 24" bar magnet.

Cotton Canvas Belts

The cotton canvas belt shall be food grade, FDA approved and shall be 2.5-3.3mm thick, two ply construction with operating temperatures of above 90 degrees. The belt shall be as Esbelt clina-16FF or equal and approved. The jointing shall be overlapping joint.

Supply should include support steelwork for the inclination of the conveyor and length protruding from the wall.

10. 4No. FIBRE EXTRACTOR ROLLER (18") FOR PRE-SORTER CONVEYOR

The conveyor will be fabricated as in 11 above but will have the following additions.

The support carrying the fibre rollers should be either 1¼"x¼" angle iron or 1½" x 1" RHS bolted down to the conveyor frame.

The PVC rollers should be 12" in diameter by 24" width and made from highly polished black PVC material.

Each conveyor to have 1 set of 3 PVC rollers fitted with suitable steel shaft and mounted on vertically adjustable take up bearings fixed on the support frame. The roller lowering mechanism will be such that the rollers can be lowered to within ½ of the conveyor belt.

The rollers to be driven via chain and sprocket by a suitably sized geared motor of 960 RPM. 3 Phase, 50Hz AC. Engineering Felt pressure pads should contact a minimum 25% of roller circumference and backed by hard wood timber support provided for fibre extraction.

At each roller length there should be a fibre collector chute made from AISI 304 stainless steel sheet and leading to a common collector chute along the conveyor frame. The chute should be able to automatically discharge teas.

All necessary bolts, nuts, washers, screws and engineering belts to be provided.

3 No. Hopper over final sorter

To be made from 1.5mm thick SS 304 Sheet and be reinforced at the corners with a suitably sized angle iron.

To be free standing on over the final sorters with suitably sized RHS

Preferably a twin construction for the two first line teas and 1No. Hopper for the single final sorter for second line teas.

Drawings can be provided

Tea Retaining Hopper – Ex Dryer Teas
To be made from 1.5mm thick SS 304 Sheet.

11. BULKING BINS AND ELEVATOR

(a) 3 No. BULKING BINS

To be of dimensions 1829mm x 1829mm (6ft x 6ft)
Be constructed from 1.5mmAISI 304 stainless steel sheets riveted or properly welded to the supporting framework.
The 1829mm from top to be vertical while the remaining 1270mm (4ft) is to taper evenly on all sides to a 305mm (12") square discharge opening 18" above the floor level.
Corners of the tapering portion to be properly reinforced with 32mmx32mmx4.5mm angle iron while the vertical portion should have a reinforcement of 35mmx35mm galvanized mild steel flat bars.
The discharge doors are to be lockable and made from 3mm stainless steel. Bins supports to be 64mmx64mm (21/2"x 21/2"x ¼") angle iron frame with bins fitting together with flush for the entire length. The bins should have four compartments internally partitioned with 1.5mm AISI 304 stainless steel panels.
Individual lockable stainless steel doors (3mm thick) should be provided at the top of the bins.
Anchorage bolts, strengthening bracings, nuts and washers should be provided.
Individual and lockable 610mm (2ft) square 3mm thick stainless steel trap doors with clasp to be provided to each bin top. Two strong portable ladders with handrails should be provided at the end most bins for ease access to the top.
A cat walk with handrails running along the edge of the entire length of the bins is to be provided for safety of operators/workers.
The external surface of the supports to be finish-painted over a primer coat with white paint.

(b) 1No.VERTICAL BUCKET ELEVATOR (305MM) 12" FOR BIN CHARGING

The elevator will receive sorted teas and charge into the bulking bins.
It will have a vertical tower housing the belt, buckets, drive pulleys and made from 2mm stainless steel sheet properly reinforced at joints and to the vertical tower edges with 46mmx46mmx3mm angle iron.
To provide clear glass inspection windows on both sides of the tower. (Use Perspex)
The tower base platform should be fabricated from mild steel angle iron, steel plates and 1.5mm stainless steel sheeting in case of feed hopper. The entire Elevator will run on two parallel rails running along and anchored to the bins.
The pulleys to be 381mm (15") diameter, the header pulley being directly driven by a suitably sized 3 phase, 50Hz AC geared motor so as to provide a speed output of between 45-60 RPM.
The cotton conveyor should be food grade, endless and of 3 ply construction.
The buckets should be of stainless steel effectively secured to the conveyor belt.
The design of the discharge chute of the bucket elevator should be such that individual bulking of teas in each compartment of bin is possible.
Reinforcements and supports will be required to be finish painted in white paint over a primer coating.

(c) 1No. COTTON CANVAS BELT CONVEYOR 610MM (24") FOR BIN DISCHARGE

The Conveyor will be centrally placed beneath the bulking bins discharge doors to serve all the 3No.Bins.
The belt will be 610mm (24")
The last 2m past the last bin should be elevated in a manner to enable an over pass feed to the packer feed conveyor.
The length between the centres of the header and tail drums to be 27.5 meters.

GENERATOR SPECIFICATIONS

12. 1No. GENERATOR 640 eKw 800KVA, 1500rpm, 415v

Specifications:
Performance
Genset power rating @ 0.8 pf – 800kva
Genset power rating with fan – 640ekw
Frequency – 50HZ
Fuel consumption
100% load with fan – 169.1 l/hr
750% load with fan – 128.9 l/hr
50% load with fan – 89.9 l/hr
Cooling system
Engine coolant capacity – 58.6L
Inlet Air Combustion Air Inlet – flow rate 48.1m^3/min
Allowable Combustion Air Inlet – Temp 90 ^oC 195.8 ^oF
Exhaust System Exhaust Stack - Gas Temperature 538.7 °
Exhaust Gas Flow Rate - 137.2 m^3/min
Alternator[2] Motor Starting Capability @ 30% Voltage Dip - 1629 skVA
Current – 1155 amps
Emissions (Nominal)[3]
NOX - 2969.2 mg/Nm^3, 6.2 g/hp-h
CO - 181.6 mg/Nm^3, 0.4 g/hp-hr
HC - 120.1 mg/Nm^3, 0.3 g/hp-hr
Voltage – 415v
Low fuel consumption
Temperature rise - 130 deg celcious
The generator should meet or exceed the international standards
Rating should be based on SAE J1349 standard conditions

CONTROLS	RUN, AUTO,STOP CONTROL, SPEED AND VOLTAGE ADJUST 24V OPERATION
DIGITAL INDICATION	RPM, DC VOLTS,OPERATING HRS,OIL PRESSURE,COOLANT TEMPERATURE,VOLT L-N.L-L FREQ HZ,AMPS,Ekw,KVA,
WARNINGS,	LOW PRESSURE,HIGH COOLANT TEMPERATURE,LOW COOLANT $ FUEL LEVEL

SECTION V - PRICE SCHEDULE

Complete the price schedule and then insert total cost in summary of cost. Bidders are invited to enter prices for the machinery they supply

S/No	DESCRIPTION	Qty	Delivery/ Installation Point	Delivery/Installation timelines (Indicate)	Cost per unit(KES)	Total Cost (KES)
1	18' DIAMETER ROTORVANE	1	Kipchabo Tea Factory			
2	TRIPLEX CTC MACHINE WITH INTEGRAL BALL BREAKER	1	Kipchabo Tea Factory			
3	2 stage intelligent CONTINUOUS FERMENTING MACHINE (CFM)	1	Kipchabo Tea Factory			
4	600kg.FLUID BED DRIER WITH CYCLONES	1	Kipchabo Tea Factory			
5	PRE-SORTER WITH FIBRE EXTRACTION ROLLER (12") 48" LONG. COMPLETE WITH A TEA RETAINING HOPPER CAPACITY: 600 KG/HR (modernized free from ground anchoring)	2	Kipchabo Tea Factory			
6	COTTON CANVAS BELT CONVEYORS 610MM (24") C/W FIBRE EXTRACTOR ROLLERS FOR PRIMARY PROCESSED TEAS	4	Kipchabo Tea Factory			
7	FINAL VIBRATORY SCREEN SORTER 1219MM DIAMETER (48" DIAMETER)	3	Kipchabo Tea Factory			

8	FIBRE EXTRACTOR ROLLER (18") FOR PRE-SORTER CONVEYOR	4	Kipchabo Tea Factory			
9	BULKING BINS In stainless steel	3	Kipchabo Tea Factory			
ELEVATOR AND CONVEYORS						
10	PVC CONVEYORS FRAME WORKS	1	Kipchabo Tea Factory			
11	COTTON CANVAS CONVEYORS FRAME WORKS	2	Kipchabo Tea Factory			
12	VERTICAL BUCKET ELEVATOR (305MM) 12" FOR BIN CHARGING	1	Kipchabo Tea Factory			
13	COTTON CANVAS BELT CONVEYOR 610MM (24") FOR BIN DISCHARGE	1	Kipchabo Tea Factory			
OTHERS						
14	GENERATOR 640 eKw 800KVA, 1500rpm, 415v	1	Kipchabo Tea factory			

AMOUNT IN WORDS
Name of Bidder…….... Physical Address…….. Town…… Name of Authorised Representative of Bidder…….. Signature……. Date…….. Official Stamp/Company Seal **NB: If price is inclusive of 16% VAT, please indicate clearly**

CONTRACT FORM

THIS AGREEMENT made the _____ day of _____ 20 _____ between …… [*name of Procurement entity)* of …….. [*country of Procurement entity]* (hereinafter called "the Procuring entity) of the one part and …….. [*name of tenderer]* of …….. [*city and country of tenderer]* (hereinafter called "the tenderer") of the other part;

WHEREAS the Procuring entity invited tenders for certain goods] and has accepted a tender by the tenderer for the supply of those goods in the sum of …… [*contract price in words and figures]* (hereinafter called "the Contract Price).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to:

2. The following documents shall be deemed to form and be read and construed as part of this Agreement viz:

(a) the Tender Form and the Price Schedule submitted by the tenderer
(b) the Schedule of Requirements
(c) the Technical Specifications
(d) the General Conditions of Contract
(e) the Special Conditions of contract; and
(f) the Procuring entity's Notification of Award

3. In consideration of the payments to be made by the Procuring entity to the tenderer as hereinafter mentioned, the tender hereby covenants with the Procuring entity to provide the goods and to remedy defects therein in conformity in all respects with the provisions of the Contract

4. The Procuring entity hereby covenants to pay the tenderer in consideration of the provisions of the goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by _____ the _____ (for the Procuring entity

Signed, sealed, delivered by _____ the _____ (for the tenderer in the presence of _____

(Amend accordingly if provided by Insurance Company)

PERFORMANCE SECURITY FORM

To: ……. …….. [Name of procuring entity]
WHEREAS ……. ….. [Name of tenderer]
(Hereinafter called "the tenderer") has undertaken, in pursuance of Contract No._____ [reference number of the contract] dated _____ 20_____ to Supply…….
[Description of services] (Hereinafter called "the Contract").
AND WHEREAS it has been stipulated by you in the said Contract that the tenderer shall furnish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Tenderer's performance obligations in accordance with the Contract.
AND WHEREAS we have agreed to give the tenderer a guarantee:
THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the tenderer, up to a total of……
[Amount of the guarantee in words and figures],
and we undertake to pay you, upon your first written demand declaring the tenderer to be in default under the Contract and without cavil or argument, any sum or sums within the limits of…… [Amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.
This guarantee is valid until the _____ day of _____20_____.
Signature and seal of the Guarantors

[Name of bank or financial institution]

…….

[Address]
……...

Date…….

CONFIDENTIAL BUSINESS QUESTIONNAIRE FORM

You are requested to give the particulars indicated in Part 1 and either Part 2(a), 2(b) or 2 (c) whichever applied to your type of business
You are advised that it is a serious offence to give false information on this form

Part 1 – General:

Business Name
……..
Location of business premises.
……..

Plot No…… Street/Road ……..

Postal Address …….. Tel No. ……. Fax ……. E mail …….

Nature of Business
,……..
Registration Certificate No.
……
Maximum value of business which you can handle at any one time – Kes. ……

Name of your bankers …….. Branch ……

Part 2 (a) – Sole Proprietor

Your name in full …….. Age ……..
Nationality …… Country of origin …….

- Citizenship details
  …….

Part 2 (b) Partnership

Given details of partners as follows:

Name	Nationality	Citizenship Details	Shares
1. ……			
2. ……			
3. ……			
4. ……			

Part 2 (c) – Registered Company

Private or Public

…….

State the nominal and issued capital of company-

Nominal Kes. ……

Issued Kes. ……

Given details of all directors as follows

	Name	Nationality	Citizenship Details	Shares
1	……			
2.	……			
3.	……			
4.	……			
5	……			

Date …….. Signature of Candidate ……..

If a Kenya Citizen, indicate under "Citizenship Details" whether by Birth, Naturalization or Registration.