UNPRICED (OPTION B)



PROPOSED

LMS GUEST HOUSE

AND CONFERENCE

CENTRE

ON

PLOT L.R. NO. 20298, KISUMU COUNTY

FOR

THE
SEVENTH-DAY
ADVENTIST
CHURCH,
(EAST AFRICA)
LIMITED - HOME
HEALTH
EDUCATION
SERVICE (HHES)

ONE F QUANTITIE PHASE

PROJECT MANAGERS

OD SYNC ARCHITECTURE

Email: info@odsync.co.ke

P.O. BOX 60343 - 00100, GPO

NAIROBI, KENYA

ARCHITECTS

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MALABA, KEYA AND PARTNERS

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P.O. BOX 14965 - 00800, GPO

NAIROBI, KENYA

ELECTRICAL ENGINEERS

MECHANICAL ENGINEERS

DATE: 25TH MAY, 2023

PROPOSED LMS GUEST HOUSE AND CONFERENCE CENTRE

PLOT L.R. NO. 20298, KISUMU COUNTY

FOR

THE SEVENTH-DAY ADVENTIST CHURCH (EAST AFRICA) LIMITED - HOME HEALTH EDUCATION SERVICE (HHES)

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(SHELL - PHASE ONE) BILLS OF QUANTITIES

PROPOSED LMS GUEST HOUSE AND CONFERENCE CENTRE

PLOT L.R. NO. 20298, KISUMU COUNTY

FOR

THE SEVENTH-DAY ADVENTIST CHURCH (EAST AFRICA) LIMITED - HOME HEALTH EDUCATION SERVICE (HHES)

Supplied as part of the contract for the construction and completion of the above project.

Prepared By:-	Issued By:-
Belis Otieno Ochieng P.O. Box 48853 - 00100, GPO NAIROBI, KENYA	Messrs. Seventh-Day Adventist Church (East Africa) Limited Home Health Education Service (HHES) P.O. Box 16433 - 00100 NAIROBI, KENYA
MAY, 2023	
	nto on the day of20 by the nich shall be read and construed as part of the said Contract.
(EMPLOYER)	(CONTRACTOR)
(DATE)	(DATE)

Signature Page (II)

SPECIAL NOTES TO BE READ PRIOR TO PRICING THESE BILLS OF QUANTITIES

1)	The Contractor is required to check the number of pages of Bills of Quantities against the index stated on page (i) and should he find any missing, in duplicate or indistinct, he must inform the Quantity Surveyor at once and have the same rectified.
2)	Should the Contractor be in doubt about the precise meaning of any item or figure, for any reason whatsoever, he must inform the Quantity Surveyor in order that the correct meaning may be decided before the date of submission of the tenders.
3)	No liability will be admitted or claim allowed in respect of errors in the Contractor's Tender due to mistakes in the Bills of Quantities which should have been rectified in the manner described above.
4)	The Contractor will not alter or otherwise qualify the text of these Bills of Quantities. Any alteration or qualification made without authority will be ignored and the text of the Bills of Quantities as printed will be adhered to.
5)	The Contractor shall be deemed to have made allowance in his prices generally to cover items of preliminaries or additions to Prime Cost Sums or other items, if the Contractor has not priced these where appropriate.
6)	All items of measured work shall be priced in detail and tenders containing lump sums to cover trades or groups of work must be broken down to show prices of each item before they will be accepted. Lump sums to cover items of preliminaries shall likewise be broken down if required.
7)	The Contractor is advised to visit the site to acquiant himself with the nature and position; access road, structures to be demolished or any other limitations, and the conditions under which the work shall have to be carried out.
8)	In no case will any expenses incurred by Contractors in the preparation of this tender be allowed.
9)	The Contractor is solely responsible for the accurate ordering of material in accordance with the drawings and Architect's instructions and no claim for any loss or expense will be entertained for orders of materials based upon the Bills of Quantities.
10)	All rates shall be deemed to include all Government Taxes and in particular the Value Added Tax (VAT). Any separate claims on taxes which should have been calculated as above will not be allowed.
11)	All the rates for the work items in the Bills of Quantities with or without quantities MUST be priced in Kenya Currency i.e. Shillings and Cents

Special Notes Page (III)

FORM OF TENDER		
SUBMITTED BY:		
TO:	Messrs. Seventh-Day Adventist Church (East Africa) Limited, Home Health Education Service (HHES)	
	P.O. Box 16433 - 00100	
	NAIROBI, KENYA	
Dear Sirs,		
<u>- </u>	LMS GUEST HOUSE AND CONFERENCE CENTRE ON PLOT L.R. NO. 20298, KISUMU THE SEVENTH-DAY ADVENTIST CHURCH, (EAST AFRICA) LIMITED - HOME HEALTH	
COONTITOR	EDUCATION SERVICE (HHES)	
	e the whole of the above works in accordance with the Drawings and Bills of Quantities for the sum of for a contract	
period of	weeks	
•	Employer shall not be bound to accept the lowest or any tender and that no expenses incurred by us fthis tender will be allowed.	
-	tender shall remain valid for and shall not be withdrawn within three calendar months from the final sion of tenders and in the event of your acceptance to enter into a formal contract agreement with	
	act agreement is prepared and executed, this tender together with your written acceptance thereof, ading Contract between us and the Client.	
Signature of Tenderer:		
Name of Tenderer:		
Address:		
Date:		
Signature of Witness:		
Name of Witness:		
Address:		
Date:		

Form of Tender Page (IV)

TENDER SECURITY (BID BOND)

10:	Messrs. Seventh-Day Adventist Church (East Africa) Limited, Home Health Education Service (HHES)
	P.O. Box 16433 - 00100
	NAIROBI, KENYA
Dear 9	Sirs,
	: PROPOSED LMS GUEST HOUSE AND CONFERENCE CENTRE ON PLOT L.R. NO. 20298, KISUMU
<u>CC</u>	DUNTY FOR THE SEVENTH-DAY ADVENTIST CHURCH, (EAST AFRICA) LIMITED - HOME HEALTH EDUCATION SERVICE (HHES)
We	
	(Surety)
	villing to act as Surety and to be bound to, P.O. Box
	bi, (hereinafter called the Client) in the sum equal to Two Percentum (2%) of the Contract Sum for the due rmance by
	(Tenderer)
of	(Address) of a Contract
which	he / they contemplate(s) entering into with the Client for Construction of
	according to the
terms limita	of the Form of Contractors Performance Bond, a copy of which has been inspected by us without addition of any tions.
We ag	gree to enter into a Bond under the above mentioned terms when and if called upon to do so
	Date:

To be completed by proposed Surety and returned with Tender Documents

Form of Bid bond Page (V)

CONTRACTOR'S PERFORMANCE BOND

BY THIS AGREEMENT, We	
	(SURETY)
of	
are bound to	(CLIENT)
in the sum of Kenya Shillings	
(KShs	
(\\3\\3\\3\\	,
to be paid by us to the said	(CLIENT)
WHEREAS by an agreement in writing dated	
	(CONTRACTOR)
entered into a contract with	(CONTRACTOR)
to carry out and complete the works therein stated in the manner and by the time therein spathe provisions of the said contract, namely; (description of Works)	pecified all in accordance with
NOW the condition of the above written bond is such that if the said Contractor his executo or assigns shall duly perform his obligations under the Contract or if on default by the Cont and discharge the damages sustained by the Client thereby up to the amount of the above shall be void, otherwise it shall remain in full force and effect. Upon default and without under the Contract, the Clieny shall be entitled to demand forfeiture of the bond and demand in the amount stated above.	ractor the Surety shall satisfy written bond, then this bond prejudice to his other rights
PROVIDED always and it is hereby agreed and declared that no alteration in the terms of extent or nature of the works to be carried out and no extension of time by the Contractor way release the Surety from any liability under the above written bond.	
IN WITNESS whereof we have set our hands thisday of	
Surety	
Authorised by the Power of Attorney No	
To be completed on contract award	

Contractor's Performance Bond

LMS GUEST HOUSE AND CONFERENCE CENTRE

PRELIMINARIES
AND
GENERAL CONDITIONS



		SERVICE (HHES)	ANGUNT
ITEM		AMOUNT (KShs.)	
	PRELIMINARI		
,	NAMES OF DARTIES		
A.	NAMES OF PARTIES		
	The following names will be inserted	in the Articles of Agreement:	
	The Employer	SDA CHURCH, (EAST AFRICA) HHES	
		P.O. Box 16433 - 00100	
		Homa-Bay, Kenya	
	The Project Managers	OD SYNC ARCHITECTURE	
	The Froject Managers	P.O. BOX 60343 - 00100, GPO	
		Nairobi, Kenya	
		. ,	
	The Architects	OD SYNC ARCHITECTURE	
		P.O. BOX 60343 - 00100, GPO	
		Nairobi, Kenya	
	The Civil/Structural Engineers	MALABA, KEYA AND PARTNERS	
		P.O. BOX 14965 - 00800, GPO	
		Nairobi, Kenya	
	The Services Engineers		
	The Quantity Surveyors	BELIS OTIENO OCHIENG	
	The Quantity Surveyors	P.O Box 48853-00100, GPO	
		Nairobi, Kenya	
В.	DEFINITIONS OF TERMS		
	The terms, phrases and abbreviati wherever used hereinafter and in all		
	Contractor' shall mean the person of for this work has been accepted, and his or their heirs, executors, addrepresentatives.		
	Works' shall mean all or any portion are being manufactured or prepared and whether the same may be on the		
	TOTAL CARRIED FORWARD		_

ITEM			DESCRIPTION	AMOUNT (KShs.)
	TOTAL	-		
	'Appro		shall mean approved by the Architect at his absolute discretion. shall mean directed by the Architect at his absolute discretion.	
	'Select	ed'	shall mean selected by the Architect at his absolute discretion.	
	<u>СМ'</u>	shall ı	mean cubic metre.	
	<u>SM'</u>	shall ı	mean square metre.	
	<u>LM'</u>	shall ı	mean linear metre.	
	<u>'mm'</u>	shall ı	mean linear millimetre.	
	<u>KG.'</u>	shall ı	mean Kilogramme	
	<u>'No.'</u>	shall ı	mean Number	
	<u>'Prs.'</u>	shall ı	mean Pairs,	
	<u>B.S.'</u>		mean the current British Standard Specification published by the British dards Institution, 2 Park Street, London, W.I., England.	
	<u>K.S.'</u>		mean the current Kenya Standard Specification published by the Kenya au of Standards.	
	As described' shall mean as described in the 'Descriptions of Materials and Workmanship' contained in the Appendices to these Bills of Quantities.			
	As before' shall mean in all respects as earlier described in the same or a previous Bill.			
	Do.' shall mean the whole of the preceding description except as qualified in the description in which it occurs. Where it occurs in descriptions of succeeding items it shall mean the same as in the first description of the series in which it occurs except as qualified in the description concerned. Where it occurs in brackets it shall mean the whole of the preceding description which is contained within the appropriate brackets.			
	necessa	ary tran	hall mean take delivery on site (unless otherwise stated), unload, where isport within site compound, store, unpack, check contents against orders and issemble as necessary, distribute to position, hoist and fix only.	
A.	GROUI	PED SI	<u>ZES</u>	
	of hyp	henate	or sizes grouped together in the Bills of Quantities item descriptions by means d upper and lower limits shall be interpreted as 'exceeding' the lower limit and 'the upper limit.	
	TOTAL	CARRI	IED FORWARD	-

ITEM	SERVICE (HHES) DESCRIPTION	AMOUNT
IIEW	DESCRIF HON	(KShs.)
	TOTAL BROUGHT FORWARD	-
A.	DESCRIPTION OF SITE The site of the proposed works is located on PLOT L.R. NO. 20298, KISUMU COUNTY	
В.	<u>CONTRACT PERIOD</u>	
	The contract period for the works shall be [] Weeks from the date of possesion of site.	
	The Contractor is recommended to visit the site and will be deemed to have satisfied himself with regard to the conditions of the site, the risk of injury to the property adjacent to the site, or to the occupiers of such property, the conditions under which the works will have to be carried out, the supply of and conditions affecting labour and the facilities for obtaining the articles or materials referred to in these Bills of Quantities. No claim by the Contractor for additional payment will be allowed on the ground of any misunderstanding or misapprehension in respect of any such matter or otherwise. Any damage caused to existing accesses and roads must be made good as directed by and to the approval of the Architect. The Contractor must obtain the approval of the Project Manager/Architect in respect of the usage of any materials found on site.	
C.	DESCRIPTION OF THE WORKS	
	The works in this Contract is for the construction of the proposed Office Complex Block. The specific works include:	
	1) LMS GUEST HOUSE AND CONFERENCE BLOCK: Consisting of Ground Floor, First Floor and Second Floor. The elements include substructures, reinforced concrete superstructures, walling, wall finishes, floor finishes, ceiling finishes and builders work in connection with services.	
	2) ASSOCIATED MECHANICAL AND ELECTRICAL WORKS: Consisting of incidental first fixes mechanical and electrical services	
	TOTAL CARRIED FORWARD	-

	SERVICE (HHES)				
ITEM	DESCRIPTION	AMOUNT (KShs.)			
	TOTAL BROUGHT FORWARD	-			
A.	ACCESS TO SITE				
	Means of access to the site shall be agreed with the Architect prior to the commencement of work and the Contractor must allow here for all requirements for the transport of all materials, plant and the workmen necessary for the complete execution of the works, removing the same at completion and for making good and reinstating to the entire satisfaction of the Architect all works or services disturbed at the completion of the Contract. The Contractor must also ensure that existing city roads and pedestrian walkways are clean and make good all damage to the same to the satisfaction of the Architect and Local Authority.				
В.	AREA TO BE OCCUPIED BY THE CONTRACTOR				
	The areas to be occupied by the Contractor for use as storage or for the erection of workshops etc. shall be defined on the site by the Architect and the Contractor must confine his activities to the areas so marked and must ensure that his own workmen do not trespass on the adjoining property or cause inconvenience to its occupiers.				
C.	EXISTING PROPERTY				
	The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services, and he will be held responsible for and shall make good all such damage arising at his own expense to the satisfaction of the Architect.				
D.	WORKS, DRAWINGS ETC.				
	(i) The Contractor shall at his own risk and cost execute and perform the works described in the Conditions of Contract, Specifications and Bills of Quantities, and detailed in the drawings provided and supplied to the Contractor for the purpose of the works and completely finish the said works in a good and workmanlike manner with the best materials and workmanship and with the utmost expedition.				
	(ii) The Contractor will be deemed to have examined the drawings before tendering and to have satisfied himself regarding their details and regarding the nature and extent of the works and the methods of construction involved. No claims arising out of misapprehension in these respects will be allowed. Main drawings may be seen by appointment at the offices of the Architect during normal working hours.				
	TOTAL CARRIED FORWARD	-			

ITEM	SERVICE (HHES) DESCRIPTION	AMOUNT			
11 = 141	DESCRIPTION	(KShs.)			
	TOTAL BROUGHT FORWARD				
	(iii) The Contractor shall satisfy himself as to correctness of all drawings and measurements. If the Contractor finds any discrepancy in the drawings or between the drawings and the Bills of Quantities he shall immediately refer the same to the Architect who will decide which shall be followed. Figured dimensions shall be taken in preference to the scale mentioned on or attached to any drawings. Details shown on drawings shall be taken in preference to items and quantities in the Bills of Quantities.				
	(iv) Two copies of all drawings and of the Bills of Quantities will be furnished free of cost to the successful Contractor for his own use.				
	The Architect will furnish to the Contractor for the use of the Contractor within a reasonable time after the receipt by him of a written request for the same, any details which, in the opinion of the Architect are necessary for the execution of any part of the work, such request to be made only within a reasonable time before it is necessary to execute such work in order to fulfill the Contract. One copy of the drawings, details and Bills of Quantities shall be kept on the works until the completion thereof and the Architect shall at all reasonable times have access to the same. All copies of drawings and details shall be returned by the Contractor on the completion of the Contract.				
	On completion of the Contract works, the Contractor shall furnish to the Employer, through the Architect, one set of linen negatives and two sets of paper prints of 'as built' drawings, operating instructions and manuals for equipment as may be required.				
Α.	SHOP DRAWINGS				
	The Contractor shall furnish at his own cost all shop drawings that may be called for by the Architect for his approval or rejection and any further shop drawings in the case of rejection until such shop drawings are approved by the Architect.				
В.	MAINTENANCE MANUALS				
	At the start of the defects liability period, the Contractor shall hand over to the Engineer three full sets of maintenance and operations manuals for the plant and equipment as installed. These manuals shall be fully illustrated and written in English.				
	TOTAL CARRIED FORWARD				

	SERVICE (HHES)	AMOUNT
ITEM	DESCRIPTION	AMOUNT (KShs.)
	TOTAL BROUGHT FORWARD	-
A.	NOMINATED SUPPLIERS AND SUB-CONTRACTORS MATERIALS	
	Nominated Sub Contract and Nominated Supply Agreements will be finalised as soon as possible after the Contract has been signed. The Contractor will be deemed to have taken account of this in his allowance for the provision of space for storage of Nominated Sub Contractors' materials and for the provision of storage facilities on or off site for Nominated Suppliers' materials until required.	
В.	VALUATION OF LUMP SUM PRELIMINARY COSTS	
	Lump sums entered in these Bills of Quantities against any item of Preliminaries and General Conditions will be included in appropriate valuations according to reasonable assessment of actual costs involved in the item. Any balance between this assessment and the actual sum entered in the Bills of Quantities will be included in subsequent valuations as monthly instalments over the balance of the Contract Period.	
C.	PAYMENT FOR MATERIALS ON SITE	
	All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected, unless specifically exempted by the Architect. This is to include the materials of the Contractor, Nominated Sub Contractors and Nominated Suppliers.	
D.	CONTRACT AGREEMENT AND CONDITIONS	
	The Articles of Agreement and Conditions shall be the 'Agreement and Conditions of Contract for Building Works' printed in April, 1999, published by the Joint Building Council, Kenya with the sanction of the Architectural Association of Kenya and The Kenya Association of Building and Engineering Contractors. For the purpose of this Contract the said Schedule of Conditions and any such notes or amendments shall be read and construed together.	
	The clause headings of the Schedule of Conditions are set out hereunder but do not in any way affect or restrict the full meaning of the Conditions as printed nor exempt the Contractor from a detailed examination of them. Notes on and amendments to the printed Conditions are set out under the relevant clause headings and after proper examination the Contractor must allow hereunder or in his prices such sum or sums as he may consider necessary in respect of any or all of the clauses of the Conditions and of the said notes and amendments.	

TOTAL CARRIED FORWARD

	SERVICE (HHES)			
ITEM		DESCRIPTION	AMOUNT (KShs.)	
	TOTAL BROU	IGHT FORWARD	-	
	Clause No.			
	_ 1	Definitions.		
	2	Articles of Agreement.		
	3	General obligations of the Employer.		
	4	General obligations of the Contractor.		
	5	General obligations of the Architect.		
	6	General obligations of the Quantity Surveyor.		
	7	Contract documents.		
	Amendment: "The word Employer in clause 7.3 shall be deleted and replaced with the word Contractor. 'Clause 7.10.3 shall be re-numbered 7.10.4, clause 7.10.4 shall be re-numbered 7.10.5, and clause 7.10.5 shall be renumbered 7.10.3.			
	8 Contract Bills and Contract Price.			
		Note: These Bills of Quantities shall be deemed to generally follow principles laid down in the Standard Method of Measurement of Building Works for the Republic of Kenya, Second Edition, metric, dated January, 1987, with the following exceptions:-		
		Clauses D18(a) and (b) of the Standard Method of Measurement shall be deleted and the following wording substituted:- 'Keeping excavations free from all water including spring and running water shall be given as an item'.		
	Clause D19 of the Standard Method of Measurement shall be deleted and the following wording substituted:- 'Planking and strutting to uphold the sides of excavations shall be given as an item'. Any unauthorised alteration or qualification made to the text of these Bills of Quantities will be ignored and may cause the tender to be disqualified.			
		The Contractor will be deemed to have made allowance in his prices generally to cover items of Preliminaries, expenses in connection with P.C. Sums or other items, if these have not been priced against the respective items.		
	TOTAL CARR	IED FORWARD	-	

ITEM		DESCRIPTION	AMOUNT (KShs.)
	TOTAL BRO	DUGHT FORWARD	
		Quantities given as 'Provisional' or 'All Provisional' in these Bills shall be held neither to gauge nor limit the amount or description of the work to be executed by the Contractor but the values thereof shall be deducted from the Contract Sum and the value of the work ordered by the Architect and executed thereunder shall be ascertained as provided by Clause 11 of the Conditions.	
		All items of measured work shall be priced in detail and tenders containing lump sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted, unless the work has been so measured. Lump sums to cover any items of Preliminaries shall also be broken down if so required.	
		The preamble clauses or headings to any Bill, Element, Section or Sub-Section are to apply equally to all other Bills, Elements, Sections or Sub-Sections.	
		The Bills of Quantities shall under no circumstances be used for the purpose of ordering materials .	
		All payments made in connection with this Contract will be in Kenya Shillings.	
	9	Contractors site agent and other staff	
		Note: The Architect will require that the proposed site agent is properly qualified and experienced and reserves the right to order the dismissal from the works of any site agent who does not meet with his approval.	
	10	Clerk of Works.	
	11	Liability against injury to persons and property.	
	12	Insurance against injury to persons and property.	
	13	Insurance of the works (Contractor's liability).	
	14	Insurance of the works (Employer liability). Amendment:- This clause will be deleted.	
	15	Insurance of the works (works of Alterations etc.,) Amendment:- This clause will be deleted.	
	TOTAL CAR	RRIED FORWARD	

ITEM		DESCRIPTION	AMOUNT (KShs.)
	TOTAL BR	OUGHT FORWARD	-
	46	Performance Bond	
	16	Amendment:- Clause 16.2 will be deleted.	
		Note: The Contractor must submit with his tender the name of one Surety who must be an established Bank, Insurance Company or Fidelity Guarantee	
		Corporation, who will be willing to be bound to the Employer for an amount equal to ten per cent of the Contract Sum for the due performance of the	
		Contract up to the date defined by Clause 16 of the Conditions and who will,	
		when and if called upon, sign a Bond to that effect on the same day as the Contract Agreement is signed. In the event of the Surety named in the Form	
		of Tender not being approved by the Employer, the Contractor shall furnish	
		within seven days another Surety for the Employer's consideration.	
	17	Compliance with regulation, notices etc.	
		Note: The Contractor shall allow for paying all legally demandable fees,	
		rates or taxes including V.A.T. (currently rated at 16%), and those for hoardings and temporary buildings, and no adjustment of the Contract Sum	
		will be made in respect of such payments unless expressly stated to the contrary in these Bills of Quantities.	
		The Contractor shall apply for, provide all transport necessary for, and pay all costs and charges in connection with the Occupation Certificate. Documentation required for such Certificate will be provided by the Architect.	
		The Contractor shall apply for and obtain all necessary permits legally required prior to cutting down, if necessary and instructed by the Architect, any trees on the site.	
	18	Programme of works.	
	19	Access to the works.	
	20	Possession of site and commencement of works.	
	21	Leveling and setting out.	
	22	Architect's instructions.	
	23	Specification of goods, materials and workmanship.	
		Note: All materials, goods and workmanship shall be strictly in accordance with these Bills of Quantities and the Contractor's prices must include for all expenses involved in carrying out the works strictly in accordance herewith.	
	TOTAL CA	RRIED FORWARD	•

ITEM		DESCRIPTION	AMOUNT
ITEM		DESCRIF HON	(KShs.)
	TOTAL BRO	OUGHT FORWARD	-
		Clause 23.3 shall only apply where the materials are available in the market at the time of tender but are subsequently withdrawn from the market at the time the contract is executed. Material of any kind obtained from excavations on the site shall remain the property of the Employer. Such material shall be dealt with as provided by the Contract but the Architect shall have the power to direct its use in the works if the Contract does not already so provide. When the Employer's property is permitted to be used in substitution for material which the Contractor would otherwise have furnished at his own cost he shall make due allowance therefore at a price to be agreed.	
	24	Note:- The Contractor shall allow for furnishing at his own cost any samples of materials or workmanship that may be called for by the Architect for his approval and any further samples in the case of rejection until such samples are approved by the Architect and the Architect may reject any materials or workmanship not in his opinion in accordance with the approved samples. The Architect shall make such tests of the samples or any materials as he may at his discretion deem desirable, but such tests shall be made at the expense of the Employer and not of the Contractor, unless the result causes the Architect to reject any samples or materials as not being in his opinion in accordance with the specified requirements, in which case the Contractor shall pay for such tests and the cost thereof shall be recovered from the Contractor by the Architect by deduction from the Contract Sum.	
	25	Royalties and patent rights.	
	26	Assignment .	
		Subletting.	
	28	Suspension of the works by the Architect.	
	29	Suspension of the works by the Contractor.	
	TOTAL CAR	RRIED FORWARD	-

ITEM	DESCRIPTION	AMOUNT
I I EIVI	DESCRIF HON	(KShs.)
	TOTAL BROUGHT FORWARD	-
	30 Variations Note:- The wording in Clause 30.14 is deleted in its entirely and with the following:- 'All instructions issued by the Architect fo work that will increase the contract sum shall be with the apple	r additional
	The Contractor shall submit to the Architect claims for ar circumstance on account of which he may consider that he is extra payment within seven days from the time of commencem work or occurrence of such circumstance. Any such claim must be and accompanied by full particulars and must state under which the Contract it is claimed that payment shall be made.	entitled to nent of such be in writing
	All 'Provisional' and other work liable to adjustment under this Cobe left uncovered for a reasonable time to allow all measurement for such adjustment to be taken by the Quantity Surveyor. Immediately work is ready for measuring, the Contractor shall give notice to the Surveyor.	ents needed ediately the
	If the Contractor makes default in these respects, he shall, if the directs, uncover the work to enable measurements to be afterwards reinstate all at his own expense.	
	TOTAL CARRIED FORWARD	
	<u> </u>	

	AL BROUGHT FORWARD Nominated Sub-Contractors. Note: The Contractor must enter into Sub-Contracts with the Nom Sub-Contractors on the standard 'Agreement and Schedule of Condit Building Sub-Contract' form published by the Kenya Associat	
	Note: The Contractor must enter into Sub-Contracts with the Nom Sub-Contractors on the standard 'Agreement and Schedule of Condit	
	Building and Civil Engineering Contractors. He must incorporate t	ion of
	conditions approved by the Architect and if he fails to do so must accoresponsibility for any omissions, delays, bad workmanship, clair expenses arising from the absence of such Sub-Contract. The Sub-Comust cover such matters as payments on account, retention maintenance period, facilities, dates for completion of each portion works together with a liquidated and ascertained damages clause event of on-completion and indemnity of the Contractor against any arising out of the misuse by any such Sub-Contractor or his workmen scaffold erected or plant employed by the Contractor, or that may be against the Contractor in consequence of any act, omission or default Sub-Contractor, his servants or agents, or in respect of injury to wo employed by the Sub-Contractor.	ms or contract sums, of the in the claims of any e made to of the
_	Nominated Suppliers.	
	Works by other persons engaged by the Employer.	——
_	Payments. Note: When applying for a certificate and to expedite its issue the conwill be required to furnish the Quantity Surveyor with detailed approximate statement of the work executed and of all materials on site.	•
35 Fluctuations. Note: Delete the whole of this clause. This is a fixed price Contract and the Contractor must allow in his tender for any increase in the cost of labour		
	and/or materials for any reason whatsoever during the currency Contract. Fluctuations in respect of duties and VAT as defined in claus and currency fluctuations in clause 35(2) for materials to be specauthorized for importation for this project shall, however, be allowed adjusted.	e 35(1) cifically
<u> </u>	Extension of time.	

ITEM	DI	ESCRIPTION	•	AMOUNT
	TOTAL BROUGHT FORWARD			(KShs.)
	Loss and expense caused by disturbance of regular progress of the works.			
	38 Termination of the contract by the Employer.			
	39 Termination of the contract by the Contractor.			
	40 Termination of the contract by either party.			
	Practical completion and defects liability. Note: If any defect be such that in the opinion of the Architect it shall be impracticable or inconvenient to remedy the same, he shall ascertain the diminution in the value of the works due to the existence of such defects and deduct the amount of such diminution from the sum remaining to be paid to the Contractor, or, failing such remainder, it shall be recoverable as a liquidated demand in money. Sectional completion.			
	43 Damages for delay in co		_	
	44 Antiquities and other of	bjects of value.		
	45 Settlement of disputes.			
	Appendix to the Schedule of Conditions The Appendix to the Conditions will be completed as follows:-			
	APPENDIX	Clause		
	Percentage to cover professional fees for insurance purposes only	13	To be agreed	
	Name of Contractor's surety	16.1	To be agreed	
	Amount of surety	16.1	To be inserted as a sum, equivalent to 10% (ten percent) of the contract sum	
	Name of Employer's surety	16.2	Not applicable	
	Period for submission of programme	18.1	14 Days	
	Period of possession of site	20.1	14 Days	
	Contract period	20.2	To be agreed	
	Date of commencement of Works	20.2	To be agreed	
	TOTAL CARRIED FORWARD			-

		SERVICE (HHE	.S)	
ITEM	Df	ESCRIPTION		AMOUNT (KShs.)
	TOTAL BROUGHT FORWARD			-
	Date of completion	20.2	To be agreed	
	Name of the bank for purposes of interest calculation	31.14 32.4.5 34.6	Central Bank of Kenya	
	Interval for application of payment certificates	34.1	Monthly	
	Minimum amount of payment certificate	34.4	Not applicable	
	Percentage of certified value retained	34.12	10%	
	Limit of retention fund	34.12	To be inserted as a sum, equivalent to 5% (five percent) of the contract sum	
	Periods for release of interest on retention money by the Contractor	34.15	Not applicable	
	Period of final measurement and valuation	34.17	6 Months from Certified Practical Completion of the Works.	
	Defects liability period	41.6	6 Months from Certified Practical Completion of the Works.	
	Damages for delay in completion	43.1	To be agreed	
A.	WATER FOR THE WORKS The Contractor shall allow for providing all temporary water supplies and electricity required for the works, including Sub Contract works, together with all necessary storage tanks, meters and distribution systems for the same and must allow for bearing all expenses incurred and paying for all water consumed without charge to any Sub Contractor. Expenses in connection with Nominated Sub Contractors should be allowed for in the attendance items under the relevant P.C. Sums			
	TOTAL CARRIED FORWARD			-

	SERVICE (HHES)			
ITEM	DESCRIPTION	AMOUNT (KShs.)		
	TOTAL BROUGHT FORWARD	-		
A.	STORAGE OF MATERIALS			
	The Contractor shall provide at his own risk and cost where directed on the site weatherproof lockup sheds for the safe storage and custody of materials for the works and for the use of workmen engaged thereon and shall remove such sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the Architect.			
	The Contractor shall be liable for the cost of any storage accommodation provided especially for his use by the Client.			
	The areas of site which may be occupied by the Sub-Contractor will be within the limits of that allocated to the Contractor and the Sub-Contractor must not occupy any ground beyond the area so indicated, except for the execution of works under this Sub-Contract.			
	No materials shall be stored or stacked on suspended slabs without the prior approval of the Architect.			
В.	RESTRICTED SITE			
	The Contractor is to note that the area of the site is restricted and limited and that the existing building and adjacent areas will remain in full use during the execution of the works. The Contractor must allow in his tender for all inconvenience and disruption resulting from this requirement as well as for the security and safety of the existing and adjacent premises and all their staff and public.			
C.	GOVERNMENT ORDINANCES AND REGULATIONS			
	The Contractor's attention is called to the provisions of the Factory Ordinance 1950 and allowance must be made in his tender for compliance therewith insofar as they are applicable.			
	The Contractor must also make himself acquainted with current ordinances and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport etc.			
	It is most important that the Contractor before tendering, shall obtain from the relevant Authority the fullest information regarding all such regulations and/or restrictions which may affect the organisation of the work, supply and control of labour, etc. and allow accordingly in his tender. No claim for want of knowledge in this connection will be entertained.			
	TOTAL CARRIED FORWARD	-		

	SERVICE (HHES)			
ITEM	DESCRIPTION	AMOUNT (KShs.)		
	TOTAL BROUGHT FORWARD	-		
A.	SUPERVISION AND WORKING HOURS			
	The works shall be executed under the direction and to the entire satisfaction in all respects of the Architect who shall at all times during normal working hours have access to the works and to the yards and workshops of the Contractor or other places where work is being prepared for the building.			
	The working hours shall be those generally worked by good employers in the Building and Civil Engineering Trade in Kenya. No work requiring consultant supervision shall be carried out at night or on gazetted holidays unless the Architect shall so direct.			
В.	SETTING OUT			
	The Contractor shall set out the works in accordance with the dimensions and levels shown on the drawings and shall be responsible for the correctness of all dimensions and levels so set out by him and will be required to amend all errors arising from inaccurate setting out at his own cost and expense. In the event of any error or discrepancy in the dimensions or levels marked on the drawings being discovered, such errors or discrepancies must be reported by the Contractor to the Architect for his immediate consideration.			
	No work shall be commenced by the Contractor until he has received written instructions from the Architect to adjust such discrepancies which may be proved. Upon receipt of such instructions the Contractor shall thereupon be responsible for the accurate setting out of work, giving effect to the adjustments necessary to comply with such instructions, and no claim for extra expense or relief from the responsibilities of the Contract, based on any discrepancy or error in the dimensions or levels shown on the drawings, may be made thereafter.			
C.	<u>SAMPLES</u>			
	The Contractor shall furnish at his own cost any samples of materials or workmanship that may be called for by the Architect for his approval or rejection and any further samples in the case of rejection until such samples are approved by the Architect and the Architect may reject any materials or workmanship not in his opinion up to the approved samples.			
	The Architect shall arrange for the testing of such materials as he may at his discretion deem desirable, but the testing shall be made at the expense of the Architect and not at the expense of the Contractor unless the materials fail to pass the test or are in the opinion of the Architect not in accordance with the Specification, in either case the Contractor shall pay for testing in accordance with the current scale of testing charges laid down by the Ministry of Works.			
	TOTAL CARRIED FORWARD	-		

ITEM	SERVICE (HHES) DESCRIPTION	AMOUNT
	TOTAL BROUGHT FORWARD	(KShs.)
A.	SAMPLES (CONT'D)	
	The procedure for submitting samples of materials for testing and the method of marking for identification shall be as laid down by the Architect.	
	The Contractor shall allow in his tender for such samples and tests.	
В.	MATERIALS, TOOLS, PLANT ETC.	
	All materials and workmanship used in the execution of the works shall be of the best quality and description unless otherwise described. Any materials for the works condemned by the Architect shall immediately be removed from the site at the Contractor's expense.	
	The Contractor shall provide at his own risk and cost all materials, scaffolding, tools, plant, transport and workmen required for the works, except in so far as may be stated otherwise herein.	
	Normal scaffolding will be provided by the Contractor but the Sub-Contractor is to allow for providing any special internal or external scaffolds, trestles, etc., that he may require. Normal scaffolding is scaffolding erected by the Contractor for his own use and which remains standing on site at the time the Sub-Contract works are executed.	
	The Contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that such materials are on site when required for use in the works.	
	If the Contractor shall fail to carry out any such order, as by the preceding paragraph provided, within such reasonable time as may be specified in the order, the materials or work so affected may be made good by the Contractor in such manner as the Architect may direct, in which case the cost thereby incurred shall, upon the written certificate of the Architect be recoverable by the Contractor as a liquidated demand in money.	
	Any defect which may appear, either of materials or of workmanship, during the period of maintenance provided by the Contract, shall be made good by the Contractor at his own expense, as and when directed.	
C.	SAFETY, HEALTH AND WELFARE OF WORKPEOPLE	
	The Contractor shall allow for providing for the safety, health and welfare of workpeople and for complying with any relevant Ordinances, Regulations or Union Agreement.	
	TOTAL CARRIED FORWARD	_

ITEM	DESCRIPTION	AMOUNT (KShs.)
	TOTAL BROUGHT FORWARD	-
A.	NATIONAL INSURANCE AND PENSIONS	
	The Contractor shall allow for making any National Hospital Insurance Fund or National Social Security Fund payments due in respect of workpeople.	
В.	HOLIDAYS AND TRANSPORT FOR WORKPEOPLE	
	The Contractor shall allow for providing holidays and transport for workpeople and for complying with any relevant Ordinances, Regulations or Union Agreement.	
C.	<u>FOREMAN</u>	
	The Contractor shall keep constantly on the works a competent English speaking foreman and any directions or explanations given by the Contractor or the Architect to such foreman shall be deemed to have been given to the Contractor.	
D.	ALTERATIONS TO BILLS, PRICING, ETC.	
	Any unauthorised alteration or qualification made to the text of the Bills of Quantities may cause the tender to be disqualified and will in any case be ignored.	
	The Contractor shall be deemed to have made allowance in his prices generally to cover items of Preliminaries, expenses in connection with P.C. Sums or other items if these have not been priced against the respective items.	
	All items of measured work shall be priced in detail and tenders containing lump sums to cover any items of Preliminaries shall be likewise broken down if so required.	
E.	PREAMBLE CLAUSES	
	The preamble clauses or headings to any Bill, Section, Sub-Section or trades are to apply equally to all other Bills, Sections, Sub-Sections or trades.	
F.	METHOD OF MEASUREMENT	
	These Bills of Quantities have been prepared in accordance with the principles of the 'Standard Method of Measurement of Building Works for the Republic of Kenya, second edition, metric, dated January, 1987, unless otherwise expressly stated.	
	These Bills of Quantities shall under no circumstances be used for the purpose of ordering materials.	
	TOTAL CARRIED FORWARD	-

	SERVICE (HHES)		
ITEM	DESCRIPTION	AMOUNT (KShs.)	
	TOTAL BROUGHT FORWARD	-	
A.	INSURANCE AND SECURITIES The Contractor to provide the following insurances and securities as per the Conditions of the Contract.		
	Provide Bid Security.		
	Provide Performance Security.		
	Provide Insurance for the Works.		
	Provide Insurance for Third Party.		
	Provide Insurance for Contractor's employees and loss or damage to equipment.		
	Provide insurance for personal injury or death insurance. For the contractors Employees this is Employer's liability/workmen's compensation. For other persons a minimum cover of Kshs. 10 million for any one accident or series of accidents arising from the same event (unlimited in aggregate).		
	No payment on account of the work executed will be made to the Contractor until he has satisfied the Architect either by the production of an Insurance Policy or an Insurance Certificate that the foregoing provisions have been complied with in all respects.		
	Thereafter the Architect shall from time to time ascertain that premiums, are duly paid up by the Contractor who shall, if called upon to do so, produce receipted premium renewals for the Architect's inspection.		
В.	BOND		
	The Contractor shall find and submit for the approval of the Contractor the name of one surety who shall be an established Bank, Insurance Company or Fidelity Guarantee Corporation and who will be willing to be bound to the Contractor in an amount equal to ten per cent (10%) of the Contract amount for the due performance of the Contract up to the date of completion as certified by the Architect and who will when and if called upon, sign a Bond to that effect, on the same day as the Contract Agreement is signed. In the event of the Surety named not being approved by the Contractor, the Contractor shall furnish within seven days another Surety to the approval of the Contractor		
	TOTAL CARRIED FORWARD	-	

	AMOUNT	
ITEM	DESCRIPTION	(KShs.)
	TOTAL BROUGHT FORWARD	-
A.	TIME FOR COMPLETION AND LIQUIDATED DAMAGES	
	The Contractor will be required to complete the Contract work by such a date as will enable the Contractor to fulfill his obligations under the Contract, failing which the Contractor will become liable for the liquidated and ascertained damages for which the Contractor is responsible under the Contract or such part thereof as may reasonably be held to be due to the default of the Contractor.	
	It is the responsibility of the Contractor to ensure that all materials, fittings, equipment and items to be supplied are ordered and delivered to the site ready for installation at such times as to cause no hold up in the programme of work.	
В.	PROGRAMME AND PROGRESS	
	The Contrator shall liaise with the Contractor and submit for the approval of the Architect, a programme and progress chart showing the time and order, within the overall time for completion, when the Contract works will be carried out.	
C.	PAYMENT AND CERTIFICATES	
	The Contractor shall make payments to the Contractor by instalments in accordance with the terms of the Contract, but no payment shall become due under the Contract unless and until the Architect shall have included in a Certificate the amount in respect of the works executed under this Contract for which payment is due and until the Contractor has received payment from the Employer.	
	The percentage of certified value retained shall be 10%. The limit of retention fund is written in the Main Contract works.	
	No Certificate so issued by the Architect shall of itself be considered conclusive evidence as to the sufficiency of any work or materials to which it relates so as to relieve the Contractor from his liability to execute the works in all respects in accordance with the terms and upon and subject to the Conditions of this Agreement, or from his liability to make good all defects as provided thereby.	
	Failure by the contractor to pay the Contractor as stipulated shall entitle the Employer to pay the relevant sums directly to the Contractor and deduct the same from any money due to or to become due to the Contractor.	
	TOTAL CARRIED FORWARD	-

ITEM	DESCRIPTION	AMOUNT (KShs.)
	TOTAL BROUGHT FORWARD	(K3115.) -
A.	VALUATION OF LUMP SUM PRELIMINARY COSTS	
	Lump sums entered in these Bills of Quantities against any item of Preliminaries and General Conditions will be included in appropriate valuations according to reasonable assessment of actual costs involved in the item. Any balance between this assessment and the actual sum entered in the Bills of Quantities will be included in subsequent valuations as monthly instalments over the balance of the Contract Period.	
B.	PAYMENT FOR MATERIALS ON SITE	
	All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected, unless specifically exempted by the Architect.	
C.	CONDITIONS OF CONTRACT, ETC.	
	Copies of the Terms and Conditions of the principal Contract and drawings may be seen at the office of the Architect during normal office hours on any working day until the time appointed for the submission of tenders.	
	The Contractor will be required to enter into an agreement with the Client upon terms and conditions as set out in the 'Agreement and Conditions of Contract for Building Works' printed in April, 1999, published by the Joint Building Council, Kenya with the sanction of the Architectural Association of Kenya and The Kenya Association of Building and Engineering Contractors', and securing the due performance and maintenance of the work supplied or executed by the Contractor and indemnifying the Client against any claims arising out of the misuse by the Contractor or his workmen of any scaffold erected or plant employed by the Contractor, or that may be made against the Contractor in consequence of any act, omission or default of the Contractor, his servants or agents, or in respect of injury to workmen employed by the Contractor.	
D.	<u>HOISTING</u>	
	The Contractor is referred to the drawings and to the items 'Main Contract Works' herein for a general description of the Contract. Throughout these Bills of Quantities generally no mention is made of heights for hoisting. All prices must include for hoisting and fixing at any level within the limits shown on the drawings or included in the general description of works. Where a particular level is specified the Contractor shall price accordingly.	
	TOTAL CARRIED FORWARD	-

ITEM	DESCRIPTION	AMOUNT (KShs.)
	TOTAL BROUGHT FORWARD	-
A.	CASING UP AND PROTECTING	
	The Contractor shall be responsible for casing up or otherwise protecting to the satisfaction of the Architect all parts of the Contract works liable to injury and for removing such protection and making good at completion.	
В.	WORKS TO BE DELIVERED UP CLEAN	
	On completion of the works, the site and the works shall be cleared of all plant, scaffolding, rubbish and unused materials and shall be delivered up in clean and perfect condition in every respect to the satisfaction of the Architect.	
C.	DEFECT LIABILITY PERIOD	
	The Defects Liability Period as described in Clause 41.6 of the Conditions of the Principal Contract shall be six (6) months from the Date of Practical Completion as certified by the Architect. Any defects, shrinkages or other faults which shall appear within this period which are due to materials or workmanship not in accordance with the Contract shall be made good by the Contractor in accordance with the provisions of Clause 41.0 of the Principal Contract.	
D.	<u>CLAIMS FOR EXTRAS</u>	
	The Contractor shall submit to the Architect claims for any work or circumstances on account of which he may consider that he is entitled to extra payment within seven days from the time of the commencement of such work or occurrence of such circumstances. Any such claim must be in writing and accompanied by full particulars and must state under which provision of the Contract it is claimed that payment shall be made.	
E.	TRADE NAMES	
	Where trade names or manufacturers' catalogue numbers are mentioned in these Bills of Quantities the reference is intended as a guide to the type of article or quality of materials required. The Contractor may use any article or material equal in type or quality to those therein described subject to the prior approval of the Architect and at his absolute discretion. The onus of proof as to equivalent quality will rest with the Contractor, whose tender will be deemed to include for the makes described hereafter.	
	TOTAL CARRIED FORWARD	-

	SERVICE (HHES)		
ITEM	DESCRIPTION	AMOUNT (KShs.)	
	TOTAL BROUGHT FORWARD	-	
Α.	FIRM PRICE TENDER		
	The Contractor is required to submit a firm price tender and must include in his prices all legally demandable fees, rates or taxes including VAT (currently rated at 16%), the regulation of Wages (Building and Construction Industry) Order 1973, and for any increases in the cost of labour and/or materials during the currency of the Contract. Clause on fluactuations in the Contract Conditions shall be deleted. VAT fluctuations, however, shall be allowed.		
В.	HAND OVER		
	The Contract works shall be considered complete and the maintenance and defects liability period shall commence only when the Contract works and supporting services have been tested, commissioned and operated to the satisfaction of the Architect and officially approved and accepted by the Employer, provided always that the handing over of the Contract works shall be coincident with the handing over of the Contract works.		
C.	<u>TESTING</u>		
	The Contractor shall allow for all testing of material and installations required by these Specifications and he shall be responsible for all expenses incurred in completing such tests, including costs of materials and labour, equipment, transport and all other costs.		
D.	APPROVAL OF STAFF		
	The Employer and Contractor reserve the right to approve employment of senior staff of the Sub-Contractor.		
E.	FOOD HANDLING CERTIFICATE		
	The contractor shall allow for provision of food handling certificate to all his workers and personnel, lack of which, they will not be allowed to enter the site. This can be obtained from the Nairobi City Council.		
F.	SITE SECURITY From the beginning to the completion of the contract, the works, shall be under the entire care and control of the Contractor, who shall take all possible precautions to prevent any nuisance, inconvenience or injury to the works and holders or occupiers of surrounding properties and to the public generally, and shall at all times keep all paths and roads affected by the works in a safe and clear state, and shall use proper precautions to ensure the safety of all wheeled traffic and pedestrians. The Contractor shall allow for providing all watching, lighting, barriers, covering open trenches and protect the works, including Sub-Contract works, as may be necessary for the safety of the works and for the protection of the public and his own and Sub-Contractors' employees.		
	TOTAL CAPPIED FORWARD		

TOTAL CARRIED FORWARD

	SERVICE (HHES)		
ITEM	DESCRIPTION	AMOUNT (KShs.)	
	TOTAL BROUGHT FORWARD	-	
A.	POLICE REGULATIONS		
	The Contractor shall allow for complying with any relevant police regulations.		
В.	CROSSINGS AND TEMPORARY ROADS		
	The Contractor must allow for providing, forming and maintaining necessary crossings on to the site and temporary roads as may be required by the Architect and removing same at completion and making good damaged or disturbed surfaces as directed by and to the approval of the Architect.		
c.	<u>HOARDING</u>		
	The Contractor shall allow for providing and clearing away on completion such hoarding, fencing, gates etc. as may be required for the security of the site(s), and as instructed by the Architect to prevent access to the site(s) by the public. The exact location and type of these items are to be agreed with the Architect and negotiated with the local Authority by the Contractor who will also be responsible for paying any fees or taxes to the Local Authority in respect of the hoarding, fencing or gates and providing any drawings necessary for approval.		
	The Contractor shall allow for thoroughly maintaining the hoarding and gates throughout the Contract and clearing away and making good disturbed ground on completion. All materials arising will remain the property of the Contractor and he should allow credit against this accordingly.		
D.	<u>SCAFFOLDING</u>		
	The Contractor shall allow for providing, erecting and dismantling all general scaffolding required for the works. The Contractor must allow here or in his rates for providing all special scaffolding required by his Sub-Contractors, other than Nominated Sub-Contractors carrying out works for which P.C. Sums are included in these Bills.		
E.	<u>SIGNBOARD</u>		
	The Contractor must allow for providing, erecting and maintaining a site signboard, the size, type of construction and lettering of which shall be to the Architect's design. The names of the Consultants are to be in lettering 50mm high. The board is to be fixed in an elevated position on one of the sites where indicated by the Architect. On completion of the works, the notice board shall be removed and making good shall be carried out as necessary.		
	TOTAL CARRIED FORWARD	-	

ITEM	SERVICE (HHES) DESCRIPTION	AMOUNT
	TOTAL BROUGHT FORWARD	(KShs.)
A.	MATERIALS, TOOLS, PLANT AND SCAFFOLDING	
	All materials and workmanship used in the execution of the Works shall be of the best quality and description unless otherwise described. Any materials for the work condemned by the Project Manager/Architect shall immediately be removed from the site at the Contractor's expense.	
	The Contractor shall be responsible for the provision of all materials, scaffolding, tools, plants, transport and workmen required for the Works except in so far as may be stated otherwise herein and shall allow for the provision of the foregoing except for such items specifically and only required for the use of Nominated Sub-contractors as described herein.	
	No timber used for scaffolding, formwork or similar purpose shall be used afterwards in the permanent works.	
В.	APPENDICES The Appendices to the Bills of Quantities shall be regarded for Contract purposes as part of the Bills and shall be read and construed with the appropriate sections of the Bills as if contained therein.	
C.	FAIR WAGES	
	The Contractor shall pay rates of wages and oberve hours and conditions of labour not less favourable than the minimum rates of remuneration and minimum conditions of employment applicable in the Country. The relevant notice must be posted up and kept posted upon the site where it can conveniently be read by the employees concerned.	
	The Contractor shall comply with the Employment Act 2007 and the Building and Construction Industry Wages Council (KABCEC 2007) and is to be responsible for compliance by Sub-Contractors employed in the execution of the Contract. If required he shall notify the Project Manager/Architect of the names and addresses of all such sub-contractors.	
	The Contractor shall be responsible for any extra costs for overtime working he considers will be necessary in order to complete the work within the contract period or time for completion apart from overtime working which may be authorised by the Programme.	
	TOTAL CARRIED FORWARD	

	SERVICE (FIRES)	AMOUNT
ITEM	DESCRIPTION	(KShs.)
	TOTAL BROUGHT FORWARD	(113131)
	TOTAL BROUGHT FORWARD	
	BILL NO. 1	
	PRELIMINARIES AND GENERAL CONDITIONS	
	PRELIMINARIES AND GENERAL CONDITIONS	
	TOTAL AMOUNT OF BILL NO. 1	
	PRELIMINARIES AND GENERAL CONDITIONS	
	CARRIED TO GRAND SUMMARY	
		J

LMS GUEST HOUSE AND CONFERENCE CENTRE

SPECIFICATIONS
(ANNEXED WITH APPENDICES)

SECTION 2

LMS GUEST HOUSE AND CONFERENCE

CENTRE

(SUBSTRUCTURES)
ALL PROVISIONAL
NOTE:

This includes all works up to and including the ground floor slab

SECTION 3

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	BILL NO. 3 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) ELEMENT NO. 1 SUBSTRUCTURES (ALL PROVISIONAL)				
	Site clearance				
A.	Clear site of all vegetation comprising of grasses, shruberries, bushes, small trees, tufts and undergrowth, grub up roots, fill resultant voids with selected soil, cart away or burn debris and arisings	SM	1128		
	Mass excavations to reduce levels				
В.	Mass excavation in existing black cotton soil to reduce level; depths not exceeding 1.5ometres; commencing from the existing ground level	СМ	564		
C.	Ditto; depths over 1.5ometres but not exceeding 3.0ometres; commencing from the reduced level	СМ	0		
	Grading bottoms of excavations				
D.	Grade bottoms of excavations or surface of formation to correct falls and crossfalls including rolling and compacting to 100% AASHTO T180 compaction	SM	1128		
	Excavations				
E.	Excavate for column bases in levelled and compacted terrain; depths not exceeding 1.50 metres deep; commencing from the reduced level	СМ	329		
F.	Excavate for lift shaft base in levelled and compacted terrain; depths not exceeding 1.50 metres deep; commencing from the reduced level	СМ	25		
G.	Excavate for trenches in levelled and compacted terrain; depths not exceeding 1.50 metres deep commencing from reduced level	СМ	432		
Н.	Extra over excavation for excavating in rock of all classes irrespective of depth	СМ	68		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
	TOTAL BROUGHT FORWARD				
A.	Disposal Load and cart away excavated black cotton soil away from site as directed to county government dumpsites	СМ	398		
В.	Site dewatering Allow for keeping the whole of excavations free from all waters including spring and running water by pumping, bailing or any other equal and approved means	ITEM	1		
C.	Planking and strutting (Contractor to provide methodology for approval by structural engineer before excavation) Allow for planking and strutting to uphold the sides of excavations and prevent running soils	ITEM	1		
D.	Plain concrete IN-SITU class 15 (1:3:6) 12 mm thick aggregate in: 50mm thick blinding under column bases	SM	110		
E.	Ditto; under lift shaft base	SM	6		
F.	Ditto; under strip foundation Vibrated reinforced IN-SITU concrete (VRC) class 25 (1:1.5:3) 20 mm thick aggregate as described, in:-	SM	294		
G.	Columns base	СМ	66		
Н.	Lift shaft base	СМ	4		
J.	Strip foundation footing	СМ	78		
К.	Columns	CM	18		
M.	Vibrated reinforced IN-SITU concrete (VRC) class 20 (1:2:4) 20 mm thick aggregate as described, in:- 150mm thick ground floor slab	SM	24 965		
	TOTAL CARRIED FORWARD				

	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)		
	TOTAL BROUGHT FORWARD						
	Reinforcement to BS 4449: 1997, Grade 460B High strength type 2 ribbed bars with proof stress of 640N/mm2 including all necessary cuttings, bending, hooks, tying wires, fixing and provision of spacer blocks and stools to structural engineer details						
A.	Column base	KG	4612				
В.	Lift shaft base	KG	309				
C.	Strip foundation footing	KG	5487				
D.	Columns	KG	1278				
E.	200mm thick lift shaft walling	KG	329				
F.	150mm thick ground floor slab	KG	0				
	Smooth Marine ply timber formwork as described to:-						
G.	Vertical sides of column base	SM	155				
Н.	Vertical sides of lift shaft base	SM	5				
J.	Vertical sides of strip footing	SM	261				
K.	Vertical sides of column	SM	243				
L.	Vertical sides of lift shaft walling	SM	47				
М.	Vertical edges of base ground floor slab over 75mm but not exceeding 150mm high	LM	212				
	Locally available UNDRESSED QUARRY STONE WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:						
N.	200mm thick foundation walling	SM	1267				
	TOTAL CARRIED FORWARD						

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	TOTAL BROUGHT FORWARD				
	Hardcore or other equal and approved filling material as described:-				
A.	300mm thick well compacted filling to make up levels; well watered, rolled and compacted in 150 mm thick layers to receive murram blinding	SM	835		
	Murram blinding				
В.	50mm average thick blinding spread and levelled on top of hardcore (measured separately) under concrete floor slab	SM	965		
	Imported murram filling				
C.	Well compacted filling to make up levels; well watered, rolled and compacted in 150 mm thick layers to receive hardcore (measured separately)	СМ	995		
	Insecticide treatment				
D.	'Termidor" or any other equal and approved insecticide treatment with minimum 10 years guarantee applied over quarry stone dust blinding (measured separately) in accordance with manufacturers printed instructions.	SM	965		
	Damp-proof membrane				
E.	1000 gauge polythene or other equal and approved damp- proof membrane, laid over blinded hardcore (measured separately) with 300mm side and end laps (measured nett- allow for laps)	SM	965		
	Mesh fabric reinforcement to B.S 4483 and setting in concrete with 300mm side and end laps (measured nettallow for laps).				
F.	Fabric ref. A98 weighing 1.54 Kg/m2 in floor bed	SM	965		
	In-situ cement sand (1:3) with wood floated finish with waterproofing cement on concrete and masonry				
G.	25 mm thick two coat render to plinth wall surfaces	SM	382		
	Prepare surfaces and apply ONE undercoat and TWO finishing coats of black bitumastic paint as per Architect's details and approval to:-				
Н.	Render to plinth wall surfaces (measured separately)	SM	0		
	TOTAL CARRIED FORWARD				

	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)			
	TOTAL BROUGHT FORWARD						
	BILL NO. 3						
	LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR)			PAGE			
	ELEMENT NO. 1						
	SUBSTRUCTURES (ALL PROVISIONAL)						
	MAIN SUMMARY						
1	SUBSTRUCTURES (ALL PROVISIONAL)			3/38			
	TOTAL FOR BILL NO. 3						
	SUBSTRUCTURES (ALL PROVISIONAL)						
	CARRIED TO MAIN SUMMARY						

LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR)

SECTION 4

		_			
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	BILL NO. 4 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) ELEMENT NO. 1 REINFORCED CONCRETE SUPERSTRUCTURE Vibrated reinforced IN-SITU concrete (VRC) class 25 (1:1.5:3)				
A.	20 mm thick aggregate as described in:- Columns	СМ	22		
В.	Beams	СМ	52		
C.	150mm thick suspended slab	SM	921		
D.	Staircase steps and strings	СМ	4		
E.	150mm thick staircase landings	SM	8		
F.	200mm thick lift shaft walling	SM	21		
	Reinforcement to BS 4449: 1997, Grade 460B High strength type 2 ribbed bars with proof stress of 640N/mm2 including all necessary cuttings, bending, hooks, tying wires, fixing and provision of spacer blocks and stools to structural engineer details				
G.	Columns	KG	4044		
Н.	Beams	KG	9415		
J.	150mm thick suspended slab	KG	24854		
K.	Staircase steps and strings	KG	713		
L.	150mm thick staircase landings	KG	219		
М.	200mm thick lift shaft walling	KG	752		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	LINIT	QTY	RATE	AMOUNT
ITEM	DESCRIPTION	UNIT	QIY	(KSHS)	(KSHS.)
	TOTAL BROUGHT FORWARD				
	Smooth marine ply timber formwork as described to:-				
Α.	Vertical sides of columns	SM	200		
^.	vertical sides of colonins	JIVI	300		
В.	Sides and soffites of beams	SM	639		
C.	Soffites of suspended slab	SM	804		
D.	Vertical edges of suspended floor slab over 75mm but not exceeding 150mm high	LM	242		
E.	Vertical edges of staircase landings over 75mm but not exceeding 150mm high	LM	23		
F.	Soffites of staircase landings	SM	8		
G.	Sloping soffites of staircase strings	SM	18		
Н.	Vertical edges of staircase open raking string to steps 300 mm high (extreme), cut and fitted to profile of treads and risers	LM	26		
J.	Vertical edges of staircase risers over 75 mm but not exceeding 150 mm high	LM	62		
K.	Vertical sides of lift shaft walling	SM	42		
L.	Boxing formwork for forming door overall size 900mm wide x 2400mm high in lift shaft walling	NO	1		
	ELEMENT NO. 1	<u> </u>			
	REINFORCED CONCRETE SUPERSTRUCTURE				
	CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	BILL NO. 4 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) ELEMENT NO. 2 EXTERNAL AND INTERNAL WALLING Waterproofing B.S 743 Type A bitumen hessian base 150mm laps (no allowance made for laps)' horizontal, 1 no. layer, bedded in cement sand (1:3) mortar				
A.	150mm thick damp proof course (DPC)	LM	50		
В.	200mm thick; ditto	LM	444		
C.	Locally available ZERO JOINT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in: External walls 200mm thick Locally available MACHINE CUT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:	SM	318		
D.	External walls 200mm thick	SM	269		
E.	External walls 150mm thick	SM	10		
E.		الااد	10		
F.	Internal walls 200mm thick	SM	585		
G.	Internal walls 150mm thick	SM	136		
	TOTAL CARRIED FORWARD				
	TOTAL CARRIED FORWARD				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	TOTAL BROUGHT FORWARD				
	Locally available MACHINE CUT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:				
Α.	Extra over walling Connection of 150mm thick walling to 200mm thick walling	LM	143		
	ELEMENT NO. 2 EXTERNAL AND INTERNAL WALLING				
	CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	BILL NO. 4 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) ELEMENT NO. 5 WALL FINISHES				
	EXTERNAL WALL FINISHES				
	25mm thick two coat cement and sand (1:3) render, finished with woodfloat to :-				
A.	Masonry wall and concrete surfaces of beams and columns	SM	303		
	INTERNAL WALL FINISHES				
	75mm thick two coat render; consisting of 50mm thick cement and sand (1:3) roughened render; chicken wire mesh sandwich; 25mm thick cement sand (1:3) wood floated render trowelled finished smooth with cement and calcified lime (1:4) neal to:-				
В.	Masonry wall and concrete surfaces of beams and columns	SM	283		
	25mm thick two coat cement sand (1:3) plaster trowelled finished hard and smooth with cement and calcified lime (1:4) neal to:-				
C.	Concrete or masonry surfaces internally	SM	1792		
	25mm thick cement and sand (1:4) render, finished with wood float to :-				
D.	Backings finished to receive ceramic wall tiles (measured separately)	SM	261		
	ELEMENT NO. 5				
	WALL FINISHES				
	CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	BILL NO. 4 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) ELEMENT NO. 6 FLOOR FINISHES				
	INTERNAL FLOOR FINISHES				
	Cement and sand (1:3) screeds, backings, beds etc				
Α.	30mm screeded bed finished to receive ceramic floor tiles (measured separately)	SM	852		
	ELEMENT NO. 6				
	FLOOR FINISHES				
	CARRIED TO MAIN SUMMARY				

ITENA	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
ITEM	DESCRIPTION	UNIT	QIY	(KSHS)	(KSHS.)
	BILL NO. 4 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) ELEMENT NO. 7 CEILING FINISHES				
	15mm thick cement sand (1:3) plaster to surfaces of concrete ceilings trowelled finished hard and smooth with cement and calcified lime (1:4) neal to:-				
A.	Concrete soffites	SM	792		
	ELEMENT NO. 7 CEILING FINISHES CARRIED TO MAIN SUMMARY				
	CARRIED TO MAIN SUMMARY				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
Α.	BILL NO. 4 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) ELEMENT NO. 10 BUILDERS WORK IN CONNECTION WITH SERVICES NOTE:- Labour for chasing, making points and holes through masonry and concrete walls Provide a PROVISIONAL SUM of Kenya Shillings One Hundred and Fifty Thousand (Kshs. 150,000.00) only for Builders works in connection with services to be done under the Architect's instructions and to be measured and valued by the Quantity Surveyor upon completion of the works	ITEM	1	150,000.00	150,000.00
	BUILDERS WORK IN CONNECTION WITH SERVICES CARRIED TO MAIN SUMMARY				150,000.00

	SERVICE (HHES)					
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)	
	BILL NO. 4 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) MAIN SUMMARY			PAGE		
1	REINFORCED CONCRETE SUPERSTRUCTURES			4/41		
2	EXTERNAL AND INTERNAL WALLING			4/43		
3	WINDOWS				PHASE II (FINISHES)	
4	DOORS				PHASE II (FINISHES)	
5	WALL FINISHES			4/44		
6	FLOOR FINISHES			4/45		
7	CEILING FINISHES			4/46		
8	BUILT IN FITTINGS AND FIXTURES				PHASE II (FINISHES)	
9	BALUSTRADING AND RAILING				PHASE II (FINISHES)	
10	BUILDERS WORK IN CONNECTION WITH SERVICES			4/47	150,000.00	
	TOTAL FOR BILL NO. 4 LMS GUEST HOUSE AND CONFERENCE CENTRE (GROUND FLOOR) CARRIED TO GRAND SUMMARY					

LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR)

SECTION 5

	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)			
	BILL NO. 5 LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR) ELEMENT NO. 1 REINFORCED CONCRETE SUPERSTRUCTURE Vibrated reinforced IN-SITU concrete (VRC) class 25 (1:1.5:3) 20 mm thick aggregate as described in:-						
A.	Columns	СМ	22				
В.	Beams	СМ	52				
C.	150mm thick suspended slab	SM	921				
D.	Staircase steps and strings	СМ	4				
E.	150mm thick staircase landings	SM	8				
F.	200mm thick lift shaft walling	SM	21				
	Reinforcement to BS 4449: 1997, Grade 460B High strength type 2 ribbed bars with proof stress of 640N/mm2 including all necessary cuttings, bending, hooks, tying wires, fixing and provision of spacer blocks and stools to structural engineer details						
G.	Columns	KG	4044				
Н.	Beams	KG	9415				
J.	150mm thick suspended slab	KG	24854				
K.	Staircase steps and strings	KG	713				
L.	150mm thick staircase landings	KG	219				
М.	200mm thick lift shaft walling	KG	752				
	TOTAL CARRIED FORWARD						

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	TOTAL BROUGHT FORWARD				
	Smooth marine ply timber formwork as described to:-				
Α.	Vertical sides of columns	SM	300		
Α.	vertical sides of colonilis	Jivi	300		
B.	Sides and soffites of beams	SM	639		
C.	Soffites of suspended slab	SM	803		
D.	Vertical edges of suspended floor slab over 75mm but not exceeding 150mm high	LM	242		
E.	Vertical edges of staircase landings over 75mm but not exceeding 150mm high	LM	23		
F.	Soffites of staircase landings	SM	8		
G.	Sloping soffites of staircase strings	SM	18		
н.	Vertical edges of staircase open raking string to steps 300 mm high (extreme), cut and fitted to profile of treads and risers	LM	26		
J.	Vertical edges of staircase risers over 75 mm but not exceeding 150 mm high	LM	62		
K.	Vertical sides of lift shaft walling	SM	42		
L.	Boxing formwork for forming door overall size 900mm wide x 2400mm high in lift shaft walling	NO	1		
	ELEMENT NO. 1				
	REINFORCED CONCRETE SUPERSTRUCTURE				
	CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)			
	BILL NO. 5 LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR) ELEMENT NO. 2 EXTERNAL AND INTERNAL WALLING						
	Locally available ZERO JOINT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:						
A.	200mm thick Locally available MACHINE CUT MASONRY WALLING;	SM	321				
	bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:						
В.	External walls 150mm thick	SM	3				
C.	External walls 200mm thick	SM	296				
D.	Internal walls 200mm thick	SM	775				
E.	Internal walls 150mm thick	SM	473				
	TOTAL CARRIED FORWARD						

——	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
	TOTAL BROUGHT FORWARD				
	Locally available MACHINE CUT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:				
A.	Extra over walling Connection of 150mm thick walling to 200mm thick walling	LM	228		
	ELEMENT NO. 2 EXTERNAL AND INTERNAL WALLING CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	BILL NO. 5 LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR) ELEMENT NO. 5 WALL FINISHES				
Α.	EXTERNAL WALL FINISHES 25mm thick two coat cement and sand (1:3) render, finished with woodfloat to:- Masonry wall and concrete surfaces of beams and columns	SM	329		
	INTERNAL WALL FINISHES 75mm thick two coat render; consisting of 50mm thick cement and sand (1:3) roughened render; chicken wire mesh sandwich; 25mm thick cement sand (1:3) wood floated render trowelled finished smooth with cement and calcified lime (1:4) neal to:-				
В.	Masonry wall and concrete surfaces of beams and columns 25mm thick two coat cement sand (1:3) plaster trowelled finished hard and smooth with cement and calcified lime (1:4) neal to:-	SM	222		
C.	Concrete or masonry surfaces internally 25mm thick cement and sand (1:4) render, finished with wood float to:-	SM	2277		
D.	Backings finished to receive ceramic wall tiles (measured separately)	SM	866		
	ELEMENT NO. 5 WALL FINISHES CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
	BILL NO. 3 LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR) ELEMENT NO. 6 FLOOR FINISHES				
	INTERNAL FLOOR FINISHES				
A.	Cement and sand (1:3) screeds, backings, beds etc 3omm screeded bed finished to receive ceramic floor tiles (measured separately)	SM	823		
	ELEMENT NO. 6 FLOOR FINISHES CARRIED TO MAIN SUMMARY				_

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
A.	BILL NO. 3 LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR) ELEMENT NO. 7 CEILING FINISHES 15mm thick cement sand (1:3) plaster to surfaces of concrete ceilings trowelled finished hard and smooth with cement and calcified lime (1:4) neal to:- Concrete soffites	SM	769		
	ELEMENT NO. 7 CEILING FINISHES				
	CARRIED TO MAIN SUMMARY				

	SERVICE (ППЕЗ)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
Α.	BILL NO. 5 LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR) ELEMENT NO. 10 BUILDERS WORK IN CONNECTION WITH SERVICES NOTE:- Labour for chasing, making points and holes through masonry and concrete walls Provide a PROVISIONAL SUM of Kenya Shillings One Hundred and Fifty Thousand (Kshs. 150,000.00) only for Builders works in connection with services to be done under the Architect's instructions and to be measured and valued by the Quantity Surveyor upon completion of the works	ITEM	1	150,000.00	150,000.00
	BUILDERS WORK IN CONNECTION WITH SERVICES CARRIED TO MAIN SUMMARY				150,000.00

	SERVICE (HHES)					
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)	
	BILL NO. 5 LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR) MAIN SUMMARY			PAGE		
1	REINFORCED CONCRETE SUPERSTRUCTURES			5/47		
2	EXTERNAL AND INTERNAL WALLING			5/49		
3	WINDOWS				PHASE II (FINISHES)	
4	DOORS				PHASE II (FINISHES)	
5	WALL FINISHES			5/53		
6	FLOOR FINISHES			5/54		
7	CEILING FINISHES			5/55		
8	BUILT IN FITTINGS AND FIXTURES				PHASE II (FINISHES)	
9	BALUSTRADING AND RAILING				PHASE II (FINISHES)	
10	BUILDERS WORK IN CONNECTION WITH SERVICES			5/56	150,000.00	
	TOTAL FOR BILL NO. 5 LMS GUEST HOUSE AND CONFERENCE CENTRE (FIRST FLOOR) CARRIED TO GRAND SUMMARY					

LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR)



	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)			
	BILL NO. 6 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 1 REINFORCED CONCRETE SUPERSTRUCTURE Vibrated reinforced IN-SITU concrete (VRC) class 25 (1:1.5:3) 20 mm thick aggregate as described in:-						
A.	Columns	СМ	22				
В.	Beams	СМ	52				
C.	150mm thick suspended slab	SM	921				
D.	Staircase steps and strings	СМ	4				
E.	150mm thick staircase landings	SM	8				
F.	200mm thick lift shaft walling	SM	21				
	Reinforcement to BS 4449: 1997, Grade 460B High strength type 2 ribbed bars with proof stress of 640N/mm2 including all necessary cuttings, bending, hooks, tying wires, fixing and provision of spacer blocks and stools to structural engineer details						
G.	Columns	KG	4044				
Н.	Beams	KG	9415				
J.	150mm thick suspended slab	KG	24854				
K.	Staircase steps and strings	KG	713				
L.	150mm thick staircase landings	KG	219				
M.	200mm thick lift shaft walling	KG	752				
	TOTAL CARRIED FORWARD						

SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)	
	TOTAL BROUGHT FORWARD					
	Smooth marine ply timber formwork as described to:-					
Α.	Vertical sides of columns	SM	300			
Λ.	vertical sides of colorinis	JIVI	300			
B.	Sides and soffites of beams	SM	639			
C.	Soffites of suspended slab	SM	803			
D.	Vertical edges of suspended floor slab over 75mm but not exceeding 150mm high	LM	242			
E.	Vertical edges of staircase landings over 75mm but not exceeding 150mm high	LM	23			
F.	Soffites of staircase landings	SM	8			
G.	Sloping soffites of staircase strings	SM	18			
н.	Vertical edges of staircase open raking string to steps 300 mm high (extreme), cut and fitted to profile of treads and risers	LM	26			
J.	Vertical edges of staircase risers over 75 mm but not exceeding 150 mm high	LM	62			
K.	Vertical sides of lift shaft walling	SM	42			
L.	Boxing formwork for forming door overall size 900mm wide x 2400mm high in lift shaft walling	NO	1			
	ELEMENT NO. 1					
	REINFORCED CONCRETE SUPERSTRUCTURE					
	CARRIED TO MAIN SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
	BILL NO. 6 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 2 EXTERNAL AND INTERNAL WALLING Locally available ZERO JOINT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in: External walls				
Α.	Locally available MACHINE CUT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:	SM	321		
В.	External walls 150mm thick	SM	3		
C.	External walls 200mm thick	SM	296		
D.	Internal walls 200mm thick	SM	775		
E.	Internal walls 150mm thick	SM	473		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	TOTAL BROUGHT FORWARD			,,	,
Α.	Locally available MACHINE CUT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in: Extra over walling Connection of 150mm thick walling to 200mm thick walling	LM	228		
	ELEMENT NO. 2 EXTERNAL AND INTERNAL WALLING CARRIED TO MAIN SUMMARY				

	SERVICE (NNES)					
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)	
	BILL NO. 6 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 5 WALL FINISHES					
Α.	EXTERNAL WALL FINISHES 25mm thick two coat cement and sand (1:3) render, finished with woodfloat to:- Masonry wall and concrete surfaces of beams and columns	SM	329			
	INTERNAL WALL FINISHES 75mm thick two coat render; consisting of 50mm thick cement and sand (1:3) roughened render; chicken wire mesh sandwich; 25mm thick cement sand (1:3) wood floated render trowelled finished smooth with cement					
В.	and calcified lime (1:4) neal to:- Masonry wall and concrete surfaces of beams and columns 25mm thick two coat cement sand (1:3) plaster trowelled finished hard and smooth with cement and calcified lime (1:4) neal to:-	SM	222			
C.	Concrete or masonry surfaces internally 25mm thick cement and sand (1:4) render, finished with	SM	2277			
D.	wood float to :- Backings finished to receive ceramic wall tiles (measured separately)	SM	866			
	ELEMENT NO. 5 WALL FINISHES CARRIED TO MAIN SUMMARY					

					SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)							
	BILL NO. 3 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 6 FLOOR FINISHES										
	INTERNAL FLOOR FINISHES										
A.	Cement and sand (1:3) screeds, backings, beds etc 3omm screeded bed finished to receive ceramic floor tiles (measured separately)	SM	823								
	ELEMENT NO. 6 FLOOR FINISHES CARRIED TO MAIN SUMMARY										

	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)			
	BILL NO. 3 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 7 CEILING FINISHES 15mm thick cement sand (1:3) plaster to surfaces of						
	concrete ceilings trowelled finished hard and smooth with cement and calcified lime (1:4) neal to:-						
A.	Concrete soffites	SM	769				
	CEILING FINISHES						
	CARRIED TO MAIN SUMMARY						

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
Α.	BILL NO. 6 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 10 BUILDERS WORK IN CONNECTION WITH SERVICES NOTE:- Labour for chasing, making points and holes through masonry and concrete walls Provide a PROVISIONAL SUM of Kenya Shillings One Hundred and Fifty Thousand (Kshs. 150,000.00) only for Builders works in connection with services to be done under the Architect's instructions and to be measured and valued by the Quantity Surveyor upon completion of the works	ITEM	1	150,000.00	150,000.00
	BUILDERS WORK IN CONNECTION WITH SERVICES CARRIED TO MAIN SUMMARY				150,000.00

-	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)		
	BILL NO. 6 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR)			PAGE			
	MAIN SUMMARY						
	MAIN SOMMAN						
1	REINFORCED CONCRETE SUPERSTRUCTURES			6/59			
2	EXTERNAL AND INTERNAL WALLING			6/61			
3	WINDOWS				PHASE II (FINISHES)		
4	DOORS				PHASE II (FINISHES)		
5	WALL FINISHES			6/62			
6	FLOOR FINISHES			6/63			
7	CEILING FINISHES			6/64			
8	BUILT IN FITTINGS AND FIXTURES				PHASE II (FINISHES)		
9	BALUSTRADING AND RAILING				PHASE II (FINISHES)		
10	BUILDERS WORK IN CONNECTION WITH SERVICES			6/65	150,000.00		
	TOTAL FOR BILL NO. 6 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR)						
	CARRIED TO GRAND SUMMARY						

LMS GUEST HOUSE AND CONFERENCE CENTRE (ROOF FLOOR)

SECTION 7

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	BILL NO. 7 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 1 REINFORCED CONCRETE SUPERSTRUCTURE Vibrated reinforced IN-SITU concrete (VRC) class 25 (1:1.5:3) 20 mm thick aggregate as described in:-				
A.	Columns	СМ	6		
В.	Beams	СМ	5		
C.	150mm thick suspended roof slab	SM	39		
D.	150mm thick suspended lift shaft slab	SM	11		
E.	Staircase steps and strings	СМ	0		
F.	150mm thick staircase landings	SM	0		
G.	200mm thick lift shaft walling	SM	12		
	Reinforcement to BS 4449: 1997, Grade 460B High strength type 2 ribbed bars with proof stress of 640N/mm2 including all necessary cuttings, bending, hooks, tying wires, fixing and provision of spacer blocks and stools to structural engineer details				
Н.	Columns	KG	1037		
J.	Beams	KG	813		
K.	150mm thick suspended roof slab	KG	1050		
L.	150mm thick suspended lift shaft slab	KG	288		
M.	Staircase steps and strings	KG	0		
N.	150mm thick staircase landings	KG	0		
P.	200mm thick lift shaft walling	KG	415		
	TOTAL CARRIED FORWARD				

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)
	TOTAL BROUGHT FORWARD				
	Smooth marine ply timber formwork as described to:-				
A.	Vertical sides of columns	SM	77		
В.	Sides and soffites of beams	SM	55		
C.	Soffites of suspended slab	SM	39		
D.	Soffites of suspended lift shaft slab	SM	11		
E.	Vertical edges of suspended floor slab over 75mm but not exceeding 150mm high	LM	45		
F.	Vertical edges of lift shaft suspended floor slab over 75mm but not exceeding 150mm high	LM	12		
G.	Vertical edges of staircase landings over 75mm but not exceeding 150mm high	LM	0		
Н.	Soffites of staircase landings	SM	0		
J.	Sloping soffites of staircase strings	SM	0		
К.	Vertical edges of staircase open raking string to steps 300 mm high (extreme), cut and fitted to profile of treads and risers	LM	0		
L.	Vertical edges of staircase risers over 75 mm but not exceeding 150 mm high	LM	0		
М.	Vertical sides of lift shaft walling	SM	23		
	ELEMENT NO. 1 REINFORCED CONCRETE SUPERSTRUCTURE				
	CARRIED TO MAIN SUMMARY				

	SERVICE (FIRES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)		
	BILL NO. 7 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 2 EXTERNAL AND INTERNAL WALLING						
	Locally available ZERO JOINT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:						
A.	External parapet walls 200mm thick	SM	197				
	Locally available MACHINE CUT MASONRY WALLING; bearing capacity equal to OR exceeding 7N/mm2; bedded and jointed in 25 mm thick cement and sand (1:3) mortar, reinforced with and including 25mm wide x 20 gauge hoop iron at every alternate regular course as described in:						
В.	External walls 200mm thick	SM	66				
C.	Internal parapet walls 200mm thick	SM	188				
	Precast concrete (class 25/20) reinforced to approval and finished fair on all exposed surfaces, bedded and jointed and pointed in gauged mortar in;						
D.	350 x 75 mm (Average) thick coping, throated and twice weathered, bedding and jointing to top of yard wall with cement sand 1:4 mortar	LM	385				
	ELEMENT NO. 2 EXTERNAL AND INTERNAL WALLING CARRIED TO MAIN SUMMARY						

	<u> </u>	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)				
	BILL NO. 7 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 5 WALL FINISHES							
	25mm thick two coat cement and sand (1:3) render, finished with woodfloat to :-							
Α.	Masonry wall and concrete surfaces of beams and columns INTERNAL WALL FINISHES 25mm thick two coat cement sand (1:3) plaster trowelled finished hard and smooth with cement and calcified lime (1:4) neal to:-	SM	861					
B.	Concrete or masonry surfaces internally	SM	67					
	ELEMENT NO. 5 WALL FINISHES CARRIED TO MAIN SUMMARY							

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
	BILL NO. 3 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 6 FLOOR FINISHES				
	INTERNAL FLOOR FINISHES				
A.	Cement and sand (1:3) screeds, backings, beds etc 3omm screeded bed finished to receive ceramic floor tiles (measured separately)	SM	864		
	ELEMENT NO. 6 FLOOR FINISHES CARRIED TO MAIN SUMMARY				
	CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
	BILL NO. 3 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 7 CEILING FINISHES 15mm thick cement sand (1:3) plaster to surfaces of concrete ceilings trowelled finished hard and smooth				
Α.	with cement and calcified lime (1:4) neal to:- Concrete soffites	SM	39		
	ELEMENT NO. 7 CEILING FINISHES CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
Α.	BILL NO. 7 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) ELEMENT NO. 10 BUILDERS WORK IN CONNECTION WITH SERVICES NOTE:- Labour for chasing, making points and holes through masonry and concrete walls Provide a PROVISIONAL SUM of Kenya Shillings Fifty Thousand (Kshs. 50,000.00) only for Builders works in connection with services to be done under the Architect's instructions and to be measured and valued by the Quantity Surveyor upon completion of the works	ITEM	1	50,000.00	50,000.00
	BUILDERS WORK IN CONNECTION WITH SERVICES CARRIED TO MAIN SUMMARY				50,000.00

	SERVICE (HHES)						
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS.)		
	BILL NO. 7 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) MAIN SUMMARY			PAGE			
1	REINFORCED CONCRETE SUPERSTRUCTURES			7/68			
2	EXTERNAL AND INTERNAL WALLING			7/69			
3	WINDOWS				PHASE II (FINISHES)		
4	DOORS				PHASE II (FINISHES)		
5	WALL FINISHES			7/70			
6	FLOOR FINISHES			7/71			
7	CEILING FINISHES			7/72			
8	BUILT IN FITTINGS AND FIXTURES				PHASE II (FINISHES)		
9	BALUSTRADING AND RAILING				PHASE II (FINISHES)		
10	BUILDERS WORK IN CONNECTION WITH SERVICES			7/73	50,000.00		
	TOTAL FOR BILL NO. 7 LMS GUEST HOUSE AND CONFERENCE CENTRE (SECOND FLOOR) CARRIED TO GRAND SUMMARY						

LMS GUEST HOUSE AND CONFERENCE CENTRE

GROUND FLOOR
TO
ROOF FLOOR
(ELECTRO-MECHANICAL
SERVICES)
FIRST FIXES



	SERVICE (HHES)	_			
ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	
	BILL NO. 8				
	LMS GUEST HOUSE AND CONFERENCE CENTRE				
	ELEMENT NO. 1				
	ELECTRICAL AND ASSOCIATED WORKS				
	TOTAL FOR BILL NO. 8				
	ELECTRICAL AND ASSOCIATED WORKS				_
	CARRIED TO GRAND SUMMARY				

	SERVICE (FIRES)				
ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	
	BILL NO. 8 LMS GUEST HOUSE AND CONFERENCE CENTRE ELEMENT NO. 2 MECHANICAL AND ASSOCIATED WORKS			(cnca)	(къпъ.)
	TOTAL FOR BILL NO. 8				
	MECHANICAL AND ASSOCIATED WORKS CARRIED TO GRAND SUMMARY				-

	SERVICE (HHES)					
ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	AMOUNT (KSHS.)	
	BILL NO. 8					
	LMS GUEST HOUSE AND CONFERENCE CENTRE			PAGE		
	LIMS GOEST HOUSE AIND CONFERENCE CENTRE			FAGE		
	MAIN SUMMARY					
1	ELECTRICAL AND ASSOCIATED WORKS					
2	MECHANICAL AND ASSOCIATED WORKS					
	TOTAL FOR BILL NO. 8					
	MECHANICAL AND ELECTRICAL SERVICES				-	
	CARRIED TO GRAND SUMMARY					

LMS GUEST HOUSE AND CONFERENCE CENTRE

(EXTERNAL WORKS)

SECTION 9

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	
				(611671)	(1(3)13.)
	BILL NO. 9				
	EXTERNAL WORKS				
	TOTAL FOR BILL NO. 9				
	EXTERNAL WORKS CARRIED TO GRAND SUMMARY	SHS			
	CARRIED TO GRAIND SUIVINART	3113			•

LMS GUEST HOUSE AND CONFERENCE

CENTRE

(PRIME COST AND PROVISIONAL SUMS)

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS.)	AMOUNT (KSHS.)
	BILL NO. 10 PRIME COST AND PROVISIONAL SUMS ELEMENT NO. 1 PRIME COST SUMS				
	The following sums may be expended or omitted in whole or in part on sole written authority of the Architect on behalf of the client and to be executed complete by nominated sub-contractors OR domestic sub-contractors as also directed by the Architect				
	NOTE:-				
	MAIN CONTRACTOR TO MANDATORILY PROVIDE PERCENTAGES FOR PROFIT AND ATTENDANCE FOR SUBSEQUENT COMPUTATIONAL PURPOSES WHEN PRIME COST ITEMS AMOUNTS ARE THEREAFTER PROVIDED				
	Electrical and Associated Installation Works				
A.	Provide a PRIME COST SUM of Kenya ShillingsOne Million, Five Hundred Thousand and Cents Zero (Kshs. 1,500,000.00) only for First Fixes Electrical and Associated Installation Works	SUM	1	1,500,000.00	1,500,000.00
	Add: Main Contractor's profit	%			
	Add: Special attendance (Sum)	%			
	Plumbing, Drainage and Fire fighting Installations				
B.	Provide a PRIME COST SUM of Kenya Shillings One Million, Eight Hundred Thousand and Cents Zero (Kshs. 1,800,000.00) only for First Fixes Plumbing, Drainage and Fire fighting Installation Works	SUM	1	1,800,000.00	1,800,000.00
	Add: Main Contractor's profit	%			
	Add: Special attendance (Sum)	%			
	ELEMENT NO. 1 PRIME COST SUMS				
	CARRIED TO MAIN SUMMARY				3,630,000.00
				1	

SERVICE (HHES)					
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS.)	
ITEM	BILL NO. 10 PRIME COST AND PROVISIONAL SUMS ELEMENT NO. 2 PROVISIONAL SUMS	UNIT	QTY		
	ELEMENT NO. 2 PROVISIONAL SUMS CARRIED TO MAIN SUMMARY				

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS.)	
	BILL NO. 10 PRIME COST AND PROVISIONAL SUMS SUMMARY				
	ELEMENT NO.1 PRIME COST SUMS			10/79	
	ELEMENT NO.2 PROVISIONAL SUMS			10/80	
	TOTAL FOR BILL NO. 10 PRIME COST AND PROVISIONAL SUMS CARRIED TO GRAND SUMMARY				

LMS GUEST HOUSE AND CONFERENCE

CENTRE

(CONTINGENCIES)

	SERVICE (HHES)				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS.)	AMOUNT (KSHS.)
	BILL NO. 11 CONTINGENCIES				
	The following sums may be expended or omitted in whole or in part on sole written authority of the Architect				
A.	Provide a PROVISIONAL SUM of Kenya Shillings	SUM	1	-	0.00
	only for Contingencies				
	TOTAL FOR BILL NO. 11				
	CONTINGENCIES CARRIED TO GRAND SUMMARY				0.00
	CARRIED IO GRAND SUMMART				0.00

LMS GUEST HOUSE AND CONFERENCE

CENTRE

(GRAND SUMMARY)

(SHELL - PHASE ONE) BILLS OF QUANTITIES

PROPOSED LMS GUEST HOUSE AND CONFERENCE CENTRE ON PLOT L.R. NO. 20298,
KISUMU COUNTY FOR THE SEVENTH-DAY ADVENTIST CHURCH, (EAST AFRICA)
LIMITED - HOME HEALTH EDUCATION SERVICE (HHES)

GRAND SUMMARY

BILL	TITLE	PAGE	AMOUNT (KSHS.)
1)	PRELIMINARIES	1/34	
2)	SPECIFICATIONS (ANNEXED WITH APPENDICES)	-	
3)	GUEST & CONFERENCE BLOCK (SUBSTRUCTURES)	3/39	
4)	GUEST & CONFERENCE BLOCK (GROUND FLOOR)	4/48	
5)	GUEST & CONFERENCE BLOCK (FIRST FLOOR)	5/57	
6)	GUEST & CONFERENCE BLOCK (SECOND FLOOR)	6/66	
7)	GUEST & CONFERENCE BLOCK (ROOF FLOOR)	7/74	
8)	GUEST & CONFERENCE BLOCK (SERVICES)	8/77	
9)	EXTERNAL WORKS	9/78	
10)	PRIME COST AND PROVISIONAL SUMS	10/81	
11)	CONTINGENCIES	11/82	
	TOTAL (I)		
	ADD: 16% VALUE ADDED TAX		
	TOTAL (II)		
	LESS: DISCOUNT		
	TOTAL (III) CARRIED TO FORM OF TENDER		

NAME OF QUANTITY SURVEYOR :	BELIS OTIENO OCHIENG
POSTAL ADDRESS:	P.O. BOX 488 ₅₃ - 00100 GPO, NAIROBI, KENYA
SIGNATURE:	Q814 (BORAQS)
DATE:	25.05.2023
NAME OF EMPLOYER :	SEVENTH-DAY ADVENTIST CHURCH (EAST AFRICA) LIMITED, HOME HEALTH EDUCATION SERVICE (HHES)
POSTAL ADDRESS:	P.O. BOX 16433 - 00100, GPO, NAIROBI, KENYA
SIGNATURE:	,
DATE:	25.05.2023

LMS GUEST HOUSE AND CONFERENCE CENTRE

(APPENDICES)

(SHELL - PHASE I) BILLS OF QUANTITIES

PROPOSED LMS GUEST HOUSE AND CONFERENCE CENTRE ON PLOT L.R. NO. 20298, KISUMU COUNTY FOR THE SEVENTH-DAY ADVENTIST CHURCH, (EAST AFRICA) LIMITED - HOME HEALTH EDUCATION SERVICE (HHES)

GUEST AND CONFERENCE BLOCK SUMMARY

1)	SUBSTRUCTURES (ALL PROVISIONAL) - PHASE (I)
	s excavation in black cotton soil to a depth of 0.5 metres complete with column bases and columns, lift shaft
	alling, reinforcement, formwork, locally available quarry foundation walling, hardcore filling and murram to make
up levels upto	o and including the ground floor slab.
2)	REINFORCED CONCRETE SUPERSTRUCTURES - PHASE (I)
Involves colu	mns, beams, lift shaft walling, staircases, suspended slabs, reinforcement and incidental formwork
3)	EXTERNAL AND INTERNAL WALLING - PHASE (I)
	mm thick locally sourced zero - jointed masonry walling for the external and machine cut quarry internal walling
•	h precast concrete coping for the internal and external parapet walling
4)	ROOF COVER AND RAIN WATER DISPOSAL - PHASE (I)
Involves reinf	forced concrete flat roofing
5)	ROOF CONSTRUCTION - PHASE (I)
Involves reinf	forced concrete flat roofing
6)	WINDOWS - PHASE (II)
\	DOORS BLACE (II)
7)	DOORS - PHASE (II)
8)	WALL FINISHES - PHASE (II)
Involves woo	d float external render and steel trowelled plastering
9)	FLOOR FINISHES - PHASE (II)
Involves scre	eding
10)	CEILING FINISHES - PHASE (II)
Involves plas	tered concrete ceilings
11)	BUILT IN FITTINGS AND FIXTURES - PHASE (II)
12)	BALUSTRADING AND RAILING - PHASE (II)
12)	ELECTRICAL SERVICES - PHASE (I)
Involves FIRS	T FIXES electrical services for PHASE (I) and FINAL FIXES for PHASE (II)
13)	MECHANICAL SERVICES - PHASE (I)
Involves FIRS	T FIXES plumbing and drainage for PHASE (I) and FINAL FIXES for PHASE (II)
14)	BUILDERS WORK IN CONNECTION WITH SERVICES - PHASE (I)
Involves mak	ing holes, chasings and points in masonry for the electro-mechanical services

ARCHITECTURAL S S Z Appendix A

Z Appendix B U Ш

ARCHITECTURAL SPECIFICATIONS

GENERAL

DISCREPANCIES IN DESCRIPTIONS

Descriptions of materials and workmanship contained in the Bills of Quantities measured items shall take precedence over descriptions contained in Appendices in the event of discrepancies between the two, unless the Architect shall otherwise direct.

DISCREPANCIES IN DRAWINGS

Drawings shall take precedence over the Bills of Quantities, for construction purposes, in the event of discrepancies between the two, and the Architect must be notified immediately any such discrepancy becomes apparent.

TESTS AND SAMPLES

Unless otherwise described in the Bills of Quantities, the Contractor will be responsible for all the costs involved in testing materials as described hereinafter. He will also be responsible for all the costs involved in supplying samples of materials or workmanship as required hereinafter to the satisfaction of the Architect. The cost of replacing materials fixed or placed in position which do not comply with the required test results or approved samples shall be borne solely by the Contractor.

KENYA STANDARDS

All materials and goods supplied for incorporation in the works must comply with any relevant current standards issued by the Kenya Bureau of Standards. Where these are not established or are unclear the latest British Standards and Codes of Practice shall be applied.

EXCAVATION AND EARTHWORKS

SITE CLEARANCE

See Structural Engineers Specification.

GRUBBING

See Structural Engineers Specification.

EXCAVATION

See Structural Engineers Specification

WATER IN EXCAVATIONS

The Contractor shall excavate sumps, cut drains, provide and place all necessary materials and provide and work pumps, plant and apparatus for dealing with any water which may find its way into the excavation from any source whatsoever.

The responsibility for draining away, pumping, or otherwise removing water from the excavations shall rest with the Contractor throughout the duration of the Contract, but methods employed shall be subject to the agreement of the Architect

Provision has been made in the Preliminaries and General Conditions of these Bills of Quantities for the Contractor to insert a price against this item.

HARD ROCK

See Structural Engineers Specification

FOUNDATION EXCAVATIONS

See Structural Engineers Specification.

SURPLUS SOIL DISPOSAL

See Structural Engineers Specification.

TOP SOIL FOR SPREADING

See Structural Engineers Specification.

FILLING UNDER SURFACE BED IN BUILDINGS

See Structural Engineers Specification.

FILLING OBTAINED FROM THE EXCAVATIONS

See Structural Engineers Specification.

MATERIALS FOUND IN EXCAVATIONS

See Structural Engineers Specification.

CONCRETE WORK

See Structural Engineers Specification.

WALLING

CEMENT

All cement used for making mortar shall be Portland cement complying with B.S. 12.

SAND

All sand used for making mortar shall be clean well graded silicone sand of good sharp quality equal to samples which shall be approved by the Architect. It shall be free from lumps of stone, earth, loam, dust, salt, organic matter and any other deleterious substance, sieved through a fine sieve and washed if so directed by the Architect.

<u>LIME</u>

Lime for mortar shall be non-hydraulic or semi-hydraulic quick lime or hydrated lime in accordance with B.S. 890, Class B.

Quick lime shall be run to putty immediately after delivery to site in a pit dug on the site or in approved containers. The water to be first run into the pit or container and

the lime to be added until it is completely submerged and stirred until all lumps are disintegrated and the resulting mild-lime shall then be run through a 3mm square mesh sieve and run into a pit or other container and kept clean and moist for not less than 4 weeks before use.

Hydrated lime shall be added to water in a clean receptacle thoroughly mixed to the consistency of thick cream and allowed to stand and be kept clean and moist for not less than 16 hours before use.

CEMENT MORTAR

The cement mortar (1:3) shall be composed of 42.5 kgs. of Portland Cement to 0.085 cubic metres of sand. The cement mortar (1:6) shall be composed of 42.5 kgs of Portland cement to 0.17 cubic metres of sand measured in specially prepared gauge boxes and thoroughly mixed in an approved mechanical mixer or mixed dry on clean and approved mixing platforms with water added afterwards until all parts are completely incorporated and brought to a proper consistency. The use or retempering of wholly or partly set mortar will not be allowed.

Foundation walling up to ground floor slab 1 part cement to 6 parts sand.

GAUGED LIME MORTAR

Gauged lime mortar shall be composed of 2 parts by volume of lime putty to 12 parts by volume of sand measured in specially prepared gauge boxes and mixed dry on clean and approved mixing platforms with water added afterwards until all parts are thoroughly incorporated and brought to a proper consistency.

The mortar shall be mixed 7 to 10 days before it is required for use and shall be stacked in a neat heap well smoothed off, covered with wet sacks and allowed to mature.

Immediately before use 1 part by volume of Portland cement shall be added to 9 parts by volume of lime mortar, the whole being remixed with the addition of extra water until all parts are completely incorporated and brought to a proper consistency.

The gauged mortar must be used within 45 minutes of being mixed and the use or retempering of wholly or partially set mortar will not be allowed.

Above ground floor slab ${\tt 1}$ part cement to ${\tt 3}$ parts lime to ${\tt 15}$ parts sand.

CONCRETE BLOCKS

Concrete blocks shall be hollow or solid as required and shall be hard, true to size and shape with sharp arrises in accordance with B.S. 2028 type 'A'. They are to be obtained from an approved manufacturer and shall be equal in every respect to a sample to be deposited with and approved by the Architect. Blocks must be cured at least 4 weeks before delivery to site and the Contractor is to order his entire stocks as soon as the Contract is signed. Before bulk delivery commences and thereafter, if the Architect so directs, the Contractor shall dispatch twelve sample blocks to the M.O.W. Materials Testing Laboratory. Should tests indicate that the blocks do not comply with the Specification, the batch from which they were taken shall forthwith be removed and re-executed or otherwise rectified at the Contractor's expense. Blocks shall be generally 390mm long, 190mm high and of the thicknesses required for the walling to be built. Blocks of other sizes will, however, be required to form proper bondings at corners, around openings, etc. and the like positions and the Contractor must make or cut blocks to all the varying sizes required for these purposes.

LOAD BEARING CONCRETE BLOCKS

Blocks described as load bearing shall have the minimum compressive strengths specified for each block, determined and tested in accordance with the appropriate B.S. and to the entire satisfaction of the Architect. Blocks of the various strengths shall be differentiated by means of an approved colour code marking.

COLOURED CONCRETE BLOCKS

Concrete blocks described as coloured shall contain colouring pigment mixed integrally with the materials to produce the required tint or shade. The mix of materials contained in the blocks is to be adjusted as and if necessary to maintain the materials to produce the required tint or shade. The mix of materials contained in the blocks is to be adjusted as and necessary to maintain the specifications of strength etc. Unless otherwise described blocks are to be laid jointed and pointed in mortar containing pigment mixed integrally to produce a tint or shade matching that of the blocks. The mix of materials contained in the mortar is to be adjusted as and if necessary to maintain the specifications of strength, etc.

HOLLOW CLAY BLOCKS

Hollow clay blocks are to be hard, well burnt, true to size and shape with sharp arises and keyed faces and joints in accordance with B.S. 1190 Type 'A'. They are to be equal in every respect with a sample to be deposited with and approved by the Architect. The hollow clay blocks are to be bedded and jointed in gauged mortar.

FAIR FACED CONCRETE BLOCKWORK

Fair faced concrete blockwork shall be built in ordinary blocks selected for their uniformity and appearance and shall be free from holes or any other deformities and shall have clean, sharp arises. The blocks shall be built in mortar as described and raked out and pointed with a neat flush joint as the work proceeds, unless otherwise stated. All arises shall be plumb and square, and all joints properly bonded and true to line.

STONE WALLING

The stone for walling shall be sound and hard throughout free from all defects and shall be obtained from a quarry approved by the Architect. Samples shall be submitted for approval and, if approved, shall be regarded as the standard for the work generally. All stone rejected by the Architect shall be removed immediately from the site. Stones shall be laid on their natural beds and properly lapped and bonded and thoroughly wetted before laying and again after laying for at least three days. Stones shall be chisel dressed into true rectangular blocks with each surface even and at right angles to all adjoining surfaces and shall generally be not less than 390mm long, 190mm high and of the thickness required for the walling to be built. Extra over for fair face shall mean 'fine or medium butched chisel dressed' to an even surface, built with a fair face and raked out and pointed with a neat recessed joint as the work proceeds. All arrises shall be plumb and square and all joints properly bonded and true to line. Fine or medium butched chisel dressed walling shall be in regular courses.

If required by the Bills of Quantities, coloured stone walling and fair face dressings shall be as described below:-

- Fine butched stone shall be either chisel dressed or machine dressed - dress the external face of each stone to the finest face practically obtainable and finish to a fine rubbed plane surface.
- 2) Medium butched chisel dressed stone chisel dress the external face of each stone so that chisel marks are approximately the same width, with ridges between adjacent marks approximately in the same plane.
- Quarry faced stone do not work the external face of each stone.
- Random rubble stone facing stones of random shape, colour and size as facing to backing wall.
- 5) Random squared medium butched chisel dressed stonestones of random shape, colour, size and thickness squared and dressed as before described.
- Stone walling of approved colour walling to be built using grey and mixed blue and grey coloured stones.
- Stone walling of variegated colours walling to be built using multi colour stone approved by the Architect and mixed in proportions approved by the Architect.
- 8) Machine dressed stone facing shall be 25mm or 50mm thick as required by the Architect. Machine rotary blade cut stones facing on backing wall.

The finished mortar joint for fine or medium butched chisel dressed stonework is to be 10mm wide and generally 5mm back from the face of the stone. Where directed by the Architect the mortar will be coloured to match the stones.

Stone walling described as load bearing shall have a minimum crushing strength of 10 Newtons per square mm.

On completion all stonework is to be scrubbed down with a wire brush.

BRICK FACINGS

Brick facings shall be of hand scratched bricks size 65mm high x 65mm deep x 230mm long as manufactured by Clayworks Ltd., P.O. Box 48202, Nairobi, with 10mm horizontal joints only raked out 10mm deep as the work proceeds. Wall ties shall be 18 gauge butterfly shaped galvanised mild steel wire staggered at 450mm centres vertically and 900mm centres horizontally. Supports at heads shall be with approved steel angles. Strict supervision of quality will be maintained by the Architect and all work will be in accordance with a sample panel to be approved by the Architect prior to the start of facing works.

WALLING GENERALLY

The Contractor shall provide proper setting out rods and set out all work on same for courses, openings, heights, etc., and shall build the walls, piers, etc., to the widths, depths and heights indicated on the drawings.

Concrete blocks shall be thoroughly wet before being laid and shall be kept wet during that day. Where unfinished work is continued, the completed walling shall be wetted before laying mortar.

All walls throughout the work shall be carried up evenly in 200mm courses, no part being carried up more than 1m higher at one time than any other part, and in such cases the jointing shall be made in long steps so as to prevent cracks arising, and all walls shall be levelled round at each stage. All faces of walls to be plastered are to have all the joints raked out as key for plaster.

Alternate courses of walling at all angles and intersections shall be carried through the full thickness of the adjoining wall. All walling shall be built up entirely solid in blocks, without voids. All perpends, reveals and angles of the walling shall be built strictly true and square and all walling shall be flushed up and grouted solid as the work proceeds.

All putlog holes shall not be less than one course deep and carefully filled with a block cut to fit size of opening with beds and joints filled with mortar well tamped in after scaffolding is removed and if in fair faced wall to match facings.

All walling 150mm thick and under is to be reinforced with one layer of 25mm x 16 B.W.G. hoop iron built into every second course well lapped at joints and intersections and carried at least 115mm into abutting walls at junctions.

Where concrete and stone walling are bonded together at intersections or heading joints the horizontal cement mortar beds shall not exceed 15mm thickness and vertical joints are to be staggered.

DAMP PROOF COURSES

The damp proof course is to consist of a 25mm screed of cement and sand (1:2) laid over the area of the walls and finished to a level surface and covered with and including an approved fibre based bituminous damp proof course weighing not less than 2.7 kgs. per square metre and lapped 225mm at all joints and intersections. All walls are to be carefully cleaned and wetted before the screed is laid.

OTHER TRADES

Close co-operation with electrical and plumbing Sub-Contractors must be maintained from the beginning of the job to avoid chases being cut in hollow block or 100mm solid block work or across any fair faced work. If necessary,

conduits should be run down the jambs of the door openings behind the door frame and taken to the switch position through a horizontal joint in the masonry.

ROOFING

SCREEDS

Roof screeds where specified shall be as described in 'Floor, Wall and Ceiling Finishes'.

GUARANTEE

The Contractor and the Roofing Sub-Contractor are to leave all the roofs complete and watertight, unmarked with cement or bitumen particularly flashings and external finishes and with joints in straight and even lines.

The Contractor must submit to the Employer a ten year guarantee for the roof coverings against leakage. If a Sub-Contractor is to execute the roofing the Contractor is responsible for obtaining this guarantee for them for submission to the Employer.

ALUMINIUM EMBOSSED CAP SHEET ROOF COVERING

The cap sheet covering shall be Cabro 42 S.W.G. aluminium embossed cap sheet covering with underlayers of saturated felt, as manufactured by Cabroworks Ltd., P.O. Box 98567, Mombasa, and laid by an approved Sub-Contractor in strict accordance with the manufacturer's printed instructions.

MASTIC ASPHALT ROOFING

All asphalt roofing shall be manufactured and applied in accordance with B.S. 988 Mastic Asphalt for Roofing (Limestone Aggregate). Proportions of component ingredients shall be generally within the limits laid down in the B.S. but the ratio of bitumen to Lake asphalt shall be appropriate for use in tropical climates. The asphalt shall be applied in two coats each of 10mm thickness laid to the falls formed in the screeds, by an approved Sub-Contractor.

The first coat of all horizontal work shall be laid on a single layer of black sheathing felt complying with B.S. 747, Table 4A (i) laid and lapped in accordance with the manufacturer's instructions. Rates for asphalt shall include for underlay.

All vertical surfaces, tops of parapets, gutter sides and bottoms shall be finished with one coat of bituminous aluminium paint. All other surfaces shall have a 12mm layer of black trap chippings graded from 6 - 12mm, laid loose.

MASTIC ASPHALT TANKING

All asphalt tanking shall be manufactured and applied in accordance with B.S. 1097 by an approved Sub-Contractor.

ASBESTOS CEMENT SHEETING

Asbestos cement roof sheeting and accessories shall be as manufactured by Kenya Asbestos Cement Co. Ltd., P.O. Box 90662, Mombasa, and fixed strictly in accordance with their printed instructions and generally in accordance with International Standard 459.

The sheeting will be fixed to steel purlins with galvanized hook bolts and patent P.V.C. combined capping, rubber washer and metal nut.

Holes shall be drilled through the ridges of corrugations not in the hollows.

Ridges and other accessories shall be fixed to timber purlins as above described.

Fixed bolts and screws shall comply with B.S. 1494.

Side laps shall be minimum one and a half corrugations and end laps shall be as specified.

GALVANISED CORRUGATED IRON SHEETING

Roof sheeting and accessories shall be pre-painted galvanized steel as manufactured by Gal sheet Kenya Ltd., P.O. Box 78162, Nairobi, and fixed strictly in accordance with their printed instructions and generally in accordance with international standards.

ROOFING TILES

The roofing tiles shall be as specified, of approved quality and manufacture, uniform in size, shape and colour, free from twist or other defects to be obtained from an approved manufacturer, supplied and fixed in accordance with the manufacturer's specifications and recommendations.

The ridge and hip shall be socketed tiles of approved quality, shape and manufacture, to match the roofing tiles in colour with rebated joints and free from twist and other defects.

The roofing tiles shall be hung on timber/concrete battens and shall be laid to accurate gauge and each roof shall be set out to take an exact number of tiles without cutting.

Hip and ridge tiles to be bedded and jointed in cement mortar (1:4) and pointed at joints and ends and intersections in coloured cement to match colour of tiles. All angles and intersections shall be neatly cut and rubbed to form a close joint.

CARPENTRY, JOINERY AND IRONMONGERY

QUALITY OF TIMBER

The qualities of timber stated hereinafter are to be in accordance with the Grading Rules (Third Edition) dated 8th April, 1959, approved by the Forest Department of Kenya.

All timber described as 'Sawn Podocarpus' shall be Second (Select) Grade Sawn Podocarpus Gracilior.

All timber described as 'Sawn Cypress' shall be Second Grade Sawn Cupressus.

All timber described as 'Wrot Cypress' shall be First (Prime) Grade Wrot Cupressus.

All timber described as 'Wrot Cedar' shall be First (Prime) Grade Wrot Red Cedar (Juniperus Procera).

All timber described as 'Wrot Meru Oak' shall be First (Prime Grade Wrot Meru Oak).

All timber described as 'Wrot Camphor' shall be First (Prime) Grade Wrot Camphor specially selected for straight grain and colouring. No joinery work is to be put in hand until the Architect has seen and approved the colour and grain of the timber.

Where hardwood is specified it shall be Mvuli, Mahogany, Mninga, Camphor, Rosewood, Blackwood or Meru Oak as selected by the Architect at the letting of the contract and all tenders will be deemed to have allowed for this.

When employed for carpentry work the above timbers shall be well seasoned to a moisture content not exceeding 18% of the dry weight.

When employed for joinery work the above timbers shall be well seasoned to a moisture content not exceeding 6% of the dry weight.

GENERALLY

All timber for permanent work in the buildings shall before use, be dry and be approved by the Architect for quality in accordance with the foregoing specification for its respective grade. All structural timber shall be in accordance with C. P. 112.

All Carpenters' work shall be left with sawn surfaces unless particularly specified to be wrot. Scantlings and boarding shall be accurately sawn and shall be left uniform in width and thickness throughout. All Carpenter's work shall be accurately set out together and securely fixed in the best possible manner with properly made joints. Provide all brads, nails, screws, bolts, etc. as necessary. Nails shall comply with B.S. 1202 and bolts with B.S. 916.

Knotting shall comply with B.S. 1336

Variations from specified dimensions of scantling shall not exceed the tolerance stated in the aforementioned Grading Rules. Boards 25mm thick or less shall hold up to the specified sizes. All timber shall be as long as possible and practicable to eliminate joints.

Ends of timbers required to be built into walls shall have 12mm space between same and walling. All ends of timbers to be strapped with hoop iron and primed.

All Joiners' work shall be wrot unless otherwise specified.

All mouldings shall be accurately run and finished and all arrises shall be slightly rounded. Framed work shall be cut out, properly tenoned, shouldered, etc., and framed together as soon after the commencement of the works as is practicable but should not be wedged up until required for fixing in position and any portions that warp, get in winding, develop shakes or other defects shall be replaced with new. As soon as required for fixing in position the framing shall be glued together with best quality glue and properly wedged or pinned, etc., as described.

Unless otherwise described oval or round brads will be used for fixing all face work, all heads shall be properly punched in. Where described as pellated work shall be countersunk screwed and the screw heads covered with timber pellets to match the adjacent timber.

Should any of the Carpenter's or Joiner's work shrink, warp, wind or develop any other defects within six months after the completion of the works, the same shall be removed and new fixed in its place together with all other work which may be affected thereby, all at the Contractor's cost and expense.

INSECT DAMAGE

All timber, whether graded or ungraded, and including shuttering, scaffolding and the like shall be free of live borer beetle or other insect attack when brought upon the site. The Contractor shall be responsible up to the end of the maintenance period for executing at his own cost all work necessary to eradicate insect attack to timber which becomes evident including the replacement of timbers attacked or suspected of being attacked, notwithstanding that the timber concerned may have been inspected and passed as fit for use.

DIMENSIONS

- (a) Timber not specified to be wrought shall be as from the saw and full to the nominal dimensions stated. No undersizes shall be permitted but oversize to the following tolerances may be allowed:-
- (i) 1.5mm oversize on dimensions up to 25mm
- (ii) 3mm oversize on dimensions up to 50mm
- (iii) 6mm oversize on dimensions over 50mm.
- (b) Where 'nominal' dimensions are stated for wrot timber a tolerance of 3mm shall be allowed for each wrot face.

Before putting in hand any joinery work, whether built-in or fixed later, the joiner is to ascertain and check on site all dimensions which affect or govern the joinery work.

PRESERVATION OF TIMBER

All timber described as impregnated shall be vacuum pressure impregnated with Tanalith or Celcure preservative in accordance with Specification No. 1/56 (Buildings) for the Vacuum/Pressure Impregnation of Timber with Hickson's 'Tanalith' wood preservative issued by Hickson's Timber Impregnation Co. (G.B.) Ltd., or other approved source. Where timber is cut or bored after impregnation the exposed surfaces are to be liberally swabbed with Wolmanol.

SPECIES OF TIMBER

Only those timbers specified in these Bills of Quantities are to be used for the works, unless alternatives are authorised by the Architect.

SEASONING OF TIMBER

All carpentry timbers are to be seasoned to a moisture content of not more than 18% of the dry weight. All joinery timbers are to be seasoned to a moisture content of not more than 6% of the dry weight. The Contractor is to make available on site a meter for testing moisture content of all timber delivered.

PREPARATION AND PROTECTION OF TIMBER

- (a) All timber necessary for the works is to be purchased immediately the Contract is signed, and when delivered is to be open stacked for such further seasoning as may be necessary. Preparation of the timber is to be commenced simultaneously with the commencement of the works generally.
- (b) All timber and assembled woodwork is to be protected from the weather and stored in such a way as to prevent attack by decay, fungi, termites or other insects.

CLEARING UP

The Contractor is to clear up and destroy or remove all cut-ends, shavings and other woodwaste from all parts of the buildings and the site generally as the work progresses and at the conclusion of the works.

TIMBER IN MASONRY, ETC.

Ends of timber built into walls shall be thoroughly brush treated with creosote or other approved preservatives and clean air space maintained around the timbers where they adjoin the walls.

PRIMING WOODWORK

All woodwork which is to be painted or hidden from view, backs of door frames, etc. are to be primed and painted one coat before fixing. Allow for touching up priming during progress of works.

JOINTING

- (a) All joints must be made as specified or detailed and the execution of all jointing shall be to the satisfaction of the
- (b) Joining surfaces of all connections exposed to the weather are to be thickly primed except where glueing is specified. Surfaces are to be in good contact over the whole area of the joint before fastenings are applied.
- (c) No nails, screws or bolts are to be placed in any end split. If splitting is likely or is encountered in the course of the work, holes for nails are to be pre-bored at diameters not exceeding 4/5ths of the diameter of the nails. Clenched nails must be bent at right angles to the grain. Lead holes are to be bored for all screws
- (d) Where the use of bolts and washers are specified the holes are to be bored from both sides of the timber and are to be a diameter D + D/16 where D is the diameter of the bolt. Nuts

- must be brought up tight but care is to be taken to avoid crushing of the timber under the washers.
- (e) Joints in joinery must be as specified or detailed and so designed and secured as to resist or compensate for any stresses to which they may be subjected. All nails, sprigs, etc., are to be punched and puttied.
- (f) Loose joints are to be made where provision must be made for shrinkage, glued joints where shrinkage need not be considered and where sealed joints are required. All glued joints shall be crosstongued or otherwise reinforced.
- (g) Glues for load-bearing joints or where conditions may be damp must be of the resin type. For non-load-bearing joints, or where dry conditions can be guaranteed, casin or organic glues may be used.

JOINERY

- (a) All joinery shall be accurately set out on boards to full size for the information and guidance of artisans with all joints, ironwork and other works connected therewith fully delineated. This setting out shall be submitted to the Architect and approved before the work is commenced.
- (b) All joinery shall be executed with workmanship of the best quality in strict accordance with the detailed drawings. All mouldings, shall be accurately and truly run and all work planed, sand-papered and finished to the approval of the Architect
- (c) All framed work shall be cut out, properly tenoned, shouldered etc., and framed together as soon after the commencement of the building as is practicable but shall not be wedged up until th building is ready for fixing the same and any portions that warp, wind, develop shakes or other defects shall be replaced with new. As soon as required for fixing in the building the framing shall be glued together and properly wedged or pinned, etc., as directed.
- (d) Should any of the joinery shrink, warp, wind or develop any other defects within the maintenance period specified in the Contract the same shall be removed and new fixed in its place together with all other work which may be affected thereby. All at the Contractor's expense.

TOLERANCE

Reasonable tolerance shall be provided at all connections between joinery works and the building carcass, so that any irregularities, settlement or other movements shall be adequately allowed for.

SCRIBING

All cornices, architraves, frames and other joinery works shall be accurately scribed to fit the contour of any irregular surfaces against which they may be required to form a close butt connection. In particular, architraves are to be cut to fit against side walls and maintain proper mitres at top corners.

SHRINKAGE

The arrangement, jointing and fixing of all joinery shall be such that shrinkage in any part and in any direction shall be compensated for and not impair the strength or appearance of the work or cause damage to adjacent structures

VENEERS

All veneers are to be specially selected for grain and colouring and no veneered work shall be put in hand until the Architect has approved the sample of grain and colour.

NATURAL FINISH

When natural finish is specified, the timber in adjacent pieces shall be matched and uniform or symmetrical in colour and grain. The surface finish is to be as specified.

FLUSH DOORS

Flush doors shall be 3mm plywood faced doors with solid or semi-solid cores, in accordance with B.S. 459 Part 2, obtained from a manufacturer approved by the Architect and equal in every respect to a sample to be submitted to and approved by the Architect. Doors shall be lipped with hardwood strips on all edges and shall be finished for painting on both faces unless otherwise stated. Plywood for use on external doors shall be of exterior grade as described later.

The proportion of solid area in semi-solid doors shall not be less than 50% of the total and shall be evenly distributed throughout the door.

CHIPBOARD

Chipboard shall comply in all respects with B.S. 2604 for medium density resin bonded wood chipboard and shall be veneered or not as shown on the drawings and as described in the Bills of Quantities. Chipboard of non-British origin shall comply with the tests enumerated in the said B.S. and samples shall be submitted to the Architect for this purpose and for his approval.

BLOCKBOARD

Blockboard is to be of approved quality, solid and glued throughout. Where described as faced it shall be faced with an approved veneer of the timber specified.

PLYWOOD

Plywood shall be in accordance with B.S. 1455 and shall be of second grade and that for use externally shall be of external grade conforming at least to Clause 138 of the B.S.

HARDBOARD

Hardboard shall be oil-tempered or otherwise as specified of the thicknesses specified and are to be glued and fixed with the special hardboard nails supplied by the manufacturer. Sheeting is to be wetted the day before fixing. All sawn edges to be carefully sandpapered.

SOFTBOARD

The softboard is to be of approved quality and manufacture, fixed with galvanised clout nails or an approved adhesive as necessary, or both as specified.

PLASTIC LAMINATE

Plastic laminate shall be as manufactured by Formica Ltd. or other equal and approved and shall be worked and fixed strictly in accordance with the manufacturer's instructions with the adhesive recommended by the manufacturer. Colours shall be selected by the Architect from samples to be submitted early in the Contract.

PLUGS

All plugs described as fixing for joinery etc., shall be approved plugs such as Rawlplugs or Philplugs set into holes drilled in masonry in accordance with the manufacturer's instruction. No wooden plugs are to be used.

PROTECT JOINERY

Any fixed joinery which is liable to become bruised or damaged in any way shall be properly cased and protected by the Contractor until the completion of the works.

SITE DIMENSIONS

Before putting in hand any joinery work, whether to be built in with the carcass or fixed later, the joiner is to ascertain and check all dimensions on the site which affect or govern joinery work.

BILLS OF QUANTITIES DIMENSIONS

All wrot timber dimensions given in the Bills of Quantities are finished sizes unless otherwise stated.

<u>IRONMONGERY</u>

The Contractor is to check consignments of ironmongery upon receipt and store them in safe keeping until required for fixing.

All ironmongery shall be fitted and fixed in accordance with the manufacturer's instructions. Rates for fixing are to include for all cutting, sinking, boring, morticing and fitting in hardwood or softwood and for supplying all necessary and matching screws. Rates for door furniture shall also include for fixing before painting, removal during painting operations and afterwards fixing and for labelling all keys with door references and handing to the Architect upon completion.

All locks, springs and other items of ironmongery with movable parts shall be properly tested, cleaned and adjusted where necessary and left in perfect working order upon completion of the works by the Contractor who shall include for this in his prices for fixing.

GENERALLY

All pencil marks are to be removed before oiling or varnishing joinery work. Leave all joinery work perfect and clean without nail holes; clean up all waste and protect finished work from staining or damage. Oil all locks and adjust to give a perfect fit and leave clean.

METAL WORK

GENERALLY

All materials shall be of the best of their respective kinds and conform at least to the relevant B.S. where such exists. All work shall be carried out strictly as directed and approved by the Architect before fixing.

<u>WELDING</u>

Welding shall comply with the provisions of B.S. 538.

MILD STEEL

Shall be of approved manufacture complying with the requirements of B.S. 15. Welding to comply with the requirements of B.S. 538, 938 and 1856. Screws, bolts, washers, etc., to comply with the requirements of B.S. 916 and 1494.

GALVANISED STEEL SHEET

Shall be of approved manufacture, free from all defects and shall hold up to the gauge specified. Galvanising shall be to B.S. 729 Part 7.

BOLTS AND SET SCREWS

All bolts to be the best screw bolts with hexagonal heads and nuts and round washers.

Set screws to be similar but with circular flat slotted head for screwing or with round countersunk slotted head, similar to a wood screw, the threaded end suitable for screwing into tapped steel to the required depth.

ALUMINIUM

Aluminium sheet shall comply with the requirements of B.S. 1470 and be suitable for the purpose required.

Extruded aluminium sections shall be obtained from an approved source and be equal to samples to be submitted to and approved by the Architect. The surface finish shall be matt.

HOOP IRON.

Provide 25mm wide 24 gauge hoop iron reinforcement and anchors to be laid where specified under masonry, and anchored in ring beams.

PRICING INFORMATION

Prices for all welded work shall include for preparing, welding and grinding to a smooth finish.

FLOOR, WALL AND CEILING FINISHES

GENERALLY

The whole of the plasterwork and other wall, floor and ceiling finishes shall be executed to the entire satisfaction of the Architect and any work rejected shall be taken down and re-executed by the Contractor at his own expense. All scaffolding, temporary rules and screeds, tools or special appliances required shall be furnished by the Contractor.

CEMENT

Shall be as described in 'Walling'

<u>LIM</u>E

Shall be as described in 'Walling'

SAND

Shall be as described in 'Walling'

WATER

Shall be as described in Structural Engineers Specification.

WORKMANSHIP

All concrete beds or slabs shall be thoroughly brushed, cleaned, hacked if necessary and well wetted and flushed over with a cement and sand (1:1) grout immediately before screeds or pavings are laid.

Screeds and cement pavings shall be laid in accordance with the relevant B.S. Code of Practice and in alternate bays generally not exceeding 3m x 3m with neat butt joints and shall be damp cured with sand or sawdust and kept damp for at least 7 days after laying.

Adequate time intervals must be left between successive coats in two coat work in order that the drying shrinkage of the under-coat may be substantially complete. All internal and external angles shall be pencil rounded.

BOARD MARKED FINISH

Board marked finish is to be provided where shown on the drawings and shall be priced against the formwork item of 'Extra over formwork for board marked finish'.

The shuttering boards shall be heavily grained knotty cypress, or similar and approved, well seasoned and free of wind and shakes. The boards shall be in 100mm widths fixed vertically or horizontally as directed. The edges shall be butt jointed to maintain a flat surface. Unless otherwise approved, boards shall have a maximum of four uses and between each use shall be carefully cleaned from adhering grout and lightly oiled with an approved non-staining mould oil.

Every care and attention shall be paid to obtaining and maintaining throughout the course of the works a satisfactory visual appearance, free from blow holes, hungry patches and other blemishes and uniform in colour and texture.

Construction joints shall be as shown on the drawings or otherwise the pour each day shall be as directed by the Engineer.

Samples panels will be required for approval of the Engineer before work commences.

Protective covering is to be applied as necessary where finished concrete is liable to damage or staining.

CEMENT AND SAND PAVING.

Cement and sand paving shall be composed of one part cement to one part sand to three parts of 6 - 3mm gauge black trap grit, applied in two coats to the thickness shown on the drawings. The Contractor shall allow for finishing surfaces perfectly smooth and hard with a steel trowel and dead level or to true falls if so desired.

SCREEDS AND BACKINGS

Screeds and backings shall be composed of one part of cement to three parts of sand unless otherwise specified in the Bills of Quantities by volume and shall be trowelled hard and smooth to the texture required by the finish to be applied.

WATERPROOFING AGENT

Screeds and pavings described as incorporating waterproofing agent shall have Lillington's No. 1 Metallic Liquid or similar mixed in. Mixing and application shall be strictly in accordance with the manufacturer's instructions.

BONDING LIQUID

The bonding liquid shall be Sealocrete Sealobond high P.V.A. content brushed on. Surfaces to be treated shall be thoroughly cleaned down and be free from all loose material, dust, mould, oil, grease and any other foreign matter. The bonding liquid shall be allowed to dry before screeds and renderings are applied. All mixing and application shall be carried out strictly in accordance with the recommendations of the manufacturers, Sealocrete Products Ltd.

HARDENING AGENT

Screeds and pavings described as incorporating hardening agent shall incorporate Sealocrete Double Strength Premix Plus S.R.A. mixed with the gauging water at the rate of 2.3 litres of Sealocrete to every 50 kgms. of cement. Mixing and application shall be carried out strictly in accordance with the recommendations of the manufacturers, Sealocrete Products Ltd.

TERRAZZO AND GRANOLITHIC WORK

The whole of the terrazzo and granolithic work is to be carried out by a specialist Sub-Contractor who is to be specifically approved by the Architect and the Contractor will be required to make arrangements for the execution of this work and bear all expenses incurred. No change in the rates for this work inserted by the Contractor in these Bills of Quantities will be allowed.

The materials used and method of construction for terrazzo work are to be in accordance with the B.S. Code of Practice C.P. 204/1951.

The surface finish to terrazzo or granolithic is to be brushed, ground or polished as specified. These textures are to comply with samples approved by the Architect.

The terrazzo topping is to be 20mm thick with imported white cement and 12mm marble aggregate, rolled and trowelled to a dense even surface and rubbed down at completion t a grit finished surface free from holes and blemishes. Colours shall be as selected by the Architect. The paving is to be laid in squares divided by plastic strips anchored securely in the screed and having their top edges truly level with the finished floor surface. The terrazzo work is to be laid and finished complete to the approval of the Architect. The screed between the terrazzo topping and the concrete floor is to be cement and sand (1:3) laid by the Sub-Contractor.

The granolithic topping is to be 15mm thick and shall consist of one part coloured cement to two parts aggregate to 6mm

gauge mixed with 15% fine dust. Aggregate is to be 70% black trap and remainder approved local coloured stone. Colours shall be as selected by the Architect. Paving is to be rolled and trowelled to a dense even surface and rubbed down at completion to a grit finished surface free from holes and blemishes. The paving is to be laid in squares divided by plastic strips anchored securely in the screed and having their top edges level with the finished floor surface. The granolithic work is to be laid and polished complete to the approval of the Architect. The screed between the granolithic topping and the concrete floor is to be cement and sand (1:3), laid by the Sub-Contractor.

The Contractor is to twice scrub the topping with soap and water before twice wax polishing and handing over.

MARBLE

Marble floor paving or wall cladding shall be compact and dense with a density of 2700 Kg/m₃ as manufactured by Athi River Mining Ltd., P.O. Box 41908, Nairobi or other equal and approved, fixed in accordance with BS CP 298:1972 and manufacturer's instructions all to the Architect's approval. For floor paving, marble must be hardwearing and non-slip.

The marble supplier shall prepare fully dimensioned drawings from details supplied by the Architect and from site survey. Key numbers of each store shall be shown, together with details of all metal anchorages. No marble shall be fixed/laid until these drawings are approved by the Architect and the Contractor and local authority if necessary.

Exposed surfaces shall be finished in accordance with an approved sample.

Cramp holes and mortices shall be carefully drilled or cut to avoid stunning or fracture of the material adjacent to the hole or mortice

The fixing cramps shall be adequately inset into the supporting background, preferably with under cut dowel holes and grouted in (1:3) cement/sand mortar, or other equal and approved epoxy/polyester resin mortars. A cavity between cladding and backing of 20mm minimum should be maintained except where dabs of weak mortar or lime putty are required to position the slabs. The back of slabs shall be coated with "shellac" or other equal and approved paint.

Metal anchorage shall be made from suitable non-ferrous metal and shall be of such size and dimension adequate to support loads imposed on them.

The length and height dimensions of individual dimension of slabs shall be \pm 1mm of the specified sizes. Thickness shall be within 3mm from that specified except on the exposed ends.

Internal wall cladding shall be fixed with tight joints and external cladding shall have 3mm joints. All joints to be filled with coloured cement and sand mortar to match marble. Paving shall be bedded solid on cement and sand screed.

The whole of marble work is to be executed by an approved Sub-Contractor.

QUARRY TILES

Where indicated lay approved clay quarry tiles bedded in cement. Joints to be 10mm wide and slightly recessed pointed in pigmented cement colour to match colour of quarry tiles to the approval of the Architect. Quarry tiles are to be laid as skirtings to these areas. Cement must not be smeared over the face of the tiles which must be selected for variety of colour and evenness of size.

VINYL ASBESTOS FLOOR TILES

Vinyl asbestos floor tiles shall be of the thickness specified as manufactured by Dunlop Kenya Ltd., or other equal and

approved, and of colours to be selected by the Architect and shall be bedded in suitable mastic to a square pattern.

The whole of the floor tiling is to be executed by an approved Sub-Contractor.

Screeds must be perfectly smooth level clean and dry before laying commences and tiling must be laid strictly in accordance with the manufacturer's instructions. Tiles shall comply with B.S. 3260 and 3261 respectively. Prices shall include for giving the floor coverings two coats of an approved emulsion wax floor polish or other approved protective coating.

PARQUETRY

Parquetry is to be 8mm thick on building paper or similar backing bedded in hot bituminous mastic. After laying remove backing paper, sand to a smooth surface and finish with three coats of Polyurethane matt clear sealer.

The whole of the parquetry is to be executed by an approved Sub-Contractor.

Screeds must be perfectly smooth level clean and dry before laying commences and parquetry must be laid strictly in accordance with the manufacturer's instructions.

DIVIDING STRIPS

Dividing strips shall be 3mm thick and of a similar height as the paving in which they are embedded. Strips shall be cut to lengths and embedded in the pavings to form margins or bays to a detailed pattern or between differing floor finishes.

Prices for dividing strips are to include all necessary cutting required to ensure a flush level surface with the paving.

NON-SLIP POLISHED PAVINGS

Where pavings are described as non-slip they shall have carborundum dust sprinkled evenly over the surface at the rate of one kilogram per square metre lightly trowelled in whilst still green.

LIGHTWEIGHT SCREEDS

Lightweight screeds shall be composed of cement, sand and approved lightweight vermiculite (1:4:8) finished with a minimum 12mm thickness of cement and sand (1:5) laid whilst the base course is still green and trowelled smooth to the satisfaction of the roofing or flooring Sub-Contractor. Alternatively an approved pumice aggregate screed may be used to the approval of the Architect.

The Architect reserves the right to delete the lightweight screeds from the Contractor's work and to order their execution by a Nominated Sub-Contractor. No claim for loss of profit will be entertained in this eventuality.

DUST PROOFING COMPOUND

Concrete surfaces to be dust proofed shall have two coats of Sealocrete Concrete Surface Dressing applied in accordance with the manufacturer's instructions.

PLASTERING AND RENDERING GENERALLY

All surfaces to be plastered or rendered shall be brushed clean and be well wetted before plaster is applied. All plaster and rendering shall be kept continuously damp for seven days after application. All arrises shall be finished true and slightly rounded except where otherwise stated, and shall be run at the same time as the adjoining plaster. No partially or wholly set plaster or rendering will be allowed to be used or re-mixed.

The Contractor shall prepare samples of the plastering and rendering as directed until the quality, texture and finish required is obtained and approved by the Architect after which all plastering executed in the work shall conform to the respective approved samples.

The Contractor shall cut out and make good all cracks, blisters and other defects and leave the whole of the work perfect on completion. When making good defects, the plaster or rendering shall be cut out to a rectangular shape with edges undercut to form dovetailed key, and all finished flush with face of surrounding plaster or rendering.

Rates for plastering and rendering are to include for raking out joints of walling or hacking concrete to form a key. Instead of hacking the Contractor will be permitted to treat concrete surfaces, at his own expense, with bonding fluid, such as 'Plastaweld' manufactured by I. Manger and Son Ltd., or other equal and approved applied in strict accordance with the manufacturer's printed instructions.

INTERNAL PLASTER

Internal plaster shall be applied in two coats as follows, overall 12mm thick unless otherwise described:-

(a) 9mm First coat consisting of cement, and sand (1:4) well scratched, wetted and keyed to receive finishing coat.

(b) 3mm finishing coat consisting of cement and lime putty (1:5) skim coat finished with a steel trowel to a smooth and even surface. Adequate time intervals must be left between successive coats in order that the drying shrinkage of the under coat may be substantially complete. All internal and external angles shall be pencil rounded.

EXTERNAL RENDERING

External rendering shall consist of cement and sand (1:8) applied in one coat and finished with a wood float as specified. Unless otherwise described rendering is to be 12mm thick applied in one coat. Rendering described as 20mm thick or over shall be applied in two coats.

TYROLEAN RENDER

Tyrolean render shall be composed of Colocrete or Snowcrete coloured or white cement and a special aggregate supplied as Cullamix and mixed in the proportion of two and a quarter to two and a half parts Cullamix to one part water applied with an approved hand operated machine. A finished thickness of 6mm should be obtained in stages until the crisp texture is obtained completely obliterating the background surface and as approved by the Architect. An equivalent made-up mixture with an approved aggregate similar to Cullamix may be used with the Architect's approval.

JOINTS

At junctions of structure frame and panel walling, cut through the entire thickness of plaster with a trowel leaving a gap of not more than 1mm width.

CRACKS AND DEFECTS

The Contractor shall cut out and make good all cracks, blisters and other defects and leave the whole of the plastering and rendering perfect at completion. When making good defects the plaster shall be cut out to a rectangular shape with edges undercut, to form dovetailed kay, and all finished flush with the face of the surrounding plaster.

BAGGING

All internal and/or external surfaces specified as bagged are to be treated with a complete covering of 1:4 liquid cement/sand wash thoroughly rubbed in with an old sack to fill all cavities.

CERAMIC TILES

Ceramic tiles shall be from an approved manufacturer, and shall conform with the requirements of B.S. 1281. Tiles shall be of standard quality and unless otherwise specifically described shall be size $200 \times 250 \times 6$ mm thick for walls and $200 \times 200 \times 8$ mm thick for floors. Tiles shall be laid with continuous

2mm wide straight joints with plastic spacers and internal angles shall be butt jointed. Plastic edge beads shall be used at all external angles and at edges of panels. Tiles shall be well soaked in water, bedded in approved tile adhesive, pointed in white cement, and cleaned and polished on completion.

SAMPLES

The Contractor shall without charge prepare samples of work as directed until the quality, texture and finish required are obtained and approved by the Architect, after which all work executed shall conform to respective approved samples.

APPROVED SUB-CONTRACTORS

The Contractor shall state on the form provided and included as a tender document, the names of the Sub-Contractors he proposes to employ, and he shall not employ any other Sub-Contractors for the work without the written permission of the Architect.

PRICING INFORMATION

Prices for paving, beds and screeds shall include for the preparation of the concrete floor and painting with cement grout, as described; for any extra thickness consequent upon the concrete floor not being finished to true levels; and for laying over electrical conduits including reinforcing as necessary to the approval of the Architect.

Prices for plastering and rendering shall include for the preparation of the surfaces including raking out joints of brickwork or blockwork and hacking surfaces of concrete to form key, and for any extra thickness or dubbing out consequent upon any irregularities or inaccuracies in the surfaces to be covered.

Prices for terrazzo and granolithic work shall include for beds and backings, executing in the colours selected by the Architect, laying to panels and designs as may be directed, and for polishing at completion. Dividing strips forming panels and designs will be measured and paid for separately.

Prices for external finishings shall include for executing work at any height above ground and for any necessary additional scaffolding, ladders, cradles, etc.

If required by the Architect, or if indicated on the drawings prices for internal plastering and external rendering shall include for forming a fair splayed edge at all junctions with fair faced concrete surfaces and for forming 12mm wide grooves with fair splayed edges at junctions of walls with structural members and at soffits of slabs etc. Prices shall also include for V-grooves or rounded grooves, not exceeding 12mm wide, in external rendering to form decorative panels.

Prices for beds and backings are to allow for a true and even finish with a steel float, which is to be scraped clean by the Contractor before receiving the finish, to the satisfaction of the finishing Sub-Contractor.

PROTECTING FLOOR FINISHINGS

The Contractor is to allow for protecting all floor and staircase finishings after laying, whether executed by himself or a Sub-Contractor and will be held responsible for any damage to the finishings after laying. All floors are to be cleaned on completion of the building before handing over.

GENERALLY

Protect all fittings, joinery and finishings from plaster and other finishings and clean up all marks on completion.

GLAZING

GENERALLY

All glass shall be of approved manufacture in accordance with B.S. 952, and free from flaws, bubbles, specks, and other

imperfections cut to size to fit the opening for which it is required with not more than 1.6mm tolerance all round. All glass to be delivered in proper containers with maker's name, guarantee, type of glass and thickness or weight of glass attached to the outside of the container.

The clear sheet glass shall be Ordinary Glazing (O.Q.) quality sheet glass.

The obscured glass shall be of a pattern approved after the Contractor has submitted samples to the Architect at the beginning of the Contract.

Tempered glass shall be of the thicknesses specified.

The putty for glazing shall be tropical putty of approved manufacture suitable for glazing to metal or wood frames as hereinafter specified.

All putty shall be delivered on site in the original manufacturer's sealed cans or drums. The putty is to be removed from the drum well kneaded with the minimum of linseed oil and left for 24 hours before using.

The rebates and backs of handle brackets to metal windows shall be painted one coat before puttying. Before glazing the rebates of all windows shall be adequately back puttied.

Within 14 days the putty must dry and harden without wrinkling of the surface or caking and shall adhere satisfactorily to the surface of the glass and the frame.

The washleather strip shall be approved by the Architect and shall be cut to fit the exact line of bead.

The wires of Georgian wired glass, in adjacent panes, are to align both ways.

PRICING INFORMATION

Prices for glass shall include for all cutting and glazing to frames as described.

PAINTING AND DECORATING

GENERALLY

The whole of the work shall be executed to the entire satisfaction of the Architect, and all work rejected is to be re-executed by the Contractor at his own expense. Subject to the foregoing, the methods of application adopted i.e. brush, spray, roller, etc. are at the discretion of the Contractor, unless otherwise described.

All paints shall be Grade A in accordance with the Ministry of Works approved paint list.

Sumps and drains shall not be used for the disposal of waste or dirty water.

MAINTENANCE

The Contractor shall make good after other trades have carried out maintenance work. In cases where the defective work is not caused by, or the responsibility of, the Contractor, or his Sub-Contractors, he should make arrangements for payment with the party concerned. Where cracks have been made good, apply two coats to the new filling and one coat to the whole wall in which the crack has appeared.

MATERIALS

Any deviation from the materials and makes specified must be approved in writing by the Architect to whom application must be made before decoration starts.

<u>IRONMONGERY</u>

All ironmongery already fixed is to be removed before painting doors and refixed on completion of the finishing coat. If any

paint should get on to ironmongery, it must be removed with chemical solvents and not scratched off.

APPROVED SUB-CONTRACTORS

The Contractor shall arrange for the painting and decorating work to be executed by an approved Sub-Contractor. The Contractor shall state on the form provided and included as a tender document the name of the Sub-Contractor he proposes to employ and he shall not employ any other Sub-Contractor for the work without the written permission of the Architect.

MIXING

All materials shall be delivered on site intact in the original containers and shall be mixed and applied strictly in accordance with the manufacturer's printed instructions. No addition will be allowed to be made locally without the express permission of the Architect.

COLOURS

The priming, undercoats, and finishing coats shall each be of differing tints, the priming and undercoats shall be the correct brands and tints to suit the respective finishing coats, in accordance with the manufacturer's instructions. All finishing coats shall be of the colour and type specified by the Architect.

The Contractor will be required to paint trial panels and will be required to adjust tints as necessary.

AREAS TO BE READY FOR PAINTING ETC

Before the painting or decorating is started the Contractor shall arrange that all other trades have been completed and other tradesmen removed from the vicinity of the area to be painted. All plaster, mortar, concrete, oil or stains of any kind shall be removed by the Contractor from work to be decorated before painting commences.

PREPARATION

Plastered and rendered surfaces to be decorated shall be allowed to dry for a minimum of four weeks before decoration commences.

Plaster finished with a steel trowel and fair face concrete surfaces shall be well rubbed down filled and made good as necessary and thoroughly cleaned down immediately before decoration is applied.

Plaster finished with a wood float or other rough textured surface of a similar nature shall be made good as necessary and thoroughly brushed clean immediately before decoration is applied.

Insulating board or similar surfaces shall be filled and made good as necessary and lightly brushed down to remove all dirt, dust and loose particles.

Metal work to be painted shall be scaled clean and thoroughly wire brushed.

Woodwork to be painted shall be well rubbed down. All knots shall be covered with good knotting before priming and all defects shall be filled with hard stopping after priming. Plywood shall be brush filled over the entire surface

Woodwork to receive finishes other than paint shall have all stains and pencil marks removed, be well rubbed down and have all defects levelled up with hard stopping of a colour to match the adjoining surface.

Woodwork to be clear varnished shall be well rubbed down and the varnish is to be applied with a chamois leather pad, rubbed back with fine graded steelwool between coats and afterwards buffed up to produce an approved finish.

All woodwork to be varnished is to have all pencil and other marks removed and surfaces smoothed down prior to application.

PAINTS

All paints used should be obtained from Basco paints after obtaining the Architect's approval and of the product specification hereinafter described.

PLASTIC EMULSION PAINTS

Plastic emulsion paint for internal and external application shall be of a manufacture approved by the Architect.

BITUMINOUS SOLUTION

Bituminous solution for use on coated pipes shall be obtained from a manufacturer approved by the Architect.

PRIMERS

Unprimed steelwork shall be primed with a Red Lead Primer.

Galvanized steelwork shall be treated with a mordant solution and primed with a Zinc Chromate Primer.

Woodwork shall be primed with a Pink Wood Primer.

UNDERCOATING

The undercoat for use under enamel finishing coats shall be an approved undercoat.

PRODUCT SPECIFICATION FOR PAINTS

Product specification for paints shall be in accordance with the composition requirements and may be required to be tested by the M.O.W. Materials Testing Branch.

PRICING INFORMATION

The numbers of coats stated in the descriptions in these Bills of Quantities shall be applied in addition to any primers, stoppers, fillers, sealers, knotting, stopping, etc. required. The Contractor's prices shall be deemed to include for supplying and applying all such preparatory materials as may be required by the Standard Specification as recommended by the manufacturer of the finishing coat for the particular surface to be covered. The Contractor's prices shall further include for all other preparatory.

Z ppendix C 4 S

STRUCTURALSPECIFICATIONS

GENERAL

ARCHITECT OR ENGINEER

Where the word 'Engineer' is used in these descriptions of Materials and Workmanship, it shall in all appropriate cases be used and construed as the 'Structural Engineer'. For this purpose the Engineer shall be deemed vested with the duties of and be the representative of the Architect.

DISCREPANCIES IN DESCRIPTIONS

Descriptions of materials and workmanship contained in the Bills of Quantities measured items shall take precedence over descriptions contained in Appendices in the event of discrepancies between the two, unless the Engineer shall otherwise direct

TESTS AND SAMPLES

Unless otherwise described in the Bills of Quantities, the Contractor will be responsible for all the costs involved in testing materials as described hereinafter. He will also be responsible for all the costs involved in supplying samples of materials or workmanship as required hereinafter to the satisfaction of the Engineer. The cost of replacing materials fixed or placed in position which do not comply with the required test results or approved samples shall be borne solely by the Contractor. Samples of materials shall be submitted as soon as possible after the Contract is let. No deliveries in bulk shall be made until the samples are approved by the Engineer.

STANDARDS

All materials and goods supplied for incorporation in the works must comply with any relevant standards issued by the Kenya Bureau of Standards or by the British Standard Institution.

EXCAVATION AND EARTHWORK

SITE CLEARANCE

Site clearance shall include the cutting down of all trees, stumps, bushes, vegetation and rubbish, burning the debris arising in approved locations, and carting remaining material to a tip provided by the Contractor.

GRUBBING

Grubbing up roots etc. shall include the following and disposal shall be as described under the foregoing clause: -

Except where the area of grubbing is to be excavated, all resulting holes shall be filled up solid with approved material compacted to the same relative density as the surrounding material.

EXCAVATION

The Contractor is advised to visit the site and ascertain the nature of the ground to be excavated and he shall price

accordingly and no claim will be allowed for want of knowledge in this respect.

Rates for excavation shall include for excavation in soil, earth, black cotton, sandy soil, murram, tuff, soft rock, boulders or whatever other subsoil is encountered, except hard rock as defined below.

HARD ROCK

Any rock or other hard materials encountered in excavating to the required depths which in the opinion of the Architect or Engineer can only be removed by wedges, compressed air or other special plant, or explosives shall be paid for as an extra and the price shall include for trimming and levelling. No blasting will be allowed without prior permission. Material which can be removed by pick or traxcavator, ripper or similar mechanical plant will not be classed as rock.

SURPLUS SOIL DISPOSAL

Excavated material not required for subsequent refilling shall be removed to areas off site which will be approved by the Architect

TOP SOIL FOR SPREADING

Where required in the Bills of Quantities, top soil required for subsequent spreading over finished work shall be especially selected and shall be dumped in special heaps as indicated by the Architect. Such top soil shall be reasonably free from vegetation to the satisfaction of the Architect, and shall be compacted as little as possible in the heaps.

FILLING UNDER SURFACE BEDS IN BUILDINGS

Murram Filling

Murram for filling as base course shall be from an approved source and of the highest quality. It shall be laid in layers not less than 150mm thick and not greater than 230mm thick prior to compaction. Water will be applied to Q.M.C. and each layer will be thoroughly compacted by at least 8 passes of a 10 tonne smooth wheeled roller or a 2 tonne vibrating roller until all movement ceases and 100% M.D.D. is obtained.

Hardcore Filling

Hardcore filling shall be crushed rock, broken brick, broken concrete or other approved hard granular materials broken to pass not greater than a 150mm ring or to be 75% of the finished thickness of the layers being compacted whichever is the less and graded so that it can be easily and thoroughly compacted by rolling. The filling is to be laid in layers each of a consolidated thickness not exceeding 230mm. Where rolling by 10 tonne smooth wheeled roller or 2 tonne vibrating roller is impossible, compaction shall be by hand or mechanical tampers. Each layer shall be compacted by at least 8 passes of the roller.

The top surface of the hardcore shall be levelled or graded to falls as required and blinded with similar material broken to 25mm gauge and surfaced with stone dust and well wetted before consolidation by the roller. The surface so obtained shall be to the Engineer's approval.

MATERIALS FOUND IN EXCAVATIONS

All materials classified as rock may, if approved by the Architect or Engineer be used as hardcore filling and the measured quantities of imported filling will be adjusted accordingly; all rock so used must be broken to the required size as before described before being used.

No sand, aggregate, murram or other material found in the excavations is to be used in the works without the written permission of the Engineer.

FILLING OBTAINED FROM THE EXCAVATIONS

Filling obtained from surplus excavated materials is to be free from all weeds, roots, vegetable soil or other unstable materials and is to be filled in layers each of not more than 230mm finished thickness. Each layer to be well wetted and consolidated as described herein.

INSECTICIDE TREATMENT

Where described, the top surface of filling shall be treated with Gladiator Pesticide (manufactured by Dow Agrosciences Ltd.) to be applied by Rentokil Ltd., P.O. Box 44360, Nairobi, or other equal and approved firm, in accordance with the manufacturer's instructions and subject to a twenty year quarantee to the satisfaction of the Architect.

DIOTHENE SHEETING

Diothene sheeting shall be produced by an approved manufacturer. Joints in sheeting shall be treble folded with a 150mm fold and taped at 300mm intervals with 50mm wide black plastic adhesive tapes. The sheeting shall not be stretched but shall be laid with sufficient wrinkles to permit shrinkage up to 15%.

CONCRETE WORK

ARCHITECT/ENGINEER

For the purpose of the concrete structure the Structural Engineer shall be deemed vested with the duties of and be the representative of the Architect.

CODE OF PRACTICE

All workmanship, materials, tests and performances in connection with the reinforced concrete work are to be in conformity with the latest edition of the appropriate British Standards where not inconsistent with these specifications.

SUPERVISION

A competent person approved by the Engineer shall be employed by the Contractor whose duty will be to supervise all stages in the preparation and placing of the concrete. All cubes shall be made and site tests carried out under his direct supervision, in consultation with the Engineer.

CONTRACTOR'S PLANT, EQUIPMENT AND CONSTRUCTION PROCEDURES

Not less than 30 days prior to the installation of the Contractor's plant and equipment for processing, handling, transporting and storing and proportioning ingredients, and for mixing, transporting and placing concrete, the Contractor shall submit drawings for approval by the Engineer, showing proposed general plant arrangement, together with a general description of the equipment he proposes to use.

After completion of installation, the operation of the plant and equipment shall be subject to the approval of the Engineer.

Where these specifications, the Bills of Quantities or the drawings require specific procedures to be followed, such requirements are not to be construed as prohibiting use by the Contractor of alternative procedures if it can be demonstrated to the satisfaction of the Engineer, that equal results will be obtained by the use of such alternatives.

Approval of plant and equipment or their operation, or of any construction procedure, shall not operate to waive or modify any provisions or requirements contained in these specifications governing the quality of the materials or of the finished work.

LEVELS AND FOUNDATIONS

The foundations of the work shall be carried down to depths as may be directed by the Engineer and they must be cut as nearly to the size of the concrete as possible and the vacant spaces between the concrete and solid ground excepting where otherwise shown must be carefully filled in as directed by the Engineer.

All temporary timbering shall be removed but should any timber be left in or should any other work be done beyond that specified, it will be at the Contractor's own cost.

TOLERANCES

On all setting out dimensions of 6m and over a maximum non-accumulative tolerance of plus or minus 6mm will be allowed. On all setting out dimensions under 6m a maximum non-accumulative tolerance of plus or minus 3mm will be allowed. On the cross sectional dimensions of structural members, unless otherwise required by the drawings, a maximum tolerance of plus or minus 3mm will be permitted.

The top surface of concrete floor slabs and beams shall be within 6 mm of the normal level and line shown on the drawings. Columns shall be truly plumb and non-accumulative tolerance of 3 mm in each storey and not more than 12 mm out of plumb in their full height will be permitted. The Contractor shall be responsible for the cost of all corrective measures required by the Engineer to rectify work which is not constructed within the tolerances set out above.

MATERIALS GENERALLY

All materials which have been damaged, contaminated or have deteriorated or do not comply in any way with the requirements of these specifications shall be rejected and shall be removed immediately from the site at the Contractor's own expense. No materials shall be stored or stacked on suspended floors without the Engineer's prior approval.

SAMPLES AND TESTING

Every facility shall be provided to enable the Engineer to obtain samples and carry out tests on the materials and construction. If these tests show that any of the materials or construction do not comply with the requirements of these specifications, the Contractor will be responsible for the costs of the tests and the replacement of defective materials and/or construction.

<u>CEMENT</u>

Cement unless otherwise specified shall be Portland Cement of a brand approved by the Engineer and shall comply with the requirements of B.S. 12, and a manufacturer's certificate of test in accordance with B.S. 12 shall be supplied for each consignment delivered to the site. Provided that the approval of the Engineer is obtained, the cement may vary from B.S. 12 in that up to 10% of the total weight may be reactive volcanic ash and the quantity of insoluble residue may exceed that specified by B.S. 12.

Should the Contractor require to use cement of the rapid hardening variety, he shall obtain the approval of the Engineer and also obtain any instructions regarding modifications to these specification caused thereby. Any additional cost that may be caused by the use of rapid hardening cement shall be at the Contractor's expense.

Cement may be delivered to the site either in bags or in bulk.

If delivered in bags each bag shall be properly sealed and marked with the manufacturer's name and on the site is to be stored in a weatherproof shed of adequate dimensions with a raised floor. Each consignment shall be kept separate and marked so that it may be used in the sequence in which it is received. Any bag found to contain cement which has set or partly set, shall be completely discarded and not used in the works. Bags shall not be stored more than 1.50 metres in height.

If delivered in bulk the cement shall be stored in a weatherproof silo either provided by the cement supplier or by the Contractor but in either case the silo shall be to the approval of the Engineer.

AGGREGATES

Aggregates shall conform with the requirements of B.S. 882 and the sources and types of all aggregates are to be approved in all respects by the Engineer before work commences.

The grading of fine aggregates shall be within the limits set out in B.S. 882 and as later specified and the grading, once approved, shall be adhered to throughout the works and siliceous sand of good, sharp, hard quality and shall be free from lumps of stone, earth, loam, dust, salt, organic matter and any other deleterious substances. It shall be graded within the limits of Zone F or M of Table 2 of B.S. 882. Sea sand will not be accepted.

Coarse aggregate for concrete Classes '30', '25', and '20' shall be black trap, Mazeras, or similar basaltic stone to the approval of the Engineer and coral aggregate will <u>not</u> be accepted. It shall be hard, clean and of good shape, free from dust, decomposed stone, clay, earthy matter, foreign substances or friable thin elongated or laminated pieces. It shall be graded within the limits of Table 1 of B.S. 882 for its respective nominal size.

If in the opinion of the Engineer the aggregate meets with the above requirements but is dirty or adulterated in any manner it shall be screened and/or washed with clean water if he so directs at the Contractor's expense,

Aggregates shall be delivered to the site in their prescribed sizes or gradings and shall be stockpiled on paved areas or boarded platforms in separate units to avoid intermixing. On no account shall aggregates be stockpiled on the ground.

The Engineer shall be entitled to require a certificate from an approved testing laboratory in connection with each source of fine and coarse aggregate showing that materials comply with the specification.

WATER

The water used for mixing concrete shall be from an approved source, clean, fresh and free from harmful matter, and comply with B.S. 3148.

EXPANSION JOINT FILLER

Expansion joint filler shall be 'Flexcell' as manufactured by Expandite Ltd., or 'Resilex' as manufactured by Evomatics Ltd. or equal and approved.

JOINT SEALER

Sealers shall be 'Pli-astic' or 'Seelastic' as described, both manufactured by Expandite Ltd., applied in accordance with

the manufacturer's printed instructions and prices shall include for temporary battens or fillets and afterwards withdrawing to form grooves as necessary.

'Seelastic' shall be applied by gun and where more than 12mm deep shall include filling the groove with loose packing yarn to within 1mm from outer face.

'Pli-astic' shall be Grade 88 and applied hot. With the Engineer's prior approval 'Polevomastic' fillers of the appropriate grade as manufactured by Evomastics Ltd. may be substituted for 'Seelastic' and 'Pli-astic'.

CONCRETE STRENGTHS

Classes '30', '25', and '20' concrete shall have the minimum strengths as given by works cube tests shown herebelow.

Classes lower than those given shall be of the following nominal mixes and may be measured by volume or weight. No cube tests will be required for these classes.

MEASURED PROPORTIONS OF CONCRETE

Cement

The quantity of cement shall be measured by weight. Where delivered in bags, each batch of concrete is to use one or more whole bags of cement.

WEIGH BATCHING MACHINE

Weigh batching machines shall be of an approved type and shall be properly maintained and checked for accuracy at regular intervals.

CONCRETE CLASSES '30', '25', and '20'

The weights of fine and coarse aggregate to be used in concrete classes '30', '25', and '20' shall be limited in accordance with the table below. The proportions of fine to coarse aggregate and cement which the Contractor proposes to use for the mix specified shall first be approved by the Engineer. The Contractor will then be required to prepare preliminary test cubes and have these cubes tested as described for work cube tests. The test results should be submitted to the Engineer in sufficient time for further tests to be carried out should they prove unsatisfactory. Cube strengths in the preliminary tests must show crushing strengths of at least 25% higher than the strengths specified for work cube tests. If the Contractor is unable to produce specified cube strengths, he will be required at his own cost to increase the cement of the mix until satisfactory results are produced.

The average strength obtained from cube tests shall be 10% higher than the minimum strength shown above.

The Engineer may require at any time during the Contract the proportions of fine to coarse aggregate to be altered in order to produce a mix of greater strength or improved workability and providing that the total proportions of aggregate to cement remain unchanged, no claim for additional cost will be considered.

Concrete shall be poured to the classes as follows:-

The mixes given below e.g. 1:3:6 shall mean concrete composed by volume one part Portland cement, three parts sand or fine aggregate and six parts of coarse aggregate. All other compositions shall be interpreted in a like manner.

WATERPROOF CONCRETE

Where 'waterproof concrete' is specified, the system may be an approved surface applied product, or waterproofing additives of a type approved in writing by the Engineer are to be added to the mixing water strictly in accordance with the manufacturer's instructions. Not more than 25 litres of water per 50Kg. bag of cement are to be used unless otherwise approved by the Engineer.

WATER BAR

Water bar shall be P.V.C. water bar as manufactured by Expandite Limited, or other approved type and shall be provided in width and at the positions indicated on the drawings.

Joints shall be heat welded in accordance with the manufacturer's instructions and where the water bar is to be fixed vertically, metal clips as manufactured by the supplier of the water bar or of other approved design shall be provided to suspend the water bar from the reinforcement.

Where waterproof concrete is used the Contractor shall adhere strictly to the position and type of construction joints as detailed on the drawings. Any deviation from this procedure or the provision of additional construction joints will require the prior approval of the Engineer and any additional water bar so required will be at the Contractor's expense.

Formwork shall be designed with sufficient timber formers and blocking pieces to support the water bar and to ensure that it is not displaced during concreting. In the case of horizontal joints in vertical walling and similar members the formwork shall be so constructed as to permit the starter or upstand of concrete surrounding the lower half of the

water bar to be poured in the same operation as the slab or other concrete from which it springs. Formwork to walls or similar members where water bar is positioned at the base of the lift shall have sufficient openings not less than 300mm square at approximately 150mm to 300mm above the level of the water bar to permit checking that the water bar is correctly positioned and not displaced during concreting.

No concreting will be permitted to portions where upstand starters form an integral part until the formwork to the starter has been fixed and approved.

SEALOCRETE SUPERCOAT WATERPROOFER

Where specified 'Sealocrete Supercoat Waterproofer' shall be applied to concrete or blockwork surfaces strictly in accordance with the manufacturer's instructions. The surfaces must be well wire-brushed to remove dirt, efflorescence, adhering mortar and all foreign matter. It shall then be cleaned with fresh water. When absolutely dry a generous coat of Sealocrete Supercoat shall be applied by brush or spray gun. Surfaces so treated shall be protected from damage or staining as described elsewhere.

TESTING EQUIPMENT

The Contractor shall provide the following equipment for carrying out control tests on the site :-

- (a)
- (b) A glass graduated cylinder for use in the silt test for organic impuration the times and uniform in colour.
- (c) Slump test apparatus;
- (d)

WORK CUBE TESTS

Work cubes are to be made at intervals such that one set of four cubes shall represent no more than 50m3 of concrete in the works or as required by the Engineer and the Contractor shall provide a continuous record of the concrete work. The cubes shall be made in approved 150mm moulds in strict accordance with the British Standards.

Four cubes shall be made on each occasion, from each batch, the concrete being taken from the point of deposit.

Each cube shall be marked with a distinguishing number (numbers to run consecutively) and the date, and a record shall be kept on site giving the following particulars:

- Cube No. (a)
- (b) Date made
- Location in wor (c)
- (d) 7-day Test

Date Strength requi

(e) 28-day Test

> Date Strength required

Cubes shall be forwarded, carriage paid, to an approved Testing Authority, in time to be tested, two at 7 days and one at 28 days and the fourth at the discretion of the Engineer. No cube shall be dispatched within 3 days of casting.

Copies of all work cube test results shall be forwarded to the Engineer and one shall be retained on the site.

If the strengths required above are not attained, and maintained throughout the carrying out of the Contract, the Contractor will be required to increase the proportion of cement and/or substitute better aggregates so as to give concrete which does comply with the requirements of the Contract. The Contractor may be required to remove and replace at his own cost any concrete which fails to attain the required strength as ascertained by work cube tests

The Contractor must allow in his rates for concrete test cubes for all expenses in connection with the preparation and conveyance to the Testing Laboratory of test cubes and no claim in respect of his not so doing will be allowed.

MIXING AND PLACING OF CONCRETE

The concrete shall be mixed only in approved power driven mixers of a type and capacity suitable for the work, and in any event not smaller than 0.33 cu.m. capacity.

The mixer shall be equipped with an accurate water measuring device. All materials shall be thoroughly mixed dry before the water is added and the mixing of each batch shall continue for Straight edges 3.00m and 1.20m long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for testing the accuracy of the direction her long for th added and until there is a uniform distribution of the materials

The entire contents of the mixed drum shall be discharged before recharging. The volume of mixed materials shall not Four 15 mm steel cube moulds with base plates and tamping rodextoe PdSthts8atted capacity of the mixer. Whenever the mixer is started, 10% extra cement shall be added to the first batch and no extra payment will be made on this account.

As a check on concrete consistency slump tests may be carried out and shall be in accordance with B.S. 1881. The Contractor shall provide the necessary apparatus and allow for the costs of such tests. The slump of the concrete made with the specified water content, using dry materials, shall be determined and the water to be added under wet conditions shall be so reduced as to give approximately the same slump. Slump shall be 75 ± 25 mm, unless otherwise instructed by the Engineer.

The concrete shall be mixed as near to the place where it is required as is practicable, and only as much as is required for a specified section of the work shall be mixed at one time, such section being commenced and finished in one operation without delay. All concrete must be efficiently handled and used in the works within twenty (20) minutes of mixing. It shall be discharged from the mixer direct either into receptacles or barrows and shall be distributed by approved means which do not cause separation or otherwise impair the quality of the concrete. Approved mechanical means of handling will be encouraged, but the use of chutes or pumping for placing concrete is subject to the prior approval of the Engineer.

Concrete shall be placed from a height not exceeding 1.5m directly into its permanent position and shall not be worked along the shutters to that position. Unless otherwise approved, concrete shall be placed in a single operation to the full thickness of slabs, beams and similar members, and shall be placed in horizontal layers not exceeding 1.4m deep in walls or similar members.

Concrete in columns may be placed to a height of 4.00m with careful placing and vibration and satisfactory results. Where the height of the column exceeds 4.00m suitable openings must be left in the shutters so that this maximum lift is not exceeded.

Concrete shall be placed continuously until completion of the part of the work between construction joints as specified hereinafter or of a part of approved extent. At the completion of a specified or approved part a construction joint of the form and in the positions hereinafter specified shall be made. If stopping of concreting be unavoidable elsewhere, a construction joint shall be made where the work is stopped. A record of all such joints must be made by the Contractor and a copy supplied to the Engineer.

Any accumulation of set concrete on the reinforcement shall be removed by wire brushing before further concrete is placed.

The Contractor shall provide runways for concreting to the satisfaction of the Engineer. Under no circumstances will the runways be allowed to rest on the reinforcement.

Care shall be taken that the concrete is not disturbed or subjected to the vibrations and shocks during the setting period.

Mixing machines, platforms and barrows shall be clean before commencing mixing and be cleaned on every cessation of work

Where concrete is laid on hardcore or other absorbent materials, the base shall be suitably and sufficiently wetted before the concrete is deposited.

COMPACTION

At all times during which concrete is being placed, the Contractor shall provide adequate trained and experienced labour to ensure that the concrete is compacted in the forms to the satisfaction of the Engineer.

Concrete shall not be placed at a rate greater than will permit satisfactory compaction nor to a depth greater than 450mm before it is compacted.

During and immediately after placing, the concrete shall be thoroughly compacted by means of continuous tamping, spading, slicing and vibration. <u>Vibration is required for all concrete of classes '30', '25' and '20'</u>

Care shall be taken to fill every part of the forms, to work the concrete under and around the reinforcement without displacing it and to avoid disturbing recently placed concrete which has begun to set.

Any water accumulating on the surface of newly placed concrete shall be removed and no further concrete shall be placed thereon until such water be removed.

Internal vibrators shall have a frequency of not less than 7,000 cycles per minute and shall have a rotating eccentric weight of at least 0.7Kg., with an eccentricity of not more than 12mm. Such vibrators shall visibly affect the concrete within a radius of 230mm from the vibrator.

Internal vibrators shall not be inserted between layers of reinforcement less than one and a half times the diameter of the vibrators apart. Contact between vibrators and reinforcement and vibrators and formwork shall be avoided.

Internal vibrators shall be inserted vertically into the concrete wherever possible at not more than 500 mm centres and shall constantly be moved from place to place. No internal vibrator shall be permitted to remain in any one position for more than ten seconds and it shall be withdrawn very slowly from the concrete.

In consolidating each layer of concrete the vibrating head shall be allowed to penetrate and re-vibrate the concrete in the upper portion of the underlying layer. In the area where newly placed concrete in each layer joins previously placed concrete more than usual vibration shall be performed, the vibrator penetrating deeply at close intervals along these contacts. Layers of concrete shall not be placed until layers previously placed have been vibrated thoroughly as specified.

Vibrators shall not be used to move concrete from place to place in the formwork.

At least one internal vibrator shall be operated for every three cubic metres of concrete placed per hour and at least one spare vibrator shall be maintained on site in case of break-down during concreting operations.

External formwork vibrators shall be of the high frequency low amplitude type applied with the principal direction of vibration in the horizontal plane. They shall be attached directly to the forms at not more than 1224mm centres.

In addition to internal and external vibration the upper surface of suspended floor slabs shall be levelled with a tamping or vibrating screed prior to finishing. Vibrating elements shall be of the low frequency high amplitude type operating at a speed of not less than 3,000 r.p.m.

CONSTRUCTION JOINTS

Construction joints shall be permitted only at the positions pre-determined on the drawings or as instructed on the site by the Engineer. In general they shall be perpendicular to the lines of principal stress and shall be located at points of minimum shear, viz. vertically at, or near, mid-spans of slabs, ribs and beams.

Suspended concrete slabs are generally to be cast using alternate bay construction in bays not exceeding 13 metres in length. No two adjacent bays are to be cast within a minimum period of 48 hours of each other. The joints between adjacent bays are to be in positions agreed with the Engineer.

Under no circumstances shall concrete be allowed to tail-off, but it shall be deposited against stopping-off boards.

Before placing new concrete against concrete already hardened, the face of the old concrete shall be thoroughly hacked, roughened and cleaned, and laitance and loose material removed therefrom, and immediately before placing the new concrete the surface shall be saturated with water and covered with a coat of mortar at least twenty five mm in thickness composed of cement and fine aggregate in the proportions used in the concrete.

CURING AND PROTECTION

Care must be taken that no concrete is allowed to become prematurely dry and the fresh concrete must be carefully protected within two hours of placing from rain, sun and wind by means of hessian sacking, polythene sheeting, or other approved means. This protective layer and the concrete itself must be kept continuously wet for at least seven days after the concrete has been placed. The Contractor must allow for the complete coverage of all fresh concrete for a period of 7 days. Hessian or polythene sheeting shall be in the maximum widths obtainable and shall be secured against wind. The Contractor will not be permitted to use old cement bags, hession or other material in small pieces.

Concrete in foundations and other underground work shall be protected from admixture with falling earth during and after placing.

Traffic or loading must not be allowed on the concrete until the concrete is sufficiently matured, and in no case shall traffic or loading be of such magnitude as to cause deflection or other movement in the formwork or damage to the concrete members. Where directed by the Engineer props may be required to be left in position under slabs and other members for greater period than those specified hereafter.

FAULTY CONCRETE

Any concrete which fails to comply with these specifications, or which shows signs of setting before it is placed shall be taken out and removed from the site. Where concrete is found to be defective after it has set, the concrete shall be cut out and replaced in accordance with the Engineer's instructions. On no account shall any faulty, honeycombed, or otherwise defective concrete be repaired or patched until the Engineer has made an inspection and issued instructions for the repair. The whole of the cost whatsoever, which may be occasioned by the need to remove faulty concrete shall be borne by the Contractor.

ROD REINFORCEMENT

The steel reinforcement shall be mild steel or high tensile steel as detailed on drawings or schedules and comply with the latest requirements of the following British Standards: -

Hot rolled bars for the reinforcement of concrete

Cold worked steel for the reinforcement of concrete

Hard drawn steel wire

It shall be in metric sizes as detailed on the drawings.

The Contractor shall submit a test certificate of the rollings. Reinforcement shall be stored on racks above ground level. All reinforcement shall be free from loose mill scale or rust, grease, paint or other substances likely to reduce the bond between the steel and concrete.

FABRIC REINFORCEMENT

To be electrically cross-welded wire mesh reinforcement to B.S. 4483 and of the size and weight specified

FIXING ROD REINFORCEMENT

Reinforcement shall be accurately bent to the shapes and dimensions shown on the drawings and schedules and in accordance with B.S. 4466. Reinforcement must be cut and bent cold and no welded joints will be permitted unless so detailed.

Reinforcement shall be accurately placed in position as shown on the drawings and, before and during concreting, shall be secured against displacement by using No. 18 S.W.G. annealed binding wire or suitable clips at intersections, and shall be supported by concrete or metal supports, spacers or metal hangers to ensure the correct position and cover.

No concreting shall be commenced until the Engineer has inspected the reinforcement in position and until his approval has been obtained and the Contractor shall give two clear days' notice of his intention to concrete.

The Contractor is responsible for maintaining the reinforcement in its correct position, according to the drawings, before and during concreting. During concreting a competent steel fixer must be in attendance on the concretors to adjust and correct the positions of any reinforcement which may be displaced. The vibrators are not to come into contact with the reinforcement.

Where reinforcement projects from a concreted section of the structure and this reinforcement is expected to remain exposed for some time, it is to be coated with a cement grout to prevent rust staining on the finished concrete. This grout is to be brushed off the reinforcement prior to the continuation of concreting.

POSITION AND CORRECTNESS OF REINFORCEMENT

Irrespective of whether any inspection and/or approval of the fixing of the reinforcement has been carried out as above, it shall be the Contractor's sole responsibility to ensure that the reinforcement complies with the details on the drawings or schedules and is fixed exactly in the positions shown therein and in the positions to give the prescribed cover. The Contractor will be held entirely responsible for any failing or defect in any portion of the reinforced concrete structure and including any consequent delay, claims, third party claims, etc., where it is shown that the reinforcement has been incorrectly positioned or is incorrect in size or quantity with respect to the detailed drawings or schedules.

SPACING BLOCKS

Spacing blocks of approved size and shape made of concrete similar to that used in the surrounding construction and fixed to the teißforappgintmentificationitis) k by No. 18 S.W.G. wires set into the spacer blocks, or other approved means, shall be provided by Seapy, for the spacer blocks or other approved means, shall be provided. The Contractor is to include for providing sufficient such spacer Salay & intrestruction is to include for providing sufficient such spacer Salay & intrestruction are used, spacer blocks or other forms of rib construction are used, spacer blocks are to be provided as shown on the drawings. These will generally consist of concrete blocks as described above made to fit the

width of the rib less 3mm tolerance and with single or double grooves (depending on the number of reinforcement bars used per rib) in the top surface with wire ties at each groove.

CONCRETE COVER TO REINFORCEMENT

Unless otherwise directed the concrete cover to rod reinforcement over <u>main</u> bars in any face shall be: -

FIXING FABRIC REINFORCEMENT

The fabric shall be free from scale, rust, grease or other substance likely to reduce the bond between the steel and the concrete and shall be laid with minimum 300mm laps and bound with No. 18 S.W.G. annealed iron wire.

In all ground slabs, unless otherwise specified a single layer of square mesh steel fabric shall be placed at a depth of 50mm below the top surface of the concrete. The fabric shall comply in all respects with B.S. 4483 and be of the size and weight specified or shown on the drawings.

The fabric shall extend to within 75mm of the expansion joints and shall have laps of at least 23mm at all joints in the fabric at junctions with reinforced concrete beams or other members. It shall be placed on top of the first layer of concrete as previously described and sufficient wire ties shall be provided to ensure that the fabric is held down securely.

FIXTURES AND INDENTATIONS IN CONCRETE

No openings, chases, holes or other voids shall be formed in the concrete without the prior approval of the Engineer. Details of any fixtures to be permanently built into the concrete including the proposed position of all electrical conduits 25mm and over in diameter shall be submitted to the Engineer for his approval before being placed.

CHASES, HOLES, ETC. IN CONCRETE

The Contractor shall be responsible for the co-ordination with the Electrical and other Sub-Contractors for incorporating electrical conduit, pipes, fixing blocks, chases, holes and the like in concrete members as required and must ensure that adequate notice is given to such Sub-Contractors informing them when concrete members incorporating the above are to be poured. The Contractor shall submit full details of these items to the Engineer for approval before the work is put in hand. All fixing blocks, chases, holes, etc., to be left in the concrete shall be accurately set out and cast with the concrete.

POSITION OF ELECTRICAL CONDUIT

Unless otherwise instructed by the Engineer all electrical conduit to be positioned within the reinforced concrete shall be <u>fixed inside</u> the steel cages of beams and columns and <u>between the top and bottom steel</u> layers in slabs and similar members.

The proposed position of all electrical conduits 25mm and over in diameter which are to be enclosed in the concrete shall be shown accurately on a plan to be submitted to the Engineer, whose approval shall be obtained before any such conduit is placed.

FORMWORK

The method and system of formwork which the Contractor proposes to use shall be approved by the Engineer before construction commences. Formwork shall be substantially and rigidly constructed of timber or steel or precast concrete or other approved material.

All timber for formwork shall be good sound clean sawn well-seasoned timber, free from warps and loose knots and of scantlings sufficiently strong for their purpose.

CONSTRUCTION OF FORMWORK

All formwork shall be of sufficient thickness and with joints close enough to prevent undue leakage of liquid from the concrete and fixed to proper alignment, level and plumb and supported on sufficiently strong bearers, shores, braces, plates, etc. properly held together by bolts or other fastenings to prevent displacement, vibration or movement by the weight of materials, men and plant on same and so wedged and clamped as to permit of easing and removal of the formwork without jarring the concrete. Where formwork is supported on previously constructed portions of the reinforced concrete structural frame, the Contractor shall be in consultation with the Engineer to ensure that the supporting concrete structure is capable of carrying the load and/or sufficiently propped from lower floors or portions of the frame to permit the load to be temporarily carried during construction.

Soffits shall be erected with an upward camber of 10mm for each 4000mm of each horizontal span or as directed by the Engineer.

Great care shall be taken to make and maintain all joints in the formwork as tight as possible, to prevent the leakage of grout during vibration. All faulty joints shall be caulked to the Engineer's approval before concreting.

The formwork shall be sufficiently rigid to ensure that no distortion or bulging occurs under the effects of vibration. If at any time the formwork is insufficiently rigid or in any way defective the Contractor shall strengthen or improve such formwork as the Engineer may direct.

The Contractor's attention is drawn to the various surface textures and applied finishes required and the faces of formwork next to the concrete must be of such material and construction and be sufficiently true to provide a concrete surface which will in each case permit the specified surface treatment or applied finish.

All surfaces which will be in contact with concrete shall be oiled or greased to prevent adhesion of mortar. Oil or grease shall be of a non-staining mineral type applied as a thin film before the reinforcement is placed. Surplus moisture shall be removed from the forms prior to placing of the concrete.

Temporary openings shall be provided at the base of columns, wall and beam forms and at any other points where necessary to facilitate cleaning and inspection immediately before the pouring of concrete. Before the concrete is placed the shuttering shall be trued-up and any water accumulated therein shall be removed. All sawdust, chips, nails and other debris shall be washed out or otherwise removed from within the framework. The reinforcement shall then be inspected for accuracy of fixing. Immediately before placing the concrete the formwork shall be well wetted and inspection openings shall be closed. The erection, easing, striking and removing of all formwork must be done under personal supervision of a competent foreman, and any damage occurring through faulty formwork or its incorrect removal shall be made good by the Contractor at his own expense.

After removal of formwork, all projections, fins, etc., on the concrete surface shall be chipped off, and made good to the requirements of the Engineer. Any voids or honeycombing shall be treated as described in 'Faulty Concrete'.

STRIPPING FORMWORK

All formwork shall be removed without undue vibration or shock and without damage to the concrete. No formwork shall be removed without the prior consent of the Engineer and the minimum periods that shall elapse between the placing of the concrete and the striking of the formwork will be as follows:-

Removal of props (subject to 7 days concrete cube strength being satisfactory) to :-

If the Contractor wishes to take advantage of the shorter stripping times permitted for beam and slab soffits when props are left in place, he must so design his formwork that sufficient props as agreed with the Engineer can remain in their original position without being moved in any way until expiry of the minimum time for removal of props. Stripping and re-propping will not be permitted.

The above times may be reduced in certain circumstances, at the discretion of the Engineer provided an approved method is adopted at the Contractor's expense to ensure that the required concrete strength is attained before the forms are stripped.

Solid strips in composite slab shall be considered as beams. The tops of retaining walls shall be adequately supported with stout raking props at intervals required by Engineer. These props are not to be removed until 7 days after casting of the floor slab.

FAIR FACE

Where fair face is specified the concrete shall be brought perfectly true smooth and even by rubbing with carborundum stone dipped in cement grout. Such work must be commenced within one hour of removing the formwork and be actively and rapidly persued until completed, the object being to complete the finish as soon as possible after the removal of the shuttering. On no account may such work be postponed to a later stage in the Contract. Fair face surfaces shall be clean, smooth, even, true to form and free from all board marks joint marks, honeycombing, pitting, etc. The Contractor is permitted at his own expense to provide smooth lining to the forms which will achieve the required finish without rubbing down. All rubbed down work must be lightly washed with plain cold water at the completion of the Contract, and not before the cement grout used in the finish is at least four weeks old after initial mixing

BUSH HAMMERED FINISH

The concrete surface prior to the tooling of this finish shall resemble in all respects that produced as 'Fair Face' above. Particular care is required to achieve complete compaction of the concrete.

The bush-hammering shall be carried out using approved tools and shall produce an even, tooled appearance. All arrises, projections, etc., shall remain true and sharp and no rounding off of edges shall be permitted. The Contractor is to take care that no reinforcement is exposed and that in any case no tooling penetrates the concrete surface by more than 10mm.

The Contractor shall, prior to any bush-hammering taking place, provide a sample measuring 1.00m square to the Engineer indicating the standard of bush-hammering to be achieved. This when approved by the Engineer will form the standard for the entire works. Any surface not complying with this standard shall be removed or made good to the Engineer's satisfaction at the Contractor's expense.

TAMPED FINISH

Areas so specified shall be finished at the time of casting with a tamped finish to the Engineer's approval produced by an edge board. Board marks are to be made to a true pattern and will generally be at right angles to the traffic flow. Haphazard or diagonal tamping will not be accepted.

WROT LINED FORMWORK

The shuttering shall be constructed of wrot tongued and grooved boarding, plywood or blockboard lined with approved laminated plastic sheeting to produce a concrete surface with truly flat surface completely free from all air bubbles, joint marks, honeycomb and other pittances and blemishes to the approval of the Engineer.

Should the Contractor desire to use alternative materials he should submit his proposals to the Engineer for approval.

Should the Contractor fail to obtain approval and the Architect subsequently rejects the work, the Contractor will at his own expense carry out all work necessary to attain the approval of the same.

BOARD MARKED FINISH

Where so directed or measured the finish shall be that of a board marked pattern in panels, the boards shall be arranged vertically or horizontally and of widths and sizes all as detailed on the drawings. All exposed concrete will be left unpainted and therefore every care and attention shall be paid to obtain a satisfactory visual appearance and the maintenance of the same throughout the building operation. The finished surfaces shall be free from blow holes, hungry patches and other blemishes, and a sample panel is to be provided and approved by the Engineer before work commences.

Unless otherwise specified, the formwork shall be rip sawn softwood to the Engineer's approval and shall have a sufficiently strong grain to impart a corresponding pattern to the concrete surface. Unless otherwise approved it shall have four uses only and shall be carefully cleaned from adhering grout after each use. It shall be lightly oiled with an approved no-staining oil.

CHISEL DRESSED FINISH

Where specified a chisel dressed finish is to be carried out on any grade of concrete but not until it is at least 30 days old. The surfaces are to be fully chisel dressed to remove a maximum of 12mm (average gmm) of the surface to expose the aggregate without excessive cracking or breaking thereon.

Where the drawings show details of arrises of columns, beams, etc., these are to be pre-formed with timber fillets set in the formwork and care must be taken in working up to those to preserve a clean line. For vertical surfaces of walls and columns, particular care must be taken to remove all sharp projections. For beam soffits this requirements is not necessary.

All chisel dressed surfaces are to have the margin chisel dressed by hand for a minimum width of 75mm commencing from the fillet edge. Thereafter mechanical chisel dressing may be used but the Contractor must ensure that a uniform texture and even plane surface is achieved. The use of pointed steel tools for both hand and mechanical chisel dressing is essential. Upon completion the surfaces are to be thoroughly wire brushed and washed down and protected during the course of construction from damage, dirt, cement grout, etc.

PRECAST CONCRETE

Unless otherwise approved by the Engineer, all precast concrete construction shall be carried out on the site and shall conform to the requirements given elsewhere.

The maximum size of coarse aggregate in precast concrete shall not exceed 20mm except for thicknesses less than 75mm where it shall not exceed 12mm.

The compaction of precast concrete shall conform with requirements given elsewhere in these Specifications except for thin slabs where use of immersion type vibrators is not practicable. The concrete in these slabs may be consolidated on a vibrating table or by any other methods approved by the Engineer.

Steam curing of precast concrete will be permitted. The procedure for steam curing shall be subject to the approval of the Engineer.

The precast work shall be made under cover and shall remain under the same for seven days. During this period and for a further seven days the concrete shall be shielded by sacking or other approved material kept constantly wet. It shall then be stacked in the open for at least a further seven days to season before being set in position. Where steam curing is used these times may be reduced to the approval of the Engineer.

Precast concrete units shall be constructed in individual forms. The method of handling the precast concrete units after casting, during curing and during transport and erection shall be subject to the approval of the Engineer. Providing that such approval shall not relieve the Contractor of responsibility for damage to precast concrete units resulting from careless handling.

Repair of damage to the precast concrete units, except for minor abrasions of the edges which will not impair the installation and/or appearance of the units will not be permitted and the damaged units shall be replaced by the Contractor at his own expense.

Moulds for 'Fair Face' precast work are to be made of metal or are to have metal or plywood linings or are to be other approved moulds which will produce a smooth dense fair face to the finished concrete suitable to receive a painted finish direct and free from all shutter marks, holes, pittances, etc. In his prices for such precast work the Contractor shall include for all rubbing down to produce the finish required, to the satisfaction and approval of the Engineer.

The precast units shall be installed to the lines, grades and dimensions shown on the drawings or as directed by Engineer.

COMPOSITE FLOOR OR ROOF SLABS

Concrete hollow blocks for used in the composite floor slabs are to be of the sizes required as shown on the drawings and with 30mm wall thickness and are to be of adequate strength to support the concrete during placing and consolidation by vibration. Blocks are to be manufactured in accordance with the procedure specified in B.S. 2028 and to be of a mix not weaker than 1:4:8 cement: sand: aggregate using maximum size aggregate.

Concrete blocks are to be cured for at least 28 days before use on the site. During the first seven days of curing, blocks are to be kept permanently damp and protected from exposure to sun and wind.

Concrete blocks are to be well wetted before the pouring of concrete.

COMPOSITE FLOOR CONSTRUCTION

The hollow block floor construction is generally to be as shown on the Engineer's drawings.

Care shall be taken in placing blocks to ensure that they are set out in accordance with the details shown on the drawings and that they run truly in line without encroaching on the width of the insitu ribs.

The open ends of hollow blocks, if adjacent to concrete to be placed insitu, are to be plugged or stopped to prevent the concrete from flowing into the void and the Contractor is to include for this in his prices.

The Contractor should note that slip tiles are not to be used to the soffit of ribs and he is to take this into consideration in pricing the items of formwork to the soffit of hollow block floor construction.

Before concreting is carried out the blocks are to be thoroughly wetted

Care should be taken during concreting that the width of ribs between the rows of blocks and the solid insitu concrete shown on the drawings adjacent to supporting beams is not encroached upon by the blocks.

It is essential that the concrete topping be poured at the same time as the ribs between hollow blocks.

Reinforcement shall be positioned accurately with required cover in accordance with the drawings and using the particular spacing blocks with wire ties as previously described. Spacer blocks shall be provided in ribs at not more than 1.2m centres. Care must be taken during concreting that the reinforcement is not displaced.

Where holes for services, etc. occur, the necessary holes or pockets shall be accommodated by the replacing of a hollow block by insitu concrete or the widening of a rib all in accordance with the Engineer's instructions.

Prices for holes, etc. through hollow block construction are to include the re-arrangement or substitution of the hollow block with sold concrete in addition to the actual formation of the hole.

CONCRETE SURFACE BEDS

Concrete for surface beds shall be Grade '20'.

Before placing concrete and where specified or shown on the drawings a layer of 500 gauge polythene or diothene sheeting shall be laid on the base course. Minimum 300mm laps shall be provided at all joints.

The concrete shall be placed as soon as possible after being mixed. In transporting the concrete, adequate precautions shall be taken to avoid damage to the prepared base. The concrete shall be spread to such a thickness that when compacted it shall have the finished thickness as specified or shown on the drawings. A layer of concrete 50mm less than the finished thickness shall first be spread and struck off at the correct level to receive the top fabric reinforcement.

The top layer shall then be added. Not more than 30 minutes shall elapse between spreading the bottom layer. The Contractor shall be responsible for maintaining the reinforcement in its correct position during the placing and compaction of the concrete.

The compaction and finishing of the concrete shall be effected by immersion vibrators and a hand or mechanical tamper weighing not less that 10Kg per meter run and having a tamping edge shod with a steel strip 75mm wide fixed to the tamper by countersunk screws. Immersion vibrator with 'spade' attachments will be permitted. Compaction shall be continued until a dense, sealed surface finish is achieved. Over-compaction causing an excessive amount of fines to be brought to the surface shall be avoided.

The surface of the concrete shall be finished to the surface texture specified to the levels, falls and crossfalls, as directed or shown on the drawings and shall be subject to the following tolerance:

The level shall be within or - 6mm of the levels specified.

The falls shall be within 10% of the falls specified.

The smoothness shall be such that departure from a 3.000m straight edge laid in any direction shall not exceed 3mm. Minor irregularities shall be made good by the use of a steel float but in no circumstances shall mortar be used to make good the surface.

As soon as the surface has been finished, it shall be protected against too rapid drying by means of damp hessian, polythene sheeting or other approved means placed carefully on the surface and kept damp and in position for 7 days and the concrete shall be kept wet for further 21 days. The most critical period is the first 24 hours after placing and curing during that time shall be very thorough. The Contractor is to obtain the Engineer's approval to the material and method he proposes to use for curing and no concreting will be permitted until sufficient such material is on site.

Forms shall not be removed from freshly placed concrete until it is at least 24 hours old. Care shall be taken that in their removal no damage is done to the concrete, but should any damage occur the Contractor shall be responsible for making it good.

EXPANSION JOINTS IN CONCRETE SURFACE BEDS

Expansion joints shall be positioned and constructed as shown on the drawings. The joints in the surface beds shall be absolutely square and true to line and position.

All joints in surface beds shall be formed to the patterns and shapes to coincide exactly with the joints in the surface finish or as otherwise indicated on the drawings. Formwork shall be manufactured from steel of heavy angle section and be to the Engineer's approval. The Contractor shall submit drawings of the forms he intends to use and obtain the Engineer's approval before fabrication. Panels shall be poured in alternate bays as agreed with the Engineer. No construction joints other than those indicated on the drawings shall be submitted.

NOTES CONCERNING MEASUREMENT AND PRICING

The Contractor must allow for all costs incurred during the progress of the Contract for complying with the provisions concerning the preparation and use of graded mixes.

Prices for concrete shall include for mixing and depositing as described or indicated and for hoisting and depositing at the various levels required throughout the building, and shall also include for forming or hacking a satisfactory key for all faces receiving asphalt and plaster work. Prices for slabs shall also include for levelling off the surface as described under 'Compaction', and all temporary formwork to form construction joints at bay edges.

Prices for reinforced concrete shall, in addition, include for filling into, between or on formwork and thoroughly compacting between and around rods or fabric reinforcement

and for forming all additional construction joints between varying mixes. Where described as vibrated, prices must include for fully vibrating as described.

Formwork (use and waste only) is measured net to the actual face of the concrete to be supported and the prices for formwork shall include for extra material at joints, extra labour and waste for narrow widths, small quantities, overlaps, passing at angles, straight cutting and waste, splayed edges, notchings, etc., and for fixing at the various levels including battens, struts, and supports and for bolting, wedging, easing, striking and removal. Prices for linear items such as boxings shall include for angles and ends. Strutting has been measured at varying levels to soffits only and prices for other items must include for strutting at any level.

Prices for steel rod reinforcement shall include for cutting to lengths and all labour in bending and cranking, forming hooked ends, handling, hoisting and fixing in position and for providing all necessary tying wire and supports. Prices for fabric reinforcement shall include for all straight cutting and waste, handling, hoisting and fixing in position, providing all necessary tying wire, and supports and all extra material in lans.

Prices of all precast concrete shall include for all moulds, finishings as described, handling reinforcement, hoisting and fixing at the required levels, bedding, jointing and pointing in cement and sand (1:5) mortar, also for casting or cutting to the exact lengths required and any waste resulting from such cutting. The sizes of weathered or moulded items stated are extreme sizes.

Prices for suspended hollow tile composite floor and roof slabs must be 'all inclusive' to include for concrete hollow tiles, in situ concrete ribs, concrete topping, concrete filling to open ends of hollow concrete tiles.

Concrete in main beams has been measured to the full width thereof and for full depth to top of slab level and composite slabs are measured separately, the net area between same. No adjustment will be made in these measurements for any projection of ribs, reinforcement, etc., into main beams or floors etc., to obtain bearings, which are deemed to be covered in the Contractor's rates.

Prices for expansion joints shall include for cutting to size and all temporary supports and prices for expansion joint sealers shall include for all temporary battens or fillets required to form the necessary grooves.

STRUCTURAL STEELWORK

APPROVED SUB-CONTRACTOR

The whole of the structural steelwork is to be executed by a specialist Sub-Contractor who is to be specifically approved by the Engineer and the Contractor will be required to make arrangements for the execution of this work and bear all expenses incurred. No change in the rates for this work inserted by the Contractor in these Bills of Quantities will be allowed

ARCHITECT/ENGINEER

For the purpose of the steel structure the Structural Engineer shall be deemed vested with the duties of and be the representative of the Architect.

QUALITY OF MATERIAL AND WORKMANSHIP

The quality of all materials and workmanship used in the execution of the works shall comply with the requirements of

current relevant British Standard and Codes of Practice, including all the latest amendments.

TESTS

The Engineer may at any time require any materials to be tested in accordance with the requirements of the Standards listed above. The cost of all successful tests shall be borne by the Employer. The Contractor shall, if required by the Engineer, promptly supply at his own expense test pieces. The costs of tests on materials failing to comply with these Standards shall be borne by the Contractor. If in the opinion of the Engineer, faulty material and/or workmanship has been used in the works, the Contractor may be directed to dismantle and cut out the parts concerned and remove them for examination and testing. The cost of dismantling, cutting out and making good to the approval of the Engineer shall be borne by the Contractor.

FABRICATION

The standard of work and the general procedure to be followed during fabrication shall be in accordance with B.S. 449. The Contractor must ascertain all dimensions on the site prior to commencement of fabrication.

PRICES, MEASUREMENTS AND PAYMENT

Prices quoted by the Contractor shall be based on the calculated weights of steel, and shall include for manufacture, painting, and supply, all as described in the Bills of Quantities, specified, and shown on the drawings, including the cost of delivery to the site or other agreed place or places and the supply of all bolts, rivets, plugs, gussets, cleats, to complete the erection of the works.

Prices shall include for erection, (all labour, scaffolding, and other erection equipment necessary) and cover the cost of additional prime coat painting as previously specified. The prices shall also include for lining up, levelling and plumbing but not for grouting up of the bases.

The basis for payment for steelwork shall be the calculated steel weights of the structure. Any variation from the original design on which the tender was based, which results in either an increase or decrease in calculated weight of the structure as completed, shall result in the appropriate additions or deductions to the submitted tender totals.

Any written instruction from the Engineer which may result in additional work over and above that for which the Contractor quoted will be considered as extras and shall be paid for on the basis of calculated additional steel weights.

PROPOSED LMS GUEST HOUSE AND CONFERENCE CENTRE

ON

PLOT L.R. NO. 20298, KISUMU COUNTY

FOR

THE SEVENTH-DAY ADVENTIST CHURCH, (EAST AFRICA) LIMITED – HOME HEALTH EDUCATION SERVICE (HHES)

REQUEST FOR TECHNICAL PROPOSAL

Architect:

Od-Sync Architecture Ltd P.O. Box 45802-00200, Nairobi, Kenya

Quantity Surveyor:

Belis Otieno Ochieng P.O. Box 48853-00100, GPO Nairobi, Kenya

MAY, 2023

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BIDDER'S TECHNICAL PROPOSAL AND PRICED TENDER BILLS OF QUANTITIES

A. GENERAL INSTRUCTIONS

Dear Applicant,

Thank you for showing interest in offering construction services by procuring this Technical Proposal document as a Contractor (bidder) in addition to the unpriced Tender Bills of Quantities. The complete set of tender documents shall consist of this Technical Proposal and the unpriced Tender Bills of Quantities.

Before filling out the documents, you are advised to carefully read the Technical Proposal's General Conditions and Procedures for which are issued with this form.

Our Client, The Seventh-Day Adventist Church (East Africa) Limited, Home Health Education Services (HHES) intends to establish the technical capability of Main Contractors for the construction to completion of (Phase I – Shell Only with plasterworks and screed works but without windows and doors) of their Proposed LMS Guest House and Conference Centre to be located on Plot L.R. No. 20298, Kisumu County.

The Contractors are required to undertake a site visitation to familiarize themselves with the general site conditions prior to providing their tender prices and they should also be registered with the National Construction Authority (NCA) Category "5" and above. A complete set of the softcopy Technical Proposal document and the unpriced Bills of Quantities may be downloaded by interested contractors from the website of **The Seventh-Day Adventist Church (East Africa) Limited, Home Health Education Services (HHES).**

Applications for the establishment of the technical capability through the Technical Proposal document including the Priced Tender Bills of Quantities must be submitted in plain sealed envelopes to the offices of The Seventh-Day Adventist Church (East Africa) Limited, Home Health Education Services (HHES) along James Gichuru road and it must contain a copy of the bank deposit slip as proof of having paid a non-refundable tender document purchase amount totaling Kenya Shillings Two Thousand, Five Hundred and Cents Zero (Kshs. 2,500.00) to:

Account Bank: ABSA

Account Name: Home Health Education Service

Account No: 0758208540 Account Branch: Queensway

and the sealed envelope should be clearly marked as follows: "TECHNICAL PROPOSAL DOCUMENT AND PRICED TENDER BILLS OF QUANTITIES FOR THE PROPOSED LMS GUEST HOUSE AND CONFERENCE CENTRE". It shall be deposited at the receptionist's tender box and addressed to:

The Seventh-Day Adventist Church (East Africa) Limited, Home Health Education Services (HHES) P.O. Box 16433 - 00100 Nairobi, Kenya

So as to reach them **on or before 12th June, 2023 on or before 12:00 noon**. The documents shall be opened in the Meeting room, in the presence of the Client, Bidders or their Representatives who choose to attend.

Yours Sincerely,

The Project Quantity Surveyor

SECTION (I)

INFORMATION TO TENDERERS

1.0 INTRODUCTION

- 1.1 On behalf of our client, The Quantity Surveyor of P.O. Box 48853-00100, Nairobi, invites Main Contractors to express their technical capability for the Construction of the **Proposed LMS Guest House and Conference Centre**.
- 1.2 On behalf of our client, The Quantity Surveyor of P.O. Box 48853-00100, Nairobi will enlist prospective **Contractors** from among those who will have submitted **their tender** documents, in accordance with the tender requirements to undertake the assignments described herein.
- 1.3 Bidders who are registered as Building Contractors with National Construction Authority (NCA) in **Category "5" and above** are invited to submit the request for technical proposal document.
- 1.4 The Technical Proposal document and the Tender Bills of Quantities and the Tenderer's response thereof shall be the basis for consideration of contractors. Tenderers must familiarize themselves with the requirements described in this document including all attachments and take them into account while preparing the response.
- 1.5 The Quantity Surveyor does not bind himself to assign **Contractors** but shall endeavor to ensure that all tenderers will be treated equitably.
- 1.6 Applicants will be informed in writing of the results of the application, without assigning any reason for The Quantity Surveyor's decision thereof.
- 1.7 Tenderers will meet all costs associated with preparation and submission of their applications.
- 1.8 It is the best practice policy to require that Tenderers observe the highest standard of ethics during the selection and execution of such contracts. In Pursuance of this policy, The Quantity Surveyor:
 - (a) defines, for the purpose of this provision, the terms set forth below as follows:
 - (i) "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of an officer of the Purchaser/Employer in the pre-qualification process; and
 - (ii) "Fraudulent practice" means a misrepresentation of facts in order to influence the pre-qualification process to the detriment of the Purchaser/Employer, and includes collusive practices among Tenderers (prior to or after submission of Tenders) designed to establish prices at artificial, non-competitive levels and to deprive the Purchaser of the benefits of free and open competition.
 - (b) Will reject the Technical Proposal if it determines that a Tenderer has engaged in corrupt or fraudulent activities in competing for the contract in question;

- (c) Will declare a Tender ineligible, for pre-qualification if at any time it determines that Tenderer has engaged in corrupt or fraudulent practices in competing for, or in executing, a similar contract; and
- (d) Will have the right to make enquiries, cross-check or examine financial or any other records relating to the performance of such services to determine capability.
- (e) Will have the right to inspect the business premises or any other site or workshops of the tenderer.
- 1.9 Tenderers shall furnish information as described in the Technical Proposal tender document.
- 1.10 Tenderers shall be aware of the provisions on fraud and corruption stated in the any statutory regulation.

2.0 DOCUMENTS COMPRISING THE REQUEST FOR TECHNICAL PROPOSAL

2.1 Tenderers may request clarification on the Technical proposal document up to **Seven** (7) days after the request for provision of technical proposals. Any request for clarification must be sent in writing by mail or electronic mail to the Employer's address. The Employer will respond in writing by normal postal mail, facsimile, or electronic mail to such requests and will send copies of the response to all Tenderers who intend to submit tenders. The documents comprising this request for technical proposal are as listed in the Table of content.

3.0 PREPARATION OF THE REQUEST FOR TECHNICAL PROPOSAL DOCUMENTS

- 3.1 Tenderers are requested to submit the request for technical proposal document written in English language.
- 3.2 Tenderers are expected to examine the documents comprising this request for technical proposal in detail. Material deficiencies in providing the information requested may result in rejection of a Tender.
- 3.3 Tenderers are required to meet the qualification criteria stipulated in section 5.0 Those who do not meet the requirements need not submit tenders. Only tenders which fulfill these requirements, will be considered for detailed evaluation.
- 3.4 The request for technical proposal shall include all financial information as required in this technical proposal document.

3.5 PRE-QUALIFICATION CRITERIA

3.5.1 The request for technical proposal will be based on the applicants meeting the following minimum pass-fail Criteria regarding their general and particular experience, financial position, personnel, equipment capabilities and other relevant information as demonstrated by the Applicant's response in the Information Forms included in this document.

The Applicant shall provide evidence that:

- (a) They have been actively engaged in the subject business for at least the last 3 years immediately prior to the date of submission of applications, in the role of Main Contractor.
- (b) They have average annual turnover during the above period that is equal to or greater than the amount stated in this document under the relevant section.
- 3.5.2 The average annual turnover is defined as the total of certified payment certificates for works in progress or completed by the firm or firms comprising the Applicant, divided by the number of years stated in the document.
- 3.5.3The applicant shall provide evidence that it has successfully completed or substantially completed at least the number of contracts stated in the document of a nature, complexity and requiring technology like the proposed contract within the period stated in the document.
- 3.5.4 The Applicant shall demonstrate that they have access to or have available liquid assets, unencumbered real assets, lines of credit and other financial means (independent of any contractual advance payment) sufficient to meet the cash flow requirements for the subject contract(s) of the minimum estimated amount stated in the document, net of the Applicant's commitments under other contracts.
- 3.5.5 In the relevant Information Form, the Applicant shall also demonstrate to the satisfaction of the Employer and consultants, that it has adequate sources of finance to meet the cash flow requirements of their other current projects in progress and for future contract commitments.
- 3.5.6 The audited balance sheets or other financial statements acceptable to the Employer for the last 3 years, shall be submitted and must demonstrate the current soundness of the applicant's financial position and indicate its prospective long-term profitability. If deemed necessary, the client shall have the authority to make enquiries with the applicant's bankers.
- 3.5.7 The Applicant shall supply general information on the management structure of the firm and shall make provisions for suitably qualified personnel to fill the key positions listed in the document, as required during contract implementation. The Applicant shall supply information on a prime candidate and on an alternate for each key position both of whom shall meet the experience requirement specified.
- 3.5.8 The Applicant shall own or have assured access (through hire, lease, purchase agreement, other commercial means, or approved subcontracting) to key items of equipment,

in full working order as listed in the document and must demonstrate that, based on known commitments, they will be available for timely use in the proposed contract. The Applicant may also list alternative types of equipment that it would propose for use on the contract, together with an explanation of the proposal.

3.5.9 The applicant shall provide accurate information on the indicated Application Form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Applicant may result in failure of the application.

3.6 Period of Validity

The technical proposal and the tender price must remain valid for not less than **90 days** from the date of submission.

The Quantity Surveyor on behalf of our client, will make the best effort to complete the evaluation and communicate within this period.

4.0 SUBMISSION, RECEIPT, AND OPENING OF TENDERS

The original Tender Document shall be prepared in indelible ink. It shall contain no interlineations or overwriting, except as necessary to correct errors made by the Tenderer. Any such corrections must be initialed by the person or persons who sign(s) the Tender Document.

- 4.1 An authorized representative of the Tenderer should initial all pages of the tender document.
- 4.2 The complete tender document including the priced tender document should be prepared and submitted in **one original copy** in a plain sealed envelope clearly marked: "TECHNICAL PROPOSAL AND PRICED TENDER BILLS OF QUANTITIES FOR CONTRACTORS FOR THE PROPOSED SEVENTH-DAY ADVENTIST CHURCH (EAST AFRICA) LIMITED HOME HEALTH EDUCATION SERVICES (HHES) " and delivered to:

The Seventh-Day Adventist Church (East Africa) Limited, Home Health Education Services (HHES) P.O. Box 16433 - 00100 Nairobi, Kenya

4.3 **Deadline for Submission**

The closing time for the Tender shall be 12th June, 2023 at 12.00 Noon and shall be sent to the above address. Tenders shall be marked on top "DO NOT OPEN BEFORE 12TH JUNE, 2023 AT 12.00 NOON."

4.4 Late Tender

Any Tender received after the deadline pursuant to clause 4.3 shall be rejected as a late tender and shall not be considered.

4.5 **Tender Opening and Evaluation**

- 4.5.1 A committee of officials shall open the Tender immediately after the closing time for submission of the Tender.
- 4.5.2 The Committee will prepare a record of the Tender opening.

5.0 TENDER EVALUATION CRITERIA

5.1 Mandatory Requirements for the Request for Technical Proposal

Mandatory requirements will determine the satisfactory responsiveness of a Tenderer, failure to meet any of these set requirements as noted hereunder will render a tender non-responsive and will automatically be disqualified.

The following documents are mandatory:

- (i) A copy of Certificate of Registration / Incorporation.
- (ii) Valid Tax compliance certificate from KRA.
- (iii) Valid Single Business Permit
- (iv) Audited accounts for the last (3) years i.e (2020, 2021 and 2022.) OR (2019, 2020 and 2021)
- (v) Six (6) months bank statements and letter from bank confirming access to lines of credit.
- (vi) Current registration by National Construction Authority (NCA) in the trade of General Building Works as a contractor in Category "5" or above (copy of registration certificate to be attached complete with the annual practicing certificate)
- (vii) Duly completed Confidential Business Questionnaire and Declaration Forms
- (viii) Duly completed Request for Technical Proposal Form
- (ix) Duly completed Qualification Information Form

PROPOSED SEVENTH-DAY ADVENTIST CHURCH, (EAST AFRICA) LIMITED -**HOME HEALTH EDUCATION SERVICES (HHES)**

Technical Evaluation Scorecard

No	Parameters				Score	Max	Marks
					breakdown	Score	
	al Status						
1.	a) Attachment of a cop			rporation	2 marks	8.0	
	b) Attachment of a copy		tificate		2 marks		
	c) Attachment of PIN c				2 marks		
	d) Attachment of Tax C				2 marks		
	Annual Turnover (Co						
	(Min. Ksh. 50 Million	– average fo	or the pre	evious three years			
2.	150M and above				4 marks	4.0	
	100 – 149				3 marks		
	50– 99				2 marks		
	0 – 49				1 mark		
	Previous Works undertaken over the last 3 years						
	a) Similar Projects of at least Kshs. 50m contract sum (up to 2				4 marks		
	projects)]	
3.	b) Other projects of at least Kshs. 50m contract sum (up to 2)				3 marks	10.0	
	c) Clients Reference of	c) Clients Reference of at least Kshs. 50m contract sum (Up to 2)					
	d) Lead consultants Re	ference of at	least Ksh	s. 50M contract	1 marks		
	sum						
	(up to 2 projects)						
4.	Bidders existing workload						
	a) A score of 1 if work	cload is more	e than Ksl	hs. 50M, otherwise	1 mark		
	zero					1.0	
5.	Equipment (excavation	on & earthwo	orks, con	creting, transport,			
	road works)						
	Owned / Leased				Listing		
		1 Marks		Documentary	1		
	Earthworks			Evidence]		
	Concreting	1 Marks		0.5 Mark]	7.5	
	Transport	1 Marks		0.5 Mark	7.5 marks		
	Hoist	1 Marks		0.5 Mark			
	Roads equipment -	1 Marks		0.5 Mark]		
	(road graders, rollers,						
	pavers etc)						
	0.5 Mark		1				
	Human Resources				<u> </u>		
	Key Personnel				Listing		
	Managerial 1 mark	Certificate	CV's	Relevant			
6.	(at least 2)			Experience up	1	3.0	
				To 2 yrs 1 per year			
		(1 Mark)	(1Mark)	(1 Mark)	(3 Marks)		



	Technical (at least 2)	1.5 marks	1.5 marks	1.5marks	4.5 marks	4.5	
7.	Contractors Experience: 1 mark for				1 mark for each year	10.0	
	each year up to 10						
	years						
8.	Financial reports (audit		for previous the	hree years	1		
	a) Year 1 b) Year 2	2019			1 mark 1 mark		
	c) Year 3	2020			1 mark		
	c) rear 3	2021			1 mark	3.0	
9.	Evidence of access to a) Cash in hand (Ksh.1			up to 10 M	4 marks	8.0	
	b) Lines of credit (Ksh.	,		•	4 marks	0.0	
10.	Bank references	-5.00111 I III	101 00011 3 1	45 10 50 111	1 marks	1.0	
11.	Non association statem	nent			1 marks	1.0	
12.	Proposed works metho	dology			2 marks	2.0	
13.	Bank statements for t	_		1 mark per			
	month from December	er 2022 to Ma	y, 2023				
	a) Month 1						
14.							
17.					1 Mark	6.0	
	b) Month 2				1 Mark		
	c) Month 3				1 Mark		
	d) Month 4				1 Mark		
	e) Month 5				1 Mark		
	f) Month 6				1 Mark		
	Company Profile						
	Attachment of a copy of 1 mark each	of memorandu	m and articles	s of Association	2 marks		
15.	Attachment of a copy 2 directors)	2 marks	11.0				
	Single Business permit	/ License from	m Local Auth	ority	2 marks		
	Evidence of physical a			J	2 marks		
	Evidence of determinat		us contract – 1	mark for each	3 marks		
	contract up to 3 contrac	_					
	TOTAL SCORE	Ξ				80	

SUB-CONTRACTORS SCORE CARD

a)Electrical Installations

No	Parameters			Score	Max	Marks
				breakdown	Score	
	Mandatory r	egistration				
1.			f certificate registration from registrar of	1 marks	2.0	
		of a copy o	of NCA certificate	1 marks	1	
	Previous Works undertaken over the last 3 years					
2.	a) Similar Projects of at least Kshs.2.5m contract sum (up to 2 projects)			2 marks	4.0	
	c) Clients Ref	erence of at	2 marks			
	Personnel and	d Equipme	nt			
	Owned / Leased		Listing	1 mark		
3.	Evidence of ownership	equipment	2 Marks	1 mark	2.0	
	Human Resou	rces				
	Key Certificat Personnel		and CV's			
	Managerial 1	0.5marks	0.5marks	1 mark		
	Technical	0.5marks	0.5marks	1 mark	2.0	
	ТО	L TAL SCOI	RE		10.0	

b) Plumbing and drainage installations

N0	Parameters		Score breakdown	Max Score	Marks
	Mandatory registration	1			
1.	a) Attachment of a copy companies	Attachment of a copy of certificate registration from registrar of companies			
	b) Attachment of a copy	of NCA certificate	1 mark		
	Previous Works undertaken over the last 3 years				
	a) Similar Projects of at	least Kshs 3.5 m contract sum (up to 2	2 marks		
2.	projects)			4.0	
	c) Clients Reference of at least Kshs 3.0 m contract sum (Up to 2)		2 marks		
	Personnel and Equipm	ent			
	Owned / Leased	Listing			
3.	Evidence of equipment ownership	2 Marks	-	2.0	

I	Human Resour	rces				
	Key Personnel	Certifica	te and CV's			
N	Managerial 1	0.5 mark	0.5 mark	1 mark	• 0	
	Fechnical	0.5	0.5	1 mark	2.0	
	TO	TAL SCC	RE		10	

Item	Parameter	Total Score	Marks
a	Electrical Installations	10	
b	Plumbing and Drainage Total Subcontractors score	10 20	

Overall score

Item	Parameter	Total overall Score	Total Marks
a	Main Contractors aggregate score	80	
b	Subcontractors aggregate score	20	
	Total Overall score	100	

The pass mark for technical evaluation of the technical proposal shall be 60% and only those contractors who have attained the pass mark shall have their financial proposal (priced tender Bills of Quantities) evaluated for the proposed works.

5.2 Tender Evaluation

5.2.1 General Requirements

- 1. The Quantity Surveyor will examine the tenders to determine completeness, general orderliness and sufficiency in responsiveness.
- 2. Tenderers shall not contact the Quantity Surveyor on the matter relating to their tender from the time of opening to the time the evaluation is finalized and official communication is sent to them. Any effort by the Tenderer to influence the Quantity Surveyor in the Tender evaluation shall result in the rejection of their tender.

- 3. Consideration of the technical proposal will be based on meeting the minimum criteria regarding the Applicant's legal status, general and particular experience, personnel and financial position as demonstrated by the responses in the attached forms.
- 4. The applicants should have registered offices and the Quantity Surveyor reserves the discretion of visiting physical premises from which the applicant conducts business if so desired to confirm existence and capability to deliver the said goods/services.
- 5. Tenderers who qualify according to the selection criteria will be invited to submit their tender for the specified work when required.
- 6. The Quantity Surveyor reserves the right to accept or reject any or all Tenders without the obligation to assign any reason(s) for its decision thereof.
- 7. Any form which is not filled out completely and submitted in the prescribed manner will not be considered. All the documents that form part of the proposal must be written in English and in indelible ink.

6 CONFIDENTIALITY

6.1 Information relating to evaluation of Tenders and recommendations concerning consideration of technical proposals shall not be disclosed to the Tenderers until the firms have been advised accordingly.

TENDER SUBMISSION FORM

To: The Seventh-Day Adventist Church (East Africa) Limited Home Health Education Services (HHES) P.O. Box 16433 - 00100 Nairobi, Kenya

Dear Madam/Sir,

We, the undersigned, offer to supply the required goods / services in accordance with your Request for Technical Proposal of Contractors for the **Proposed Seventh-Day Adventist Church (East Africa) Limited, Home Health Education Services (HHES)** and we hereby submit our Tender Document.

Our Tender is binding to us and if found acceptable we shall be pleased to be accorded consideration.

Yours sincerely,

Authorized Signature: (Rubber Stamp)

Name and Title of Signatory

Name of Tenderer

Address:

We understand you are not bound to accept any tender you receive.

Please give your comments/suggestions on the tender if any	,
1.	
2.	
3.	
4.	
5.	
6.	

APPLICATION FORM FOR REQUEST FOR TECHNICAL PROPOSALS B.

For official use only					
Application received by	Receipt No.				
Processing					
Site inspection on	Site inspection by				
Application submitted to theApprov	ved Not approved				

REQUEST FOR TECHNICAL PROPOSAL INFORMATION

SECTION I: COMPANY PROFILE

1.0 (TO BE COMPLETED BY THE BIDDER)

a) F	FULL COMPANY'S NAME					
b) P	. O. BOX					
c) F	PHYSICAL ADDRESS					
d) N	NAME OF STREET				• • • • • • • • • • • • • • • • • • • •	
e) 7	TELEPHONE NUMBERS				• • • • • • • • • • • • • • • • • • • •	
f) F	FAX NUMBERS					
g) E	E-MAIL ADDRESS					
h)					• • • • • • • • • • • • • • • • • • • •	
i)	Place(s) of Business (i.e. Lo (Write house/Plot No. Block	ocation o	of Main Branch Off	fices).		
j)	Current Class(Attach copy of Registration	_		Year of	Registration .	
k)	No. of Certificate (Copy of Certificate require		Incorporation	of	Business	Names
1)	(a) Registered Capital: (Applicable to Companies memorandum and Articles of	s, which	are limited by,			
m)	Current Business License (a	ttach co _l	py)			
	Number:	• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • • •		
	Date Issued:		Place Issu	ed:		

2.0 Individual Tenderers or Individual Members of Joint Ventures

Constitution or legal status of tenderer (attach copy or Incorporation Certificate);					
Place of registration:					
of business					
rney of signatory of tender					
lume of construction work	performed in the last three years				
Volume					
currency	value				
	of business rney of signatory of tender lume of construction work Volume				

2.6 Work performed as Main Contractor on works of a similar nature and volume over the last three years. Also list details of work under way or committed, including expected completion date.

PROJECT NAME	NAME OF CLIENT & CONTACT PERSON	TYPE OF PERFORMED YEAR COMPLETION	WORK AND OF	VALUE CONTRACT	OF

2.7 Major items of Contractor's Equipment proposed for carrying out the Works. List all information requested below.

ITEM OR EQUIPMENT	DESCRIPTION MAKE & AGE (YEARS)	CONDITION (NEW GOOD POOR)AND NUMBER AVAILABLE	OWNED, LEASED (FRO M WHOM) OR TO BE PURCHASED (FROM WHOM)

2.8 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data.

POSITION	NAME	YEARS OF EXPERIENCE	YEARS OF EXPERIENCE IN PROPOSED POSITION

SECTION II: FINANCIAL STATUS OF THE FIRM

	for the last three (3) year List below and attach co		and loss statements,
	Information fro	om Balance Sheet	
otal Assets			
otal Liabilities			
let Worth			
Current Assets			
Current Liabilities			
	Information from	Income Statement	
Total Revenues			
Profits Before Taxes			
Profits After Taxes			
<u> </u>	s of financial statements (for the last three years, a		
 All such docum companies. 	ents reflect the financial	situation of the firm, and	I not sister or parent
Historic financi	al statements must be aud	dited by a certified accou	ıntant.
• Historic financi statements.	al statements must be con	mplete, including all note	es to the financial
	al statements must corress statements for partial per		

2.10 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of supportive documents.
2.11 Name, address and telephone, telex and facsimile numbers of banks that may provide Reference if contacted by the Employer.
2.12 Statement of compliance with the requirements of Clause 1.2 of the Instructions to Tenderers.
2.13 Proposed program (work method and schedule) for the whole of the Works.

SECTION (II)

NOTES ON STANDARD FORMS

written document.

(Applicable to Local suppliers only)

- 1. **Request for Technical Proposal Questionnaire** This form must be completed fully and duly signed by the bidder.
- 2. **Confidential Business Questionnaire Form** This form must be completed by the tenderer and submitted with the tender documents.
- 3. **Qualification Information** This form must be completed fully and duly signed by the bidder.

CONFIDENTIAL BUSINESS QUESTIONNAIRE

(Must be filled by all applicants or tenderers' who choose to participate in this tender)

Name of Applicant (s)		
You are requested to give the particulars in Part 1 and either Part 2 (a), 2 (b) or 2 (c), whichever applies to your type of business. Part 2 (d) to part 2(i) must be filled.		
You are advised that giving wrong or false information on this Form will lead to automatic disqualification / termination of your business proposal at your cost.		
Part 1 – General		
Business Name:		
Certificate of Incorporation / Registration No.:		
Location of business premises:	Country	
Physical address	Town	
Building	Floor	
Plot No.	Street / Road	
Postal Address	Postal / Country Code	
Telephone No's	Fax No's.	
E-mail address		

1 ,

Single Business Permit License No. Expiry Date

Contact Person (Full Names) Direct / Mobile No's.

Nature of Business (Indicate whether manufacturer, distributor, etc)

Valu	ue Added Tax No			
Valu	ue of the largest single	assignment you have u	ndertaken to date (Kshs)	
	s this successfully underence)	rtaken? Yes / No	(If Ye	s, attach
	ne (s) of your banker (s	, and the second		
Braı	nches		Tel No's	
	t 2 (a) – Sole Proprieto names			
Nati	onality	Coı	untry of Origin	
Con publ	=	(Attach	brochures or annual report	
	Full Names	Nationality	Citizenship Details	<u>Shares</u>
			•••••	
				•••••
4.	•••••	•••••		•••••
Con	npany Profile	(Attach	brochures)	
Priv Con publ	t 2 (c) – Registered Contate or public	(Attach	brochures or annual reports	s in case of
	Nominal KShs			
	Issued KShs			

	of four (4) shareholders		areholding in the company.	
GIV	Full Names	Nationality	Citizenship Details	Shares
1.				
3.				
4.			•••••	•••••
<u>Pari</u>	t 2 (d) – Debarment			
enga Seve any Full Sign Date In th	age in any fraudulent of enth-Day Adventist Chu other public or private in Names	or corrupt acts with creh, (East Africa), Honstitutionsday of	rom any procurement proce regard to this or any othe ome Health Education Servi-	r tender by the ces (HHES) and
<u>Pari</u>	e, (Name (s) of Director	<u>ce</u>		
	b)	of any criminal offen	ce relating to professional	conduct or the
proc			ns as to its qualifications 3) years preceding the con	
Sign	ned			
In the	and on behalf of M/s ne capacity of ed this	day of		2019.
I/W	curement:	that I / We have no co	nflict of interest in relation	

d)

For and on behalf of M/sIn	
he capacity of	
Dated thisday of2019	
Suppliers' / Company's Official Rubber Stamp	
Part 2 (g) – Interest in the Firm:	
s the Quantity Surveyor or any other public institution who has interest in the Firm? Yes / No?	
(Title)(Signature) (Date)	

Part 2(h) – Experience

Please list here below similar projects accomplished or companies / clients you have supplied with similar items equipment, or services in the last three (3) years.

Company Name	Country	Contract/ Order No.	Value
1			
2		•••••	
3			
Contact person (Full Names)	1	E-mail address	
Cell phone no	(Note: The p	erson should be at the level of	of director)

^{*}Attach proof of citizenship

- a) Previous orders from companies supplied before
- b) Certificate of Incorporation / Registration
- c) Tax Compliance Certificate (for local suppliers)
- d) VAT Certificate (for local suppliers)
- e) Audited Financial Statements / Accounts for the last three (3) years
- f) Valid Local Authority / Trade License (for local suppliers)
- g) The Power of Attorney

Consider these documents as mandatory a submission to be considered for preliminary evaluation which must be 100% fulfilled.

^{*} Attach certified copies of the following documents:

QUALIFICATION INFORMATION

IMPORTANT NOTES

- Tenderers are advised to refer to the Information to Tenderers section before 1. preparing the qualification Information.
- The tables appearing below are samples. Tenderer should prepare their own table 2. using a word processor (computer) and fill in all the required information.
- 3. "Certified copies" means certified by a High Court Advocate and Commissioner for Oaths
- Tenderers must be registered companies incorporated in Kenya under the companies 4.

2 In

	AP 486. al Tenderers o	r Individual Members o	f Joint Ventures
	onstitution or le N and VAT Ce		ttach copy or Incorporation Certificate),
	Place of regis	tration:	
	Principal plac	ee of business	
	Power of atto	rney of signatory of tende	er
2.2 To	otal annual volu	nme of construction work	performed in the last three years
	Year	Volume	
		Currency	Value
	Year 1		
	Year 2		
	Year 3		
			1
2.3	Work perform	ned as Main Contractor of	n works of a similar nature and volume

over the last three years. Also list details of work under way or committed, including expected completion date.

Project Name	Name of client and contact person	Type of work performed and year of completion	Value of contract

Note: Tenderer to attach certified copies of completion certificates) completed project) and award letters (ongoing projects). Refer to Clause 5 of information to Tenderers.

Project Name	Initi (Ksł	al Contract	Sum	Final Account (Kshs.)	Sum	Variations Value
	nformat	ion requeste				g out the Works. lause 5 of the
Item of	De	escription,	Cor	ndition(new,	Owned	l, leased (fr
Equipmer	nt M	ake and age ears)	goo	d, poor) and other available	whom	,
Qualification and execut Clause 5 of	For leas ons and ion of the	ed, attach co I experience he Contract. Cormation to	of key Attach Tender	Flease agreemer y personnel pro Curriculum Virers.	posed fotaes (CV	of ownership e.g. or administration 's). Refer also to
logbooks. I Qualification and execut	For leas ons and ion of the	ed, attach co I experience he Contract. Cormation to	pies of of key Attach	Flease agreemer y personnel pro Curriculum Virers.	nts.	or administration 's). Refer also to
Qualification and execut Clause 5 of	For leas ons and ion of the	ed, attach co I experience he Contract. Cormation to	of key Attach Tender	Flease agreemer y personnel pro Curriculum Virers.	posed fotaes (CV	or administration 's). Refer also to
Qualification and execut Clause 5 of	For leas ons and ion of the	ed, attach co I experience he Contract. Cormation to	of key Attach Tender	Flease agreemer y personnel pro Curriculum Virers.	posed fotaes (CV	or administration 's). Refer also to
Qualification and execut Clause 5 of	For leas ons and ion of the	ed, attach co I experience he Contract. Cormation to	of key Attach Tender	Flease agreemer y personnel pro Curriculum Virers.	posed fotaes (CV	or administration 's). Refer also to
Qualification and execut Clause 5 of	For leas ons and ion of the	ed, attach co I experience he Contract. Cormation to	of key Attach Tender	Flease agreemer y personnel pro Curriculum Virers.	posed fotaes (CV	or administration 's). Refer also to

For the projects given in 1.3 above give further information as follows:-

For the Project given in 1.3 above further information as follows:-

Initial

Period (weeks)

Contract

Lead Consultant

Actual Completion

time (weeks)

2.4

2.5

Project

Name

G (C (1		In
Sections of the Works	Subcontractor (name and address)	Experience in similar v
	,	
Authority) and re	tors must be class 2 or abordistered with other relevant Attach certified copies of certification.	Government ministries
	for the last three years: bala's reports, etc. List below and a	
	counts must be signed and started by a registered certified account	
requirements: cash supportive docum	ess to financial resources in hand, lines of credit, etc. Lisents. All documents must be titutions providing the financial	st below and attach copie signed and stamped by
	I telephone, telex and facsimile f contacted by the Employer.	numbers of banks that
	npliance with the requireme derers.	nts of Clause 1.2 of

- 2.13 Bank Statements. Provide certified copies of bank statements from your official bankers for the last 6 months
- 2.14 Tax compliance certificate. Provide certified copy of your up to date valid tax compliance certificate from Kenya Revenue Authority
- 2.15 Litigation list of disputes.

Name of Contract	Type of resolution method	Date of dispute	Date of settlement	Amount dispute

- 2.16 Details of company ownership: provide copies of the following:-
 - Memorandum of Association
 - Articles of Association
 - List of Directors and their Curriculum Vitae (CVs))
- 2.17 Attach copies of current business permit
- 2.18 Attach copies of ministry of National Construction Authority registration certificate and any others from different registration authorities and government ministries and institutions.

3.0 Joint Ventures

- 3.1 The information listed in 2.1 2.18 above shall be provided for each partner of the joint venture.
- 3.2 The information required in 2.11 above shall be provided for the joint venture.
- 3.3 Attach the power of attorney of the signatory (ies) of the tender authorizing signature of the tender on behalf of the joint venture
- 3.4 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that:
 - b) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
 - c) one of the partners will be nominated as being in charge, authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture; and
 - d) The execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

DECLARATION

I/We the undersigned state that the above information is correct and that I/We give the Quantity Surveyor on behalf of our client, authority to seek any other references concerning my/our company from whatever sources deemed relevant e.g. Company Registrar's office, Bankers etc

Signed	•
For and on behalf of M/s	
In the capacity of	
Dated this)
Suppliers/Company's rubber Stamp	

TECHNICAL PROPOSALS OF SUB CONTRACTORS

The Sub Contractors participating in the EOI must be registered with National Construction Authority (NCA) **Category '7'** and above.

The Quantity Surveyor reserves the right to accept or reject any or all tenders without the obligation to assign any reason(s) for its decision thereof.

GENERAL REQUIREMENT

The sub-contractors should provide the following documents

1. Mandatory Requirements

- Certificate of registration from the Registrar of Companies either as a limited liability company, partnership or sole proprietorship. (In case of a limited liability company, the memorandum and articles of Association must be certified by the registrar of companies)
- Copy of Valid Tax Compliance certificate.
- Copy of PIN certificate.
- Copy of Audited Financial Accounts for the last 3 years.
- Must provide litigation history for the last three years (this will be subjected to verification at the discretion of the procuring entity) anyone providing inaccurate information or incorrect information will be disqualified upon such discovery.
- Proof of Ownership of Major items of Plant & Equipment.

2. Company profile

- Attachment of a copy of memorandum and articles of association
- Attachment of a copy directors CVs and certificate

3. Staff Qualifications

PART (1) Curriculum Vitae for Share Holders or Partners of Construction Firm (Each director/Partner of the Company should fill this form)

PART A: PERSONAL BIODATA:

1. Names	Surname
	First name
	Middle name
2. Date of Birth	Year
	Month
	Date
	Place of birth
3. Identification	Nationality
	Passport/ID No
	Date of Issue
	Work Permit No
	Date of Expiry
4. Residential Address	Street
	Town/City
	Country
5. Postal Address	P.O. Box
	Town/City
	Country
	Fax No
	E-mail
6. (a) Position held	
(b) Number of shares held	
(c) Percentage of shares held	

PART (2): Academic Qualifications:

NAME OF TRAINING	Date		Certificate/Award
INSTITUTION (Schools, Colleges, Universities)	From	То	

PART (3): Professional Qualification:

NAME OF INSTITUTION/BOARD	Date From To		Certificate/Award

PART (4): Professional Experience:

PARTICULARS OF EXPERIENCE	Date		Employer
	From To		

DECLARATION I declare that the information given above is correct. Signed Date..... 4. Plant and Equipment Type/Make Date Registration Name of of Owned/Leased **Present Equipment** /Model manufacture No./Serial No. condition other identification mark Signature and Official stamp

Date.....

Attach copies of Registration License and/or any other documents as proof of ownership. If leased, indicate source and submit certified lease agreement.

5. Office and Service Facilities

Establishment	Size	No. of	Staff		Installed facilities		
	(SM) Rooms	position	No.	Type	Model	No.	
A. OFFICE							
							+
B. SERVICE WORKSHOP							
WORKSHOI							
C. YARD							
C. TARD							
D. TESTING							
EQUIPMENT							

6. Safety Gear

MODE	SPECIFICS	EXPECTED DURATION
Insurance Covers		
Equipment & other facilities		

7. Experience of the firm Projects done of similar nature

Project Title	Location	Client	Contract Sum	Month & year started	Month & year completed	Remarks/explanations

.....

Signature and official stamp

Date

*If different from original, state if through claims or instructions by the client/consultant.

*Copies of Letters of contract awards must be attached for the five projects

Litigation History in Last three years

YEAR	OTHER PARTY	CAUSE OF DISPUTE	AMOUNT INVOLVED	VERDICT

	8. Financial Status of the firm								
	PART (1)								
	State Capital and other Financial Resources in possession of/ or available the firm (specify and attach certified Balance Sheet)								
	i. Cash in ba	ank							
	ii. Stocks and other Securities held and redeemable in Kenya at market prices								
	iii. Annual tu	rnover for the last th	ree years						
		Fiscal year	Turnover (Kshs.)	Remarks					
1									
2									
3									
			· · · · · · · · · · · · · · · · · · ·						
	PART (2)								
	ŕ	Telephone, Fax, Em	ail numbers of bank (s) th	at may be contacted					
	for clarification								
	•••••		•••••						
	•••••	••••••••	••••••	••••••					

PART (3)

Company's Fixed (Immovable) assets (certified copies of documents proving ownership i.e. Letters of offers or title deeds should be attached) NB. Plant & equipment are not fixed Assets.

	Name of asset	Value (Kshs.)	Document Attached
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

SECTION (III)

ANTI-CORRUPTION PLEDGE

	(10 be signed by all applicants for Request for	Tecnnicai Proposai Form)
M/S		(Name of Applicant)
share	nizes that corruption has a devastating impact on the growing global consensus that action is not ability.	
suppor Comm	rt the efforts of the Government and to participate, nittee with other members of the business commag a coalition against corruption.	along with the Contractor Evaluation
	by the Government to strengthen transparency an	
(a).	Not offer or give any bribes or any other form of connection with a pending bid or at any stage of a	· ·
(b).	Not permit anyone (whether our employee or an so on our behalf.	independent commission agent) to do
(c).	Make full disclosure in our bids (or application relating to the bids (or applications) to any poincluding bonus payments which may be made that made under terms of commercial confidential requires.	erson other than our employees but to employees (such disclosures being
(d).	Formally undertake to issue instructions to a representatives in Kenya directing them at all time and in particular not to offer or to pay bribe officials, whether directly or indirectly.	nes to comply with the laws of Kenya
	(to be signed by Managing Director of the firm)	Date