



**THE UNITED REPUBLIC OF TANZANIA  
MINISTRY OF FINANCE  
BANK OF TANZANIA**



**REQUEST FOR TENDER**

**TENDER NO.: TR152/2024/2025/W/06**

**FOR**

**Proposed Construction of Bank of Tanzania Branch Office at Kigoma Region**

**09/05/2025**

## **LIST OF ABBREVIATIONS**

AGC	Attorney General Chamber
AQRB	Architects and Quantity Surveyors Registration Board
BAFO	Best and Final Offer
Cap	Chapter
ERB	Engineers Registration Board
ES	Environmental and Social
FY	Financial Year
GCC	General Conditions of Contract
ICT	International Competitive Tendering
IFT	Invitation for Tenders
ITT	Instruction to Tenderers
JV	Joint Venture
JVCA	Joint Venture, Consortium, or Association
NCC	National Construction Council
NCT	National Competitive Tendering
NeST	National e-Procurement System of Tanzania
PE	Procuring Entity
PPAA	Public Procurement Appeals Authority
PPRA	Public Procurement Regulatory Authority

## **PART 1 – TENDERING PROCEDURES**

## **SECTION I: INVITATION FOR TENDERS**



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**FOR**

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1. This Invitation for Tenders follows the General Procurement Notice for this Project which appeared in the National e-Procurement System of Tanzania (NeST) dated 30/06/2024.
2. The Government of Tanzania has set aside funds for the operation of the BANK OF TANZANIA during the financial year 2024/2025. It is intended that part of the proceeds of the fund will be used to cover eligible payment under the contract for the Proposed Construction of Bank of Tanzania Branch Office at Kigoma Region.
3. The BANK OF TANZANIA now invites tenders from contractors registered or capable of being registered in ONE for Proposed Construction of Bank of Tanzania Branch Office at Kigoma Region.
4. Tendering will be conducted through the International Competitive Tendering specified in the Public Procurement Act, Cap 410.
5. A complete set of tendering document(s) in English may be accessed through NeST.
6. Tenderers are required to register through NeST and pay the tender participation fees indicated in the NeST to be able to participate in this Tendering process.
7. All tenders must be accompanied by a Tender Security in form of Tender Security - Bank Guarantee in the currency of The Tanzanian Shilling or freely convertible currencies in case of foreign Tenderers worth 1,250,000,000.00.
8. All tenders must be properly filled in and submitted through NeST at or before 2:00 PM hours local time on 30/06/2025. Tenders will be opened promptly thereafter through NeST. Tender opening details will be available to the public through NeST.
9. Tenders not received through NeST shall not be evaluated irrespective of the circumstances.

**DEPUTY GOVERNOR, BANK OF TANZANIA**  
P. O. BOX 2939 DAR ES SALAAM

## **SECTION II: INSTRUCTIONS TO TENDERERS (ITT)**

## A: INTRODUCTION

<b>1. Scope of Tender and Tendering Method</b>	1.1	The Procuring Entity (PE) indicated in the Tender Data Sheet ( <b>TDS</b> ) invites Tenders for the construction of works, as described in the <b>TDS</b> . The name and identification number of the Contract is provided in the Special Conditions of Contract (SCC).
	1.2	Tendering will be conducted through the method of procurement indicated in <b>TDS</b> and is open to all Tenderers who meet the eligibility criteria stated in ITT 3 [Eligible Tenderers]. The successful Tenderer will be expected to complete the Works within the period stated in the <b>TDS</b> .
	1.3	Unless otherwise stated, throughout this tendering document definitions and interpretations shall be as prescribed in General Conditions of Contract.
<b>2. Source of Funds</b>	2.1	The Government of the United Republic of Tanzania has set aside sufficient funds for the operations of the PE named in the TDS during the Financial Year indicated in the TDS. It is intended that part of the proceeds of the funds will be applied to cover eligible payments under the contract for the works as described in the TDS. Or, The Government of the United Republic of Tanzania through the PE named in the TDS has applied for/received/ intends to apply for a [loan/ credit/grant] from the financing institution named in the TDS towards the cost of the Project named in the TDS. The United Republic of Tanzania intends to apply part of the proceeds of this loan/credit to payments under the Contract described in the TDS.
	2.2	Payments will be made directly by the PE (or by the financing institution specified in the <b>TDS</b> upon request of the PE to so pay) and will be subject in all respects to the terms and conditions of the resulting contract placed by the PE.
<b>3. Eligibility of Tenderers</b>	3.1	<p>A Tenderer may be a Natural Person, Private Entity, Government-owned Entity, subject to <b>ITT</b> 3.4 or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a Joint Venture, Consortium, or Association (herein referred as a <b>JVCA</b>).</p> <p>In the case of a <b>JVCA</b>, unless otherwise specified in the <b>TDS</b>, all parties shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The <b>JVCA</b> shall nominate a Lead Member as specified in <b>TDS</b>, who shall have the authority to conduct all business for and on behalf of any and all the members of the <b>JVCA</b> during the <b>Tendering</b> process and, in the event the <b>JVCA</b> is awarded the Contract, during contract execution. Unless specified in the <b>TDS</b>, there is no limit on the number of members in a <b>JVCA</b>.</p>
	3.2	The appointment of a Lead Member in the <b>JVCA</b> shall be

		confirmed by submission of a valid Power of Attorney to the PE.
	3.3	Any agreement that form a <b>JVCA</b> shall be required to be submitted as part of <b>the Tender</b> and shall be attested.
	3.4	Any Tender from a <b>JVCA</b> shall indicate the part of proposed contract to be performed by each party and each party shall be evaluated or post qualified with respect to its contribution only and the responsibilities of each party and shall not be substantially altered without prior written approval of the PE.
	3.5	The invitation for Tenders is open to all Tenderers as specified in the <b>TDS</b>
	3.6	National Tenderers shall satisfy all relevant licensing and/or registration requirements with the appropriate statutory bodies in Tanzania. Foreign Tenderers are exempted from this requirement but where selected as having submitted the lowest evaluated tender the successful tenderer shall register with the appropriate statutory body and shall be required to submit evidence of registration as an approved contractor in Tanzania before signing the contract.
	3.7	<p>A Tender shall not have a conflict of interest. All Tenderers found to have a conflict of interest shall be disqualified. A Tenderer may be considered to have a conflict of interest with one or more parties in this tendering process, if they:</p> <ul style="list-style-type: none"> <li>a) Are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the PE to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the works to be purchased under this Invitation for Tenders.</li> <li>b) have controlling shareholders in common; or</li> <li>c) receive or have received any direct or indirect subsidy from any of them; or</li> <li>d) have the same legal representative for purposes of this Tenders; or</li> <li>e) have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Tender of another Tenderer, or influence the decisions of the PE regarding this tendering process; or</li> <li>f) submit more than one Tender in this tendering process, However, this does not limit the participation of subcontractors in more than one Tender, or as Tenderers and subcontractors simultaneously; or</li> <li>g) Participated as a consultant in the preparation of the design or technical specifications of the goods and related services that are the subject of the Tender.</li> </ul>



	3.8	<p>A Tenderer may be ineligible if –</p> <ul style="list-style-type: none"> <li>(a) the Tenderer is declared bankrupt or, in the case of company or firm, insolvent;</li> <li>(b) payments in favour of the person, company or firm is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting, in accordance with the national laws, in the total or partial loss of the right to administer and dispose of its property</li> <li>(c) legal proceedings are instituted against such person, company or firm involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property</li> <li>(c) the Tenderer is convicted, by a final judgment, of any offence involving professional conduct;</li> <li>(d) the Tenderer is debarred and blacklisted in accordance with Public Procurement Act, Cap 410 or ineligible from participating in public procurement for corrupt, coercive, fraudulent or obstructive practices, company or firm is found guilty of serious misrepresentation with regard to information required for participation in an invitation to tender or to submit Tenders, failure to abide with a Tender Securing Declaration, breach of a procurement contract, making false representation about his qualifications during tender proceeding or other grounds as may be deemed necessary by the Authority.</li> <li>(d) the Tenderer is from ineligible country as specified under Section VI [ineligible country] of this tendering document.</li> </ul>
	3.9	<p>Public or Semi-public owned enterprises in the United Republic of Tanzania may participate only if they can establish that they (i) are legally and financially autonomous; and (ii) operate under commercial law. No dependent agency of the Public authority under public financed project shall be permitted to Tender or submit a proposal for the procurement of goods or works under the project.</p>
	3.10	<p>Tenderers shall provide to the PE evidence of their eligibility, proof of compliance with the necessary legal, technical and financial requirements and their capability and, adequacy of resources to carry out the contract effectively.</p>
	3.11	<p>Tenderers shall submit proposals relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract amounting to more than ten percent (10%) of the Tender price is envisaged.</p>

<b>4. One Tender per Tenderer</b>	4.1	A Tenderer shall submit only one tender, in the same tendering process, either individually or as a partner in a joint venture.
	4.2	No Tenderer can be a subcontractor while submitting a Tender individually or as a partner of a joint venture in the same tendering process.
	4.3	A Tenderer, if acting in the capacity of subcontractor in any Tender, may participate in more than one Tender but only in that capacity.
	4.4	A Tenderer who submits or participates in more than one Tender (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the tenders in which the Tenderer has participated to be disqualified.
<b>5. Cost of Tendering</b>	5.1	The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the PE shall in no case be responsible or liable for those costs, except where the PE is ordered by the Public Procurement Appeals Authority (PPAA) to compensate the Tenderer following a successful Tenderer's appeal of the procurement proceedings.
<b>6. Site Visit and Pre-Tender Meeting</b>	6.1	The Tenderer, at the Tenderer's own responsibility and risk, is advised to visit and examine the Site of Works and its surroundings and obtain for itself all information that may be necessary for preparing the Tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Tenderer's own expense.
	6.2	The Tenderer and any of its personnel or agents will be granted permission by the PE to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Tenderer, its personnel, and agents will release and indemnify the PE and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection
	6.3	The PE may conduct a site visit and a pre-Tender meeting, whose purpose shall be to provide specific project information, to explain any unusual aspects of the project and to address any questions on any matter that may be raised at that stage.
	6.4	The Tenderer's designated representative is invited to attend a site visit and pre-Tender meeting which, if convened, will take place at the venue and time stipulated in the <b>TDS</b> . Non-attendance at the site visit and pre-tender meeting will not be a cause for disqualification of a tenderer.
	6.5	The Tenderer is requested to submit any questions through NeST, to reach the PE before pre-Tender meeting. It may not be practicable at the meeting to answer all questions, but

		questions and responses will be transmitted in accordance with <b>ITT 6.6</b> .
	6.6	Minutes of the pre-tender meeting, if applicable, including the questions raised by the Tenderers, without identifying the source and the responses given together with any responses prepared after the pre-tender meeting, will be transmitted within three (3) working days to all participating tenderers through NeST. Any modification of the Tendering Documents listed in <b>ITT 7.1</b> [Content of Tendering Documents] that may become necessary as a result of the pre-tender meeting shall be made by the PE exclusively through the issue of an Addendum pursuant to <b>ITT 9.2</b> [Amendment of the Tendering Documents] and not through the minutes of the pre-tender meeting.

## B. TENDERING DOCUMENTS

7. Content of Tendering Documents	7.1	<p>The works required, tendering procedures, and contract terms are prescribed in the Tendering Documents. In addition to Section I [Invitation for Tenders], Tendering Documents which should be read in conjunction with any addenda issued in accordance with ITT 9.2 [Amendments of the Tendering Documents] include:</p> <p><b>PART1: TENDERING PROCEDURES</b></p> <p>Section II Instructions to Tenderers(ITT)  Section III Tender Data Sheet(TDS)  Section IV Qualification and Evaluation Criteria  Section V Tendering Forms  Section VI Eligible Countries</p> <p><b>PART 2: PROCURING ENTITIY’S REQUIREMENTS</b></p> <p>Section VII Works Requirements</p> <p><b>PART 3: CONDITIONS OF CONTRACT AND CONTRACT FORMS</b></p> <p>Section VIII General Conditions of Contract(GCC)  Section IX Special Conditions of Contract (SCC)  Section X Contract Forms</p>
	7.2	<p>The Invitation for Tenders (Section I) issued by the PE is not part of the Tendering Documents and is included as reference only. In case of discrepancies between the Invitation for Tender and the Tendering Documents listed in <b>ITT</b> 7.1, said Tendering Documents will take precedence.</p>
	7.3	<p>The Tenderer is expected to examine all instructions, forms, terms and specifications in the Tendering Documents. Failure to furnish all information required by the Tendering Documents or to submit a Tender substantially responsive to the Tendering Documents in every respect will be at the Tenderer’s risk and may result in the rejection of its Tender.</p>
8. Clarification of Tendering Documents	8.1	<p>A prospective Tenderer requiring any clarification of the Tendering Documents may notify the PE through NeST at least seven (7) days for open competitive methods and three (3) days in the case of other tendering methods prior to tender submission deadline.</p>
	8.2	<p>The PE will within one (1) to three (3) days after receiving the request for clarification for non-competitive tendering methods and open competitive methods respectively respond and publish through NeST.</p>
	8.3	<p>PE's response will be posted through NeST to all participating tenderers, including a description of the inquiry, but without identifying its source.</p>
	8.4	<p>Should the PE deem it necessary to amend the Tendering Documents as a result of a clarification, it shall do so following the procedure under <b>ITT</b> 9 [Amendments of the Tendering Documents].</p>
9. Amendment of Tendering Documents	9.1	<p>Before the deadline for submission of tenders, The PE for any reason, whether at its own initiative or in response to a clarification requested by a prospective Tenderer, the PE may modify the Tendering Documents by issuing addenda.</p>
	9.2	<p>Any addendum issued including the notice of any extension of the deadline shall be part of the Tender Documents pursuant to <b>ITT</b> 7.1 [Content of Tendering Documents] and shall be communicated through NeST to participating tenderers.</p>
	9.3	<p>In order to allow prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the PE at its</p>

		discretion shall extend, as necessary, the deadline for submission of tenders, in accordance with <b>ITT22.2</b> [Deadline for Submission of Tenders]
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## C. PREPARATION OF TENDERS

10. Language of Tender	10.1	The tender, and all correspondence and documents related to the Tender exchanged by the Tenderer and the PE, shall be written in language specified in <b>TDS</b> . Supporting documents and printed literature furnished by the Tenderer may be in another language provided they are accompanied by an accurate translation of the relevant passages in the above stated language, in which case, for purposes of interpretation of <b>the Tender</b> , the translation shall prevail.
11. Documents Constituting the Tender	11.1	<p>The Tender prepared and submitted by the Tenderer shall constitute the following components:</p> <ul style="list-style-type: none"> <li>a) The Form of Tender and Tender Price completed in accordance with <b>ITT14</b> [Forms of Tender], <b>ITT15</b> [Tender Prices and Discounts], and <b>ITT16</b> [Tender Currencies];</li> <li>b) Tendering Forms;</li> <li>c) Tender security or Tender securing declaration in accordance with Instructions to Tenderers <b>ITT18</b> [Tender Security];</li> <li>d) Priced Bill of Quantities;</li> <li>e) Alternative offers where invited in accordance with Instructions to Tenderers <b>ITT19</b>[Alternative Tenders by Tenderers];</li> <li>f) Dully Notarized Power of Attorney authorizing signatory of the Tender to commit the Tenderer in accordance with <b>ITT20</b></li> <li>g) A Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section V [Tendering Forms] in sufficient detail to demonstrate the adequacy of the Tenderer proposal to meet the work requirements and the completion time, and</li> <li>h) Any information, other than the documents under <b>ITT 11.1(a) – (g)</b> above required to be completed and submitted by Tenderers as specified in <b>TDS</b> document.</li> </ul> <p><i>The list of additional documents may include the following:</i></p> <p><b>Code of Conduct for Contractor’s Personnel (ES)</b></p> <p>The Tenderer shall submit its Code of Conduct that will apply to Contractor’s Personnel (as defined in Sub- Clause 1 (ii) of the General Conditions of Contract), to ensure compliance with the Contractor’s Environmental and Social (ES) obligations under the Contract (if required). The Tenderer shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks.</p> <p><b>Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks</b></p> <p>The Tenderer shall submit Management Strategies and Implementation Plans (MSIPs) to manage the following key Environmental and Social (ES) risks:</p> <p><i>[Note: insert name of any specific plan and risk/s informed by the relevant environmental and social assessment]:</i></p> <p><i>[e.g. Sexual Exploitation, and Abuse (SEA) prevention and response action plan] [e.g. Traffic Management Plan to ensure safety of local communities from construction traffic];</i></p>
12. Documents Establishing Eligibility and Qualifications of the Tenderer	12.1	Pursuant to ITT 11 [Documents Constituting the Tender], the Tenderer shall upload, as part of its Tender, documents establishing the Tenderer’s eligibility to Tender and its qualifications to perform the contract if its Tender is accepted in accordance with Section IV – Qualification and Evaluation Criteria.
	12.2	In the event that pre-qualification of potential Tenderers has been undertaken, only Tenders from pre-qualified Tenderers will be considered for award of Contract. These qualified Tenderers should upload with their Tenders any information updating their original pre-qualification applications or, alternatively, confirm in their Tenders that the originally uploaded pre-qualification information remains essentially correct as of the

		date of Tender submission. The update or confirmation should be provided in Section V –Tendering Forms.
	12.3	If the PE has not undertaken pre-qualification of potential Tenderers, to qualify for award of the contract, Tenderers shall meet the minimum qualifying criteria specified in the <b>Section IV</b> [Qualification and Evaluation Criteria]
	12.4	To qualify for award of the Contract, Tenderers shall meet the minimum qualifying criteria stated in Section IV – Qualification and Evaluation Criteria.
	12.5	<p>a) Tenders submitted by a <b>JVCA</b> shall comply with the following requirements: the Tender shall include all the information listed pursuant to <b>ITT 12.3</b> above for each joint venture partner;</p> <p>b) the Tender shall be signed so as to be legally binding on all partners;</p> <p>c) one of the partners will be nominated as being in charge, and this authorization shall be evidenced by uploading a Power of Attorney signed by legally authorized signatories of all the partners;</p> <p>d) the partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of a joint venture and the entire execution of the Contract, including payment, shall be done exclusively with the partner in charge;</p> <p>e) all partners of the joint venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms and a statement to this effect shall be included in the authorization mentioned under (c) above as well as in the Tender and in the Agreement (in case of a successful Tender); and</p> <p>f) a copy of the joint venture agreement entered into by all partners shall be uploaded with the Tender. Alternatively, a Letter of Intent to execute a joint venture agreement shall be signed by all partners and uploaded with the Tender, together with a copy of the proposed Agreement; and</p> <p>g) the Tender Security as stated in accordance with <b>ITT 18</b> [Tender Security], and in case of a successful Tender, the Agreement, shall be signed so as to be legally binding on all partners.</p> <p>h) Any exception to documents listed in (a) – (g) above unless stated in <b>TDS</b>.</p>
	12. 6	Domestic Tenderers and joint ventures of domestic and foreign Tenderers applying for eligibility for a margin of preference in tender evaluation shall supply all information to satisfy the criteria for eligibility as described in <b>ITT 32</b> [National Preferences].
<b>13. Slices or Lots and Package</b>	13.1	When tendering for more than one contract under the slice and package arrangements, the Tenderer must provide evidence that it meets or exceeds the sum of all the individual requirements for the slices or lots being tendered as provided in Section IV -Qualification and Evaluation Criteria.
	13.2	In case the Tenderer fails to fully meet any of these criteria, it may be qualified only for those slices for which the Tenderer meets the above requirement.
<b>14. Form of Tender</b>	14.1	The Tenderer shall fill the Form of Tender using the provided format and no substitute shall be accepted.
<b>15. Tender Prices and Discounts</b>	15.1	The tender price shall be for the whole Works, as described in <b>ITT 1.1</b> [Scope of Tender], based on the priced Bill of Quantities submitted by the Tenderer.
	15.2	The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities.
	15.3	All duties, taxes, and other levies payable by the Contractor under the Contract as provided under this clause, or for any other cause, as of the date 28 days prior to the deadline for submission of Tenders, shall be included in the rates, prices, and total Tender price submitted by the Tenderer. The following taxes shall be payable by contractor under this contract. the list of all duties, taxes, and other levies payable by the Contractor will be indicated in <b>TDS</b> .
	15.4	The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with <b>ITT 14</b> [Form of Tender]

	15.5	The rates and price quoted by the Tenderer shall be fixed unless stated in <b>TDS</b> and the Tenderer shall upload with the Tender all the information required in the Appendix to Tender-Schedule of Cost Indexation. The Tenderer shall be required to justify its proposed weighting. If the Price is Adjustable the PE should Ensure that they Provide the Information required in the Appendix to Tender-Schedule of Cost Indexation.
	15.6	In the case of National, International and Restricted Competitive Tendering on Fixed Budget Method, the Tender Price quoted by the Tenderer shall not exceed the budget fixed by PE as shown in <b>TDS</b> . Any Tenderer, whose Tender Price exceeds the provided budget, shall be rejected.
<b>16. Tender Currencies and Payment</b>	16.1	The unit rates and prices shall be quoted by the Tenderer in Tanzania Shillings or in foreign currencies. With respect to this tender, the applicable currency(ies) shall be as specified in <b>TDS</b>
	16.2	The rates of exchange to be used by the Tenderer in arriving at the local currency shall be the selling rates for similar transactions established by the Bank of Tanzania (BoT) prevailing on the date 28 days prior to the latest deadline for submission of Tenders.
	16.3	If the Tenderer uses other rates of exchange, the provisions of <b>ITT 30.1</b> [Conversion to Single Currency] shall apply. In any case, payments will be computed using the rates quoted in the Tender.
	16.4	Tenderers may be required by the PE to clarify their foreign currency requirements and to substantiate that the amounts included in Lump Sum and in the <b>SCC</b> are reasonable and responsive to <b>ITT 16.1</b> [Tender Currencies].
<b>17. Tender Validity Period</b>	17.1	Tenders shall remain valid for the period specified in <b>TDS</b> after the deadline for tender submission Specified in <b>ITT 22</b> [Deadline for Submission of Tenders]. A tender valid for a shorter period shall be rejected by the PE as non-responsive.
	17.2	In exceptional circumstances, prior to expiry of the original Tender validity period, the PE may request that the Tenderers to extend the period of validity for a specified additional period. The request and the Tenderers' responses shall be made through NeST. A Tenderer may refuse the request without forfeiting its Tender security or causing to be executed its Tender securing declaration.
	17.3	A Tenderer agreeing to the request for extension of Tender Validity Period will not be required or permitted to otherwise modify the Tender but will be required to extend the validity of its Tender Security or Tender Securing Declaration for the period of the extension, and in compliance with <b>ITT 18</b> [Tender Security] in all respects.
	17.4	In the case of fixed price contracts, if the award is delayed by a period exceeding sixty (60) days beyond the expiry of the initial Tender validity period, the contract price may be adjusted by a factor specified in the request for extension.
<b>18. Tender Security</b>	18.1	The required type of security for Tender is specified in <b>TDS</b> Pursuant to <b>ITT 11</b> [Documents Constituting the Tender], the Tenderer shall furnish as part of its Tender, a scanned Tender Security through NeST in a Form and in the amount and currency specified in <b>TDS</b> in the format provided in Section V-Tendering Forms.
	18.2	The Tender Security is required to protect the PE against the risk of Tenderer's conduct which would warrant the security's forfeiture, pursuant to <b>ITT 18.9</b> .
	18.3	The Tender security shall be denominated in the currency of the Tender or in another freely convertible currency, and it shall be in the form specified in <b>TDS</b> which shall be in any of the following: a) Unconditional bank guarantee, an irrevocable letter of credit issued by a reputable bank, or an insurance bond issued by a reputable insurance firm located in the United Republic of Tanzania or abroad valid for twenty-eight (28) days beyond the end of the validity of the Tender. This shall also apply if the period for Tender validity is extended. In either case, the form must include the complete name of the Tenderer; or b) An irrevocable letter of credit;



		c) A Cashier's or certified cheque;
	18.4	The Tender Security shall be payable promptly upon written demand by the PE in case any of the conditions listed in <b>ITT 18.9</b> are invoked.
	18.5	Any Tender not accompanied by a Tender Security in accordance with <b>ITTs 18.1 or 18.3</b> [Tender Security] shall be rejected by the PE as non-responsive, pursuant to <b>ITT 28</b> [Preliminary Examination of Tenders].
	18.6	Unsuccessful Tenderers' Tender Security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of Tender validity prescribed by the PE pursuant to <b>ITT 41</b> [Signing of Contract]. The PE shall make no claim to the amount of the Tender security, and shall promptly return the Tender security document, after whichever of the following that occurs earliest: (a) the expiry of the Tender security; (b) the entry into force of a procurement contract and the provision of a security for the performance of the contract if such a security is required by the solicitation documents; (c) the rejection by the PE of all tenders; (d) the withdrawal of the Tender prior to the deadline for the submission of tenders, unless the solicitation documents stipulate that no such withdrawal is permitted.
	18.7	The successful Tenderer's Tender Security will be discharged upon the Tenderer signing the contract, pursuant to <b>ITT 40</b> [Notification of Award], and furnishing the performance security, pursuant to <b>ITT 41</b> .
	18.8	The Tender Security of a <b>JVCA</b> shall be in the name of the <b>JVCA</b> that submits the Tender. If the <b>JVCA</b> has not been constituted into a legally enforceable <b>JVCA</b> , at the time of Tendering, the Tender Security shall be in the names of all future partners.
	18.9	The Tender Security may be forfeited: a) if a Tenderer; i) withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender except as provided for in <b>ITT17.2</b> [Tender Validity Period]; or b) in the case of a successful Tenderer, if the Tenderer fails to: i) furnish performance security, and if required, the Environmental and Social (ES) Performance Security in accordance with <b>ITT41</b> [Performance Security]. The requirement for Environmental and Social (ES) Performance Security is indicated in <b>TDS</b> ii) sign the contract in accordance with <b>ITT42</b> [Signing of Contract];
<b>19. Alternative Tenders by Tenderers</b>	19.1	Tenderers shall submit offers that comply with the requirements of the Tendering Documents, including the basic Tenderer's technical design as indicated in the employer's requirements. Alternatives if allowed will be indicated in <b>TDS</b> , and <b>ITT 19.2 and 19.3</b> shall govern.
	19.2	When alternative times for completion are explicitly invited, a statement to that effect as the method of evaluating different schedules for completion.
	19.3	Technical alternatives are not allowed. If so allowed <i>as indicated in TDS</i> , Tenderers wishing to offer technical alternatives to the requirements of the Tendering documents must also submit a Tender that complies with the requirements of the Tendering documents, including the basic technical design as indicated in the drawings and specifications. In addition to submitting the basic Tender, the Tenderer shall provide all information necessary for a complete evaluation of the alternative by the PE, including design calculations, technical specifications, breakdown of prices, proposed construction methods and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Tenderer conforming to the basic technical requirements shall be considered by the PE.
	19.4	When alternative technical solutions are allowed under <b>ITT 19.3</b> , Tenderers are permitted to submit alternative technical solutions for specified parts of the Works, and such parts will be identified in this clause, with method for their evaluating, as described in Section VI, Works Requirements. If so allowed, the technical solutions parts of the works will be specified in <b>TDS</b> .
<b>20. Format and Signing of Tender</b>	20.1	The Tenderer shall prepare documents constituting the Tender as described in <b>ITT 11</b> [Documents Constituting the Tender].

	20.2	The Tender shall be signed by a person or persons duly authorized to sign on behalf of the Tenderer and the authorization documents shall be submitted together with <b>the Tender</b> indicating position of each signatories in accordance to the requirements of the NeST. The authorization document(s) shall be a duly notarized Power of Attorney in the format provided in Section V: Tendering Forms. <i>Other acceptable</i> authorization is listed in <b>TDS</b>
	20.3	The Tenderer shall furnish information as described in the Form of Tender on commissions or gratuities, if any, paid or to be paid to agents relating to this Tender and to Contract execution if the Tenderer is awarded the Contract.

## D. SUBMISSION OF TENDERS

<b>21. Submission of Tenders</b>	21.1	All Tenders shall be submitted through NeST. Tenders submitted through NeST shall be considered to be true and legal version, duly authorized and duly executed by the Tenderer and intended to have binding legal effect. The tenderer shall properly name his soft copies of documents before submission through NeST.
	21.2	The Tender shall bear e-signature or digital signatures for identity and authentication purposes and the identity of the Tenderer may be verified with a follow-up due diligence process.
	21.3	Tenders submitted through NeST shall be received in full prior to the closing time, and the Tenderers shall receive an acknowledgement of receipt of tender or amendment through the system.
	21.4	Tenderers must ensure the integrity, completeness and authenticity of their submission; and in case of electronic records entered online and files containing the Tender being unreadable for any reason, the Tender submitted shall not be considered.
<b>22. Deadline for Submission of Tenders</b>	22.1	Tenders shall be received by the PE through NeST not later than the date and time specified in the NeST
	22.2	The PE may, in exceptional circumstances and at its discretion, extend the deadline for the submission of Tenders by amending the Tendering Documents in accordance with ITT9 [Amendment of Tendering Documents], in which case all rights and obligations of the PE and Tenderers previously subject to the deadline will thereafter be subject to the new deadline.
	22.3	The extension of the deadline for submission of Tenders shall be made not later than number of days indicated in <b>TDS</b> before the expiry of the original deadline
<b>23. Late tenders</b>	23.1	NeST does not allow a Tenderer to submit its tender after the deadline for submission of tenders in accordance with ITT22 [Deadline for Submission of Tenders]
<b>24. Modification, Substitution and Withdrawal of Tenders</b>	24.1	A Tenderer may modify or substitute or withdraw its Tender after it has been submitted to the PE. Such modification or substitution or withdrawal should be made prior to the deadline for submission of Tenders. Tenderers shall receive an acknowledgement of receipt of any amendment of its submitted tender through the system.
	24.2	Tenderers may only offer discounts to or otherwise modify the prices of their Tenders by substituting Tender modifications in accordance with this Clause or included in the original Tender submission.
	24.3	No Tender may be withdrawn, replaced or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Form of Tender. Withdrawal of a Tender during this interval shall result in the Tenderer's forfeiture of its Tender security pursuant to the ITT 18.9 [Tender Security].

## E. OPENING AND EVALUATION OF TENDERS

<b>25. Opening of Tenders</b>	25.1	The opening shall be done automatically by the system after the deadline date and time. Read out prices shall be displayed automatically in the NeST portal. Automated opening report shall be sent to all involved parties including the PE and Tenderers.
	25.2	A Tenderer or any other person with interest in the tender process can access tender opening records on the appropriate section of NeST.
<b>26. Confidentiality</b>	26.1	Information relating to the examination, clarification, evaluation, and comparison of Tenders and recommendations for the award of a Contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been announced.
	26.2	Any effort by a Tenderer to influence the PE's processing of Tenders or award decisions may result in the rejection of his Tender.
<b>27. Clarification of Tenders</b>	27.1	In order to assist in the examination, evaluation, and comparison of Tenders and post-qualifications of Tenderers, the PE may, at its discretion, ask any Tenderer for clarification of its Tender including breakdown of prices. Any clarification submitted by a Tenderer that is not in response to a request by the PE shall not be considered.
	27.2	The request for clarification shall be communicated through NeST and the Tenderers shall respond through NeST. No change in the prices or substance of the Tender shall be sought, offered, or permitted except to confirm the correction of arithmetic errors discovered by the PE in the evaluation of Tenders in accordance with <b>ITT29</b> [Correction of Errors].
	27.3	From the time of Tender opening to the time of Contract award if any Tenderer wishes to contact the PE on any matter related to the Tender it should do so through NeST
<b>28. Preliminary Evaluation of Tenders</b>	28.1	Prior to the detailed evaluation of tenders, the PE will determine whether each Tender; (a) meets the eligibility criteria defined in <b>ITT3</b> [Eligible Tenderer]; (b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the Tendering Documents. The PE's determination of a Tender's responsiveness will be based on the contents of the Tender itself.
	28.2	A substantially responsive Tender is one which conforms to all the terms, conditions, and specifications of the Tendering Documents, without material deviation, omission or reservation. A material deviation or reservation is one that: - a) affects in any substantial way the scope, quality, or performance of the Works; b) limits in any substantial way, inconsistent with the Tendering Documents, the PE's rights or the Tenderer's obligations under the Contract; or c) if rectified, would affect unfairly the competitive position of other Tenderers presenting substantially responsive Tenders. For the purpose of this section, the following definitions apply: "Deviation" is a departure from the requirements specified in the Tendering Document; "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tendering Document; and "Omission" is the failure to submit part or all of the information or documentation required in the Tendering Document.
	28.3	The PE will confirm that the documents and information specified under <b>ITT11</b> [Documents Constituting the Tender], <b>ITT12</b> [Documents Establishing Eligibility and Qualification of the Tenderer], <b>ITT13</b> [Slices and Package] and <b>ITT14</b> [Form of Tender] have been provided in the Tender. If any of these documents or information is missing or is not provided in accordance with the Instructions to Tenderers, the Tender shall be rejected.

	28.4	The PE may waive any minor informality, nonconformity, or irregularity in a Tender which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Tenderer.
	28.5	Provided that a Tender is substantially responsive, the PE may request that the Tenderer submit the necessary information or documentation, within a reasonable period of time, to rectify non-material non-conformities in the Tender related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the price of the Tender. Failure of the Tenderer to comply with the request may result in the rejection of its Tender.
	28.6	Provided that a Tender is substantially responsive, the PE shall rectify quantifiable non-material non-conformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the method specified in Section IV, Qualification and Evaluation Criteria.
	28.7	Material deviations to commercial terms and conditions, which justify rejection of a tender shall include the following: a) failure to sign the Form of Tender and price schedules by the authorized person or persons; b) failure to satisfy eligibility requirements; c) failure to submit a tender security as specified in the Tendering documents; d) failure to satisfy the Tender validity period; e) inability to meet the critical delivery schedule or work schedule clearly specified in the Tendering documents, where such schedule is a crucial condition with which tenderers must comply; f) conditional tenders such as conditions in a tender which limit the Tenderer's responsibility to accept an award; g) inability to accept the price adjustment formulae of the Tendering documents; h) stipulating price adjustment when fixed price tenders were invited; i) subcontracting in a substantially different amount or manner than that permitted; j) failure to submit major supporting documents required by the Tendering documents to determine substantial responsiveness of a tender
	28.8	All tenders shall be checked for substantial responsiveness to the technical requirements of the Tendering documents and non-conformity to technical requirements, which are justifiable grounds for rejection of a tender includes the following: a) failure to tender for the required scope of work as instructed in the Tendering documents and where failure to do so has been indicated as unacceptable; b) failure to meet major technical requirements, such as offering completely different types of equipment or materials from the types specified, plant capacity well below the minimum specified, equipment not able to perform the basic functions for which it is intended. c) Presentation of absolutely unrealistic and inadequate implementation plans and schedules regarding performance, technical or service factor If a Tender is not substantially responsive to the requirements of the Tendering Documents, it shall be rejected by the PE and may not subsequently be made responsive by correction of the non-conformity
<b>29. Conversion to Single Currency</b>	29.1	To facilitate evaluation and comparison, the PE will convert all Tender prices expressed in the amounts in various currencies in which the Tender prices are payable in Tanzania Shillings at the selling exchange rate established for similar transactions by the Bank of Tanzania on the tender publication date.
	29.2	The currency selected for converting Tender prices to a common base for the purpose of evaluation and comparison, along with the source and date of the exchange rate, are specified in the <b>TDS</b> .
<b>30. Detailed Evaluation and Comparison of Tenders</b>	30.1	The PE shall evaluate and compare only the Tenders determined to be substantially responsive in accordance with <b>ITT28</b> [Preliminary Examination of Tenders].

	30.2	<p>In evaluating the Tenders, the PE will determine for each Tender the evaluated Tender Price by adjusting the Tender Price as follows: -</p> <ul style="list-style-type: none"> <li>a) excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Day work, where priced competitively;</li> <li>b) making appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with <b>ITT19</b> [Alternative Tenders by Tenderers]; making an allowance for varying times of completion offered by Tenderers, Tender price may be adjusted by making an allowance for varying times of completion unless otherwise specified in <b>TDS</b></li> <li>c) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with <b>ITT24.4</b> [Modification and Withdrawal of Tenders]; and</li> <li>d) applying any discounts offered by the Tenderer for the award of more than one Contract, if tendering for this Contract is being done concurrently with other contracts (<b>ITT 31.5</b>); and</li> <li>e) the additional evaluation factors are specified in Section IV (Qualification and Evaluation Criteria).</li> </ul>
	30.3	The PE reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the Tendering Documents or otherwise result in unsolicited benefits for the PE will not be taken into account in Tender evaluation.
	30.4	The estimated effect of any price adjustment provisions of the Conditions of Contract, during the period of implementation of the Contract, will not be taken into account in Tender evaluation.
	30.5	In the case of several Lots, pursuant to <b>ITT 31.2(f)</b> , the PE will determine the application of discounts so as to minimize the combined cost of all the lots.
	30.6	If this Tendering Document allows Tenderers to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the contract combinations, including any discounts offered in the Form of Tender, is specified in Section IV. Qualification and Evaluation Criteria.
	30.7	<p>If the Tender, which results in the lowest Evaluated Tender Price, is unbalanced or front loaded in relation to the Predetermined Tender Value of the items of work to be performed under the Contract, the PE may require the Tenderer to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed.</p> <p>After evaluation of the price analysis, taking into consideration the schedule of estimated Contract payments, the PE may:</p> <ul style="list-style-type: none"> <li>a) Accept the Tender; or</li> <li>b) require that the amount of the performance security set forth in <b>ITT 41</b> be increased at the expense of the Tenderer, to a level not exceeding twenty percent (20%) of the tender Price; or</li> <li>c) Reject the Tender.</li> </ul>
<b>31. National Preferences</b>	31.1	<b>Margin of</b> preference for local firms shall be indicated in <b>TDS</b> if the margin of preference applies, works utilizing this Standard Tendering Document shall provide Local Contractors with margin of preference in tender evaluation.
	31.2	Local contractors shall, in order to be considered for margin of preference, be registered in accordance with Procurement Act, Cap 410.
	31.3	The PE shall, in applying margin of preference, shall be guided by Procurement Act, Cap 410 to determine whether or not tenderers are qualified for margin preference.
	31.4	A <b>JVCA</b> between a foreign and local firm shall also be eligible to participate in the exclusive preference scheme in accordance with Procurement Act, Cap 410.
	31.5	Alternative offers, where solicited or permitted, will be evaluated separately, in accordance with the provisions of <b>ITT19</b> [Alternative Tenders], and shall

		be subject to the margin of preference in accordance Section IV- Qualification and Evaluation Criteria.
<b>32. Subcontractors</b>	32.1	Sub-contracting is not allowed, unless otherwise stated in TDS at the percentage of works indicated in <b>TDS</b>
	32.2	In case of Prequalification, the Tenderer's Tender shall name the same specialized subcontractor as submitted in the prequalification application and approved by the PE.
	32.3	In case of Post qualification, the PE may permit subcontracting for certain specialized works as indicated in Section IV- Qualification and Evaluation Criteria. When subcontracting is permitted by the PE, the specialized sub-contractor's experience shall be considered for evaluation. Section IV- Qualification and Evaluation Criteria describes the qualification criteria for sub-contractors.
	32.4	Tenderers may propose subcontracting up to a certain percentage of the total value of contracts or the volume of works indicated in <b>TDS</b> .
<b>33. Determination of Lowest Evaluated Tender</b>	33.1	The Tender with the lowest evaluated price from among those that are eligible, compliant and substantially responsive shall be the lowest evaluated Tender.
	33.2	In the case of National, International and Restricted Competitive Tendering on Fixed Budget Method, the lowest evaluated price shall not exceed the provided budget. If the price of the Lowest Evaluated Tender exceeds the provided budget, it shall be rejected.
<b>34. Post-qualification of Tenderer</b>	34.1	If pre-qualification was undertaken, the PE shall conduct partial post-qualification to verify pre-qualification information.
	34.2	Where the Tender price of the lowest evaluate Tenderer is considered to be abnormally low, the PE shall perform price analysis as part of the post-qualification. The following process shall apply: (a) The PE may reject a tender if the PE has determined that the price in combination with other constituent elements of the Tender is abnormally low in relation to the subject matter of the procurement (scope of works or services) and raise concerns with the PE as to the ability of the Tenderer that presented that tender to perform the contract. (b) Before rejecting an abnormally low tender the PE shall: request the Tenderer an explanation of the Tender or of those parts which it considers contribute to the Tender being abnormally low; take account of the evidence provided in response to a request in writing or in electronic forms that provide record of the content of communication; and subsequently verify the Tender or parts of the Tender being abnormal (c) The decision of the PE to reject a tender and reasons for the decision shall be recorded in the procurement proceedings and promptly communicated to the Tenderer concerned; (d) The PE shall not incur liability solely by rejecting abnormally low tender. Abnormally low tender" means, in the light of the PE's estimate and of all the Tenders submitted, the Tender appears to be abnormally low by not providing a margin for normal levels of profit.
	34.3	The PE will determine to its satisfaction whether the Tenderer that is selected as having submitted the lowest evaluated and substantially responsive Tender either continues to meet (if prequalification applies) or meets (if post qualification applies) the qualifying criteria specified in Section IV, Qualification and Evaluation Criteria.
	34.4	The determination will take into account the Tenderer's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 12.3 [Documents Establishing Eligibility and Qualifications of the Tenderer], as well as such other information as the PE deems necessary and appropriate. Factors not included in these Tendering Documents shall not be used in the evaluation of the Tenderers' qualifications.
	34.5	A PE may seek independent references of a Tenderer and the results of reference checks may be used in determining award of contract.
	34.6	In case of a foreign company, a PE shall seek independent reference of legal

		existence of a Tenderer from Tanzania diplomatic missions abroad or from any other reliable source.
	34.7	An affirmative determination will be a prerequisite for award of the Contract to the lowest evaluated Tenderer. A negative determination will result in rejection of the Tenderer's Tender, in which event the PE will proceed to the next-lowest evaluated Tenderer to make a similar determination of that Tenderer's capabilities to perform contract satisfactorily.
<b>35. Post-qualification of Tenderer</b>	35.1	If pre-qualification was not undertaken, post-qualification shall be performed as indicated in the <b>TDS</b> .
	35.2	Where the Tender price of the lowest evaluate Tenderer is considered to be abnormally low, the PE shall perform price analysis as part of the post-qualification. The following process shall apply: (a) The PE may reject a tender if the PE has determined that the price in combination with other constituent elements of the Tender is abnormally low in relation to the subject matter of the procurement (scope of works or services)and raise concerns with the PE as to the ability of the Tenderer that presented that tender to perform the contract. (d) The PE shall not incur liability solely by rejecting abnormally low tender.



## F. AWARD OF CONTRACT

<b>36. Criteria of Award</b>	36.1	Subject to ITT 35 [Post-qualification of Tenderer] and 37 [Negotiations], the PE will award the Contract to the Tenderer whose Tender has been determined to be substantially responsive to the Tendering Documents and who has offered the lowest Evaluated Tender Price, provided that such Tenderer has been determined to be - (a) eligible in accordance with the provisions of ITT 3 [Eligible Tenderers], and (b) is determined to be qualified to perform the Contract satisfactorily (c) Successful negotiations have been concluded.
	36.2	If, pursuant to <b>ITT 13.1</b> [Slice and Package], this Contract is being let on a slice and package   basis, the lowest evaluated Tender price will be determined when evaluating this Contract in conjunction with other Contracts to be awarded concurrently, taking into account any discounts offered by the Tenderers for award of more than one Contract.
<b>37. Negotiations</b>	37.1	Negotiations may be undertaken with the lowest evaluated Tender relating to the following areas: (a) a minor alteration to the technical details of the statement of requirements; (b) reduction of quantities for budgetary reasons, where the reduction is in excess of any provided for in the solicitation documents; (c) a minor amendment to the special conditions of Contract; (d) finalizing payment arrangements; (e) mobilization arrangements; (f) agreeing final delivery or work schedule to accommodate any changes required by the PE; (g) the methodology or staffing; (h) Clarifying details that were not apparent or could not be finalized at the time of tendering; or (i) Reduction of Tender Price to match the PEs Estimate, and commensurate with the market prices and provided such reduction shall not make the tender abnormally low in accordance ITT 35.2 [Post-qualification of Tenderers]. This provision is not applicable for tenders invited under the National, International and Restricted Competitive Tendering on Fixed Budget method
	37.2	Where negotiation fails to result into an agreement, the PE may invite the next ranked Tenderer for negotiations. Where negotiations are commenced with the next ranked Tenderer, the PE shall not reopen earlier negotiations.
<b>38. PE Right to Accept any Tender and to Reject any or all Tenders</b>	38.1	Notwithstanding ITT36 [Criteria of Award], the PE reserves the right to accept or reject any Tender, and to cancel the Tendering process and reject all Tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers.
	38.2	Notice of the rejection of all Tenders shall be given promptly to all Contractors that have submitted Tenders through NeST.
	38.3	The PE shall upon request communicate to any Tenderer the grounds for its rejection of its tenders but is not required to justify those grounds.
<b>39. PE Right to Vary Quantities at the Time of Award</b>	39.1	The PE reserves the right at the time of Contract award to increase or decrease the scope of works or related services originally specified in these Tendering Documents (Bill of Quantities) provided this does not exceed by the percentage indicated in the <b>TDS</b> , without any change in unit price or other terms and conditions of the Tender.
<b>40. Notification of Award</b>	40.1	Prior to awarding of the contract, the PE shall issue a notice of intention to award the contract in the format provided in Section V [Tendering Forms], The notice shall be issued through NeST to all Tenderers who participated in the Tender in question giving them seven

		<p>(7) working days within which to submit complaints to the PE thereof, if any.</p> <p>The condition shall not apply where only one Tender has been received by PE in competitive method or where single source, national shopping, Minor value procurement method has been used.</p>
	40.2	Where no complaints have been lodged, the Tenderer whose Tender has been accepted will be notified through NeST of the award by the PE prior to expiration of the Tender validity period. The Letter of Acceptance will state the sum that the PE will pay the successful Tenderer in consideration for the execution of the scope of works as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").
	40.3	The notification of award will be part of the documents forming the Contract, subject to the Tenderer furnishing evidence of registration with relevant statutory bodies within the country and furnishing the Performance Security in accordance with ITT41 [Performance Security] and signing the Contract in accordance with ITT 42.2 [Signing of Contract].
<b>41. Performance Security</b>	41.1	<p>Within Twenty-Eight (28) days after receipt of the Letter of Acceptance, the successful Tenderer shall deliver to the PE a Performance Security in the amount and in the form stipulated in the <b>TDS</b> and the <b>SCC</b>, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract. The Performance Security shall also include the Environmental and Social Performance Security in the form of a “demand guarantee” in the percentage amount(s) specified in <b>TDS</b>.</p> <p><i>[Note: The ES Performance Security shall normally be required where ES risks are high. Both ES Security and Performance Security Shall not exceed 10 Percent]</i></p>
	41.2	<p>If the Performance Security is provided by the successful Tenderer, it shall be in the form specified in the <b>TDS</b> which shall be in any of the following</p> <p>(a) cash, certified cheque, cashier ‘s or manager’s cheque, or bank draft;</p> <p>(b) irrevocable letter of credit issued by a reputable commercial bank or in the case of an irrevocable letter of credit issued by a foreign bank, the letter shall be confirmed or authenticated by a reputable local bank;</p> <p>(c) bank guarantee confirmed by a reputable local bank or, in the case of a successful foreign tenderer, bonded by a bonded by a local bank  ;</p> <p>or</p> <p>(d) Surety bond issued by any reputable surety or insurance company.</p> <p>Any Performance Security submitted shall be enforceable in the United Republic of Tanzania.</p>
	41.3	Failure of the successful Tenderer to comply with the requirement of ITT 41.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security, in which event the PE may make the award to the next lowest evaluated Tenderer or call for new Tenders.
<b>42. Signing of Contract</b>	42.1	Promptly after notification of award, PE shall send the successful Tenderer the draft Agreement, incorporating all terms and conditions as agreed by the parties to the contract.
	42.2	Within fourteen (14) working days after furnishing the performance security, the successful Tenderer and the PE shall sign the contract.
	42.3	Upon both parties signing the Agreement, the PE will promptly notify unsuccessful Tenderers, the name of the winning Tenderer and the Contract amount and will discharge the Tender security or Tender securing declaration of the unsuccessful Tenderers pursuant to ITT 18.7 [Tender Security or Tender Securing Declaration].
<b>43. Advance Payment</b>	43.1	The PE will provide an Advance Payment as stipulated in the Conditions of Contract, subject to a maximum amount, as stated in the

		<b>TDS.</b>
	43.2	The Advance Payment request shall be accompanied by an Advance Payment Security (Guarantee) in the form provided in Section XI.
	43.3	For the purpose of receiving the Advance Payment, the Tenderer shall make an estimate of, and include in its Tender, the expenses that will be incurred in order to commence work. These expenses will relate to the purchase of equipment, machinery, materials, and on the engagement of labour during the first month beginning with the date of the PE's —Notice to Commence   as specified in the Special Conditions of Contract.
<b>44. Dispute Avoidance and Resolution Board</b>	44. 1	<p>IF SOLE MEMBER IS TO BE APPOINTED TO BE DARB The PE proposes the person named in the <b>TDS</b> to be appointed as Sole Member of Dispute Avoidance and Resolution Board (DARB) under the Contract. If the Tenderer disagrees with this proposal, the Tenderer should so state in the Tender. If, in the Letter of Acceptance, the PE has not agreed on the appointment of the Sole Member of DARB, the Adjudicator shall be appointed by the Appointing Authority named in the <b>TDS</b> and designated in the Special Conditions of Contract at the request of either party <b>OR IF THREE MEMBERS ARE TO BE APPOINTED TO BE DARB</b> The PE proposes three names shown in the <b>TDS</b> and <b>SCC</b>, and whose CVs are Appended, to be members of Dispute Avoidance and Resolution Board. The Tenderer, shall in his Form of Tender, propose three names as well. If the names are not agreed, the Appointing Authority named in the <b>TDS</b> shall be consulted to appoint members of Dispute Avoidance and Resolution Board1.</p> <p><i>For Large Contracts it may be desirable to use Dispute Avoidance and Resolution Board instead of an Adjudicator</i></p>
<b>45. Fraud Corruption, Coercion, Collusion, Fraudulent and Obstructive Practices</b>	45.1	<p>The Government requires that Procuring entities (including beneficiaries of Government funded projects and procurement) as well as Tenderers/Suppliers/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Government:</p> <p>a) defines, for the purpose of this provision, the terms set forth below as follows: -</p> <p>i. <b>corrupt practice</b> means the offering, giving receiving or soliciting of anything of value to influence the action of a public officer in the procurement process or contract execution;</p> <p>ii. <b>coercive practice</b> means impairing or harming, or threatening to impair or harm directly or indirectly, any party or the property of the party for the purpose of influencing improperly the action or that party in connection with public procurement or in furtherance of corrupt practice or fraudulent practice;</p> <p>iii) <b>fraudulent practice</b> means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Government or a public body and includes collusive practices among Tenderers, prior to or after submission designed to establish tender prices at artificial non-competitive levels and to deprive the Government of the benefits of free and open competition;</p> <p>iv) <b>obstructive practice</b> means acts intended to materially impede access to required information in exercising a duty under this Act;</p> <p>b) Will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt, coercive, collusive, fraudulent or obstructive practices in competing for the contract;</p> <p>c) In pursuit of the policy defined in <b>ITT 45.1</b> the Government will cancel the portion of the funds allocated to a contract for goods, works, or services if it at any time determines that corrupt, coercive, collusive, fraudulent or obstructive practices were engaged in by representatives of the PE or approving authority or of a beneficiary of the funds during the procurement or the execution of that contract, without the PE or approving authority having taken timely and appropriate action</p>

		<p>satisfactory to the Government of the United Republic of Tanzania to remedy the situation</p> <p>d) Declare a firm ineligible for a period of ten years, to be awarded a public-financed contract if it at any time it determines that the firm has engaged in corrupt, coercive, collusive, fraudulent or obstructive practices in competing for, or in executing, a public – financed contract</p>
	45.2	<p>The Government of the United Republic of Tanzania reserves the right, where a firm has been found by a foreign country, international organization or other foreign organization to have engaged in corrupt, coercive, collusive, fraudulent or obstructive practices, to declare that such a firm is ineligible, for a period of ten years to be awarded a public financed Contract in the United Republic of Tanzania</p>
	45.3	<p>The Government of the United Republic of Tanzania will have the right to require that, in contract financed by the Government of the United Republic of Tanzania a provision be included requiring suppliers and contractors to permit the Government of the United Republic of Tanzania to inspect their accounts and records relating to the performance of the contract and to have them audited by auditors appointed by the Government of the United Republic of Tanzania.</p>
	45.4	<p>Any communications between the Tenderer and the PE related to matters of alleged corruption, coercion, collusion, fraudulent or obstruction practices must be made through NeST or in writing where electronic facilities are not available.</p>

## G. REVIEW OF PROCUREMENT DECISIONS

<b>46. Right to review</b>	46.1	A Tenderer who claims to have suffered or that may suffer any loss or injury as a result of breach of a duty imposed on a PE or an approving authority in the course of these procurement proceeding may seek a review in accordance with the procedure set out under this Section.
<b>47. Time limit on review</b>	47.2	The Tenderer shall submit an application for review within Seven (7) working days of the Tenderer becoming or should have become aware of the circumstances giving rise to the complaint or dispute.
<b>48. Submission of applications for review</b>	48.1	Any application for administrative review shall be submitted through NeST to the Accounting Officer of a PE and a copy shall be served to the Public Procurement Regulatory Authority (PPRA).
	48.2	For PEs with delegated Procurement functions, applications for administrative review for tenders floated by the delegated Accounting Officer shall be submitted through NeST to the Accounting Officer with a copy served to delegated Accounting Officer and PPRA.
	48.3	The application for administrative review shall include: a) details of the procurement requirements to which the complaint relates; b) details of the provisions of the Act, Regulation or provision that has been breached or omitted; c) an explanation of how the provisions of the Act, Regulation or provision has been breached or omitted, including the dates and name of the responsible public officer, where known; d) documentary or other evidence supporting the complaint where available; e) remedies sought; and e) any other information relevant to the complaint
	48.3	The Accounting Officer (AO) of a PE shall not entertain a complaint or dispute or continue to do so after the procurement Contract has entered into force.
<b>49. Decision by the AO of PE</b>	49.1	The AO of a PE shall, within Seven (7) working days after receipt of the complaint or dispute, deliver a written decision through NeST that shall indicate: a) whether the application is upheld in whole, in part or rejected; b) the reasons for the decision; and c) any corrective measures to be taken.
	49.2	Where the AO of PE does not issue a decision within the time specified in <b>ITT 49.1</b> , the Tenderer submitting the complaint or dispute or the PE shall be entitled to institute proceedings under <b>ITT 50.1</b> [Review by the Public Procurement Appeals Authority (PPAA)] within seven (7) working days after such specified time and upon instituting such proceedings, the competence of the of AO a PE to entertain the complaint or dispute shall cease.
<b>50. Review by the Public Procurement Appeals Authority</b>	50.1	Complaints or disputes which, (a) are not settled within the specified period under <b>ITT 49.1</b> [Decision by the AO of PE]; (b) <b>the Tenderer</b> is not satisfied with the decision of the accounting officer; or (c) arise after the procurement contract has entered into force pursuant to <b>ITT 42</b> [Signing of Contract], shall be referred to the Appeals Authority within seven (7) working days from the date when the Tenderer received the decision of the accounting officer or, in case no decision is issued after the expiry of the time stipulated under <b>ITT 49.1</b> [Decision by the AO of PE] or when the Tenderer become aware or ought to have become aware of the circumstances giving rise to the complaint or dispute pursuant to <b>ITT 47.1</b> [Time Limit on Review]. The Appeals Authority shall, within forty-five (45) days issue a written decision concerning the complaint or dispute stating the reasons for the

		decisions and the remedies granted if any. The decision of the Appeals Authority shall be binding to the parties on complaint or appeal and such decision may be enforced in any court of competent jurisdiction.
	50.2	PPAA may be contacted at the address shown in the <b>TDS</b> .

### **TENDER DATA SHEET (TDS)**

The following specific data for the works to be procured shall complement, supplement, or amend the provisions in the Instructions to Tenderers (ITT). Whenever there is a conflict between ITT and the Tender Data Sheet (TDS), the provisions of TDS shall prevail over those in ITT.

### A. Introduction

<b>TDS No</b>	<b>Required Information/Data</b>	<b>ITT Clause</b>	<b>Information/Data to be filled by the PE</b>
1	Name of the PE	1.1	BANK OF TANZANIA.
2	Expected Completion Period	1.2	1278 days.
3	Tendering Method	1.2	International Competitive Tendering.
4	Name of the project	2.1	Proposed Construction Of Bank Of Tanzania Branch Office At Kigoma Region.
5	Financial year	2.1	2024/2025
6	Financing Institution	2.1	Not Applicable
7	The Loan /Credit Number	2.1	Not Applicable
8	Tender Description	2.1	Proposed Construction of Bank of Tanzania Branch Office at Kigoma Region
9	Members of JVCA and Limit of numbers of JVCA	3.1	Maximum number of members of JVCA shall be: 2.
10	Eligibility of Tenderers	3.5	Only Tenderers registered as Building Contractor in ONE with the Contractors Registration Board (CRB) are eligible in the case of local contractors. Foreign Contractors are exempted from this requirement but if selected for award they will be required to be registered in the appropriate Class of Registration with CRB.
11	Site Visit	6.4	Site visit will be held at Plot No. 5 and No. 408, Block A at Mnarani area in Kigoma/Ujiji Municipality in Kigoma Region on 16/05/2025 from 11:00 Hours Local Time
12	Pre-tender Meeting	6.4	Pre-tender meeting will take place at 2 Mirambo Street, Bank of Tanzania, Dar es Salaam Sub-Head Office on 22/05/2025 at 11:00 Hours Local time



**B: Preparation of Tenders**

13	Language of the Tender	10.1	Language of Tender and all correspondence shall be English.
14	Other required documents	11.1(h)	Additional documents: Not Applicable  Not Applicable
15	Information to be submitted by JVCA	12.5(h)	Extra information to be submitted by the JVCA other than the information required: JVCA MoU
16	Duties and taxes to be paid by the contractor	15.3	List down all duties, taxes, and other levies payable by the Contractor under the Contract: All taxes and duties related to the project as the Tanzania's Tax Law All taxes and duties related to the project as the Tanzania's Tax Law
17	Price Adjustment	15.5	The price shall be Fixed
18	Fixed Budget Tender	15.6	Not Applicable.
19	Currency of the Tender	16.1	The currency in which the prices shall be quoted shall be in European Euro, United Kingdom Pound Sterling, The Tanzanian Shilling and The United States dollar.
20	Tender Validity Period	17.1	The Tender validity period shall be 120 days.
21	Form of Tender Security	18.1 18.3	Tender Security shall be in the form of Tender Security - Bank Guarantee in the currency of The Tanzanian Shilling or freely convertible currencies in case of foreign Tenderers worth 1,250,000,000.00.
22	Alternative tenders	19.1, 19.2, 19.3 & 19.4	AlternativeTenders are: Not Applicable. Not Applicable.
23	Authorization to Sign on Behalf of the Tenderer	20.2	Written confirmation of authorization to sign on behalf of the Tenderer is: Special Power of attorney

**C. Submission of Tenders**

24	Extension of Deadline for Submission of Tenders	22.3	The extension of the deadline for submission of Tenders shall be made not later than 5 days before the expiry of the original deadline.
25	Currency for Converting Tender Prices	29.2	The rates of exchange to be used by the Tenderer shall be those established by the Bank of Tanzania prevailing on the tender invitation date. Currency for Tender Conversion: The Tanzanian Shilling.
26	Adjustment of Tender Price for Allowance for Varying Times of Completion	30.2 (b)	FIXED.
27	Adjustment of Tender Price for Allowance for Varying Times of Completion	32.1	Refer to Section for Qualification and Evaluation Criteria

**D. Opening and evaluation of tenders**

28	Domestic Preference	31.1	Preference Scheme type applicable to this tender is National Preference - local ownership.
29	Sub-Contracting Arrangements	32.1 & 32.4	Subcontracting is applicable. The percentage of sub-contracting works is 40 percent.
30	Post qualification performance	35.1	Post Qualification will be undertaken.

### **E. Award of contract**

31	The percentage for Increase and Decrease for Quantities	39.1	The percentage for Increase and Decrease for Quantities will be 15 Percent.
32	Performance security	41.1	Performance Security - Bank Guarantee of 10 Percent of Contract Price.
33	Environmental and Social Performance Security	41.1	Environmental and Social Performance Security type will be ES Performance Security Bank Guarantee of 5 percent of the contract price.
34	Advance Payment	43.1	The Advance Payment shall be limited to 15 Percent of the Contract Amount.
35	Appointment of Members of the Dispute Avoidance and Resolution Board	44.1	Dispute Avoidance and Resolution Board shall be composed of: <b>Three DARB</b> The proposed Appointing Authority for the Dispute Avoidance and Resolution Board appointment is National Construction Council.

**F. Right to review**

36	Address to Submit an Appeal to PPAA	50.2	The address for Appeal to PPAA: The Executive Secretary, Public Procurement Appeals Authority, Ministry of Finance and Planning, Mkandarasi Place, 4th Floor Jakaya Kikwete Road P.O. Box 1385, Dodoma Tanzania Telephone +255 26 2962411 Mobile:+255743505505 Fax + 255 022 2120460 Email: <a href="mailto:info@ppaa.go.tz">info@ppaa.go.tz</a> or <a href="mailto:es@ppaa.go.tz">es@ppaa.go.tz</a> Website <a href="http://www.ppaa.go.tz">www.ppaa.go.tz</a>
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## **SECTION IV: QUALIFICATION AND EVALUATION CRITERIA**

## QUALIFICATION AND EVALUATION CRITERIA

### Commercial Evaluation

#### 1. Eligibility

##### **Litigation History (SCORE: N/A)**

Tenderers are required to provide litigation records resulting from contracts completed or ongoing under their execution (In case of Joint Venture, compliance requirements are all Parties Combined – Must Meet requirements and Each Member – Must Meet requirements).

Litigation History Start Year	2022-01-01
Litigation History End Year	2025-05-31

##### **Completion Period (SCORE: N/A)**

Tenderers are required to comply with the completion period as proposed by the procuring entity unless alternative completion period is allowed.

Completion Time (Days)	1278
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#### 2. Standard Tender Forms

##### **Tender Validity Period (SCORE: N/A)**

Contractors are required to confirm with the tender validity period specified by the Procuring Entity.

Tender Validity Period (Days)	120
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##### **Notarized Special Power of Attorney (SCORE: N/A)**

Tenderers must fill in Standard Power of Attorney as per the required format and upload into the system.

##### **Tender Security (SCORE: N/A)**

Tenderer should submit tender security as per instructions to tenderers.

#### 3. Financial Situation and Performance

##### **Financial Statement (SCORE: N/A)**

Audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the PE, for mentioned duration shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability. (In case of Joint Venture, compliance requirements are: Each Member – Must Meet requirements).

Financial Statement Start Date	2021-01-01
Financial Statement End Date	2023-12-31
Minimum Current Ratio [Current Assets(CA)/Current Liabilities(CL)]	1
Minimum Cash Ratio [Cash and Bank(C&B)/Current Liabilities(CL)]	N/A
Minimum Working Capital [Current Assets(CA)-Current Liabilities(CL)]	N/A

Minimum Gross Profit Margin [Gross Profit(GP)/Total Revenue(TR)*100]	N/A
Minimum Debt to Equity Ratio [Total Liabilities(TL)/Total Equity(TE)]	N/A
Minimum Return on Assets [Profit before Tax(PBT)/Total Assets(TA)*100]	5

#### **Average Annual Turnover (SCORE: N/A)**

Average Annual Turnover of the mentioned amount, calculated as total certified payments received for contracts in progress and/or completed within the mentioned duration. (In case of Joint Venture, compliance requirements are: All Parties Combined – Must Meet requirements, Each Member – Must Meet percentage requirements and if One Member – Must Meet percentage requirements stated).

Average Annual Turnover Amount in TZS or any other freely convertible currency	10000000000
Turnover Start Date	2021-01-01
Turnover End Date	2023-12-31

#### **Access to Financial Resources (Sources of Fund) (SCORE: N/A)**

Tenderers are required to demonstrate details of their sources of finance that show their ability to access adequate finances to meet the cash flow requirements of current and future contracts. (In the case of a Joint Venture, compliance requirements are all Parties Combined – Must Meet requirements).

Average fund amount from all sources (any freely convertible currency proposed by bidder)	10000000000
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## **Technical Evaluation**

### **1. Experience**

#### **Current Contract Commitment (SCORE: N/A)**

Tenderer must demonstrate that it has adequate sources of finance to meet the cash flow requirements on contracts currently in progress and for future contract commitments. (In case of Joint Venture, compliance requirements are: All Parties Combined – Must Meet requirements).

Current Commitment Start Year	2020-01-01
Current Commitment End Year	2025-05-31

#### **General Experience in Construction Activities (SCORE: N/A)**

General Construction Experience: Experience under construction contracts in the role of prime contractor, JVCA member, sub-contractor, or management contractor for at least the duration stated. (In case of Joint Venture, compliance requirements are: Each member – Must Meet requirements).

Key Construction Activities	1.Construction of New Office Buildings with deep Basement structure 2. Installation of various building services infrastructures, equipment and system including ICT and security System 3. Fabrication/installation of complex large span-Curved Roof.
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#### **Specific Experience (SCORE: N/A)**

Specific and Contract Management Experience: A minimum number of similar contracts based on the physical size, complexity, methods/technology and/or other characteristics described in the PE Requirements on contracts that have been satisfactorily and substantially completed (substantial completion shall be based on 80% or more of completed assignments under the contract) as a prime contractor/supplier/service provider, joint venture member, management



contractor/supplier/service provider or sub-contractor/supplier/service provider for mentioned duration. (In case of Joint Venture, compliance requirements are: All Parties – Must Meet requirements). In the case of JVCA, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JVCA meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

Specific Experience	Building Construction
Specific Experience Start Year	2018-01-01
Specific Experience End Year	2025-05-31
Number of Specific Experience Contracts	3
Value of each specific experience contract in the specified tender currency	15000000000

#### **General Experience (SCORE: N/A)**

Tenderer should provide details of their previous and on-going contracts to evidence their general experience in construction.

General experience start date	2018-01-01
General experience end date	2025-05-31
Number of contract	3
Contract value in the specified currency	10000000000

#### **General Experience in Key Activities (SCORE: N/A)**

Experience in Key Activities: For any other contracts completed and/or under implementation as prime contractor/supplier/service provider, within the duration and with the minimum experience requested for the key activities. The minimum experience requirement for multiple contracts will be the sum of the minimum requirements for respective individual contracts, unless specified otherwise. (In case of Joint Venture, compliance requirements are: All Parties combined – Must Meet requirements and One Member - Must meet the requirements for the key activities listed and the corresponding minimum requirements).

Employer's Name and Contact	Please specify Employer Name and Contact
Project Description	Please specify Project Description
Project Amount	Please specify Project Amount
Project Start Date	2018-01-01
Project End Date	2025-05-31
Key Activities	Please specify key activities
Roles in Contract	Please specify your roles in the specific contract
Key Personnel	Please specify details of Key Personnel involved in key activities.

## **2. Technical Specifications**

#### **Risk Management Plan (SCORE: N/A)**

Tenderers are required to submit a risk management plan that shows risk identification and impact assessment, risk response and control strategy, and roles and responsibilities in managing risks.

**Contractor's Equipment Strategy (SCORE: N/A)**

Tenderers are required to specify strategy for acquiring and maintaining the key equipment needed to execute the works in accordance with the work program.

**3. Key Personnel****Key Personnel (SCORE: N/A)**

Tenderer should provide details of their personnel with adequate qualifications as required by the procuring entity.

Categories of Key Personnel	Education Level	Experience of Key Personnel	Number of Required Key Personnel
Project Manager	To be either Professional Engineer, Architect or Quantity Surveyor Registered with respective Professional Boards (holder of at least bachelor degree)	At least ten (10) years of experience in similar activities, with a minimum of five (5) years served as a Project Manager.	1
General Foreman 2: Electrical Engineering Technician	At least ordinary diploma in Electrical Engineering	At Least 3 Years in Similar Activities	1
Site Agent	To be either Professional Structural/Civil Engineer or Construction Manager Registered with respective professional boards (Holds at least a bachelor degree)	At least eight (8) years of experience in similar activities, with a minimum of five (5) years served in a similar position.	1
Health and Safety Officer	To be certified by Occupational Safety and Health Authority (OSHA) of Tanzania (Holds at least ordinary diploma)	At least five (5) years of experience in similar activities, with a minimum of three (3) years served in similar position	1
Social Officer	Degree in Social Sciences, Development Studies, Community Development or related fields	At least Five (5) years of experience in similar activities, with a minimum of three (3) years served in similar position.	1
Site Structural/Civil Engineer	At least a bachelor degree in Structural/Civil Engineering and registered with respective professional Boards	At least Eight (8) years of experience in similar activities, with a minimum of five (5) years served in similar position	2
Site Quantity Surveyor	At least a bachelor degree in Building Economics, Construction Management, Building Survey or Quantity Surveying and registered by professional board.	At least eight (8) years of experience in similar activities, with a minimum of five (5) years served in similar position.	1
Quality Controller	Degree in either Environmental Engineering or Sciences, Civil Engineer, Architect or Quantity Surveyor registered by professional board	At least eight (8) years of experience in similar activities	1
General Foreman 4: ICT and Security Installation	At least ordinary diploma in ICT and Security Installation.	At Least 3 Years in Similar Activities	1

Technician.			
Mechanical Engineer	Minimum Degree Holder in mechanical engineering and registered by relevant professional board	At least 8 years experience in similar activities	1
Electrical Engineer	Minimum Degree Holder in Electrical engineering and registered by relevant professional board	At least 8 years experience in similar activities	1
ICT and Security Engineer/Scientist	Minimum Degree Holder in ICT or related field	At least 8 years of experience in similar activities	1
General Foreman 1:Structural /Civil Technicians	At least ordinary diploma in Structural /Civil engineering	At Least 3 Years in Similar Activities	1
General Foreman 3:Mechanical (Air Conditioning, Plumbing and Lift) Installation Technician	At least ordinary diploma in Mechanical (Air Conditioning Plumbing and Lift) Installations.	At Least 3 Years in Similar Activities	1

#### 4. Technical Submission

##### Site Organization (SCORE: N/A)

The Tenderer shall include an organizational diagram indicating his proposed project organization, including Head Office management and possible sub-contractors.

##### Equipment (SCORE: N/A)

The Tenderer shall demonstrate ownership or ability to obtain the required key equipment as listed by the procuring entity.

Type of Key Equipment Required	Equipment Capacity	Start Year of Equipment Manufacture	End Year of Equipment Manufacture	Number of Equipment
Concrete Dumpers	Concrete Dumpers	N/A	N/A	1
Mobile Crane	Minimum 10 Ton	N/A	N/A	1
Grinding/Cutting machine	Grinding/Cutting machine	N/A	N/A	2
Hydraulic excavator with Rock Breakers	Hydraulic excavator with Rock Breakers	N/A	N/A	2
Tipper	7.5m3 or Bigger	N/A	N/A	3
Steel Bending Machine	Steel Bending Machine	N/A	N/A	1
Utility Vehicle	Utility Vehicle	N/A	N/A	1
Concrete Pumps head	50m	N/A	N/A	1
Concrete batching plant	At least 30m3	N/A	N/A	1
Poker Vibrator	Poker Vibrator	N/A	N/A	10
Water Pumps	Water Pumps	N/A	N/A	2
Water Bowser	10,000 Litres	N/A	N/A	1
Pick-up truck	4WD Pick-up truck	N/A	N/A	1

Generator Set	100-300 kVa	N/A	N/A	1
Welding Machine and Rectifiers	Welding Machine and Rectifiers	N/A	N/A	2
Grader	Grader	N/A	N/A	1
Truck Mixer	Truck Mixer	N/A	N/A	1
Compactor	Minimum 15T for Civil works	N/A	N/A	1
Steel Scaffolding	2500 sqm	N/A	N/A	1

#### **Construction Management Strategy (SCORE: N/A)**

Tenderer is required to submit Construction Schedule showing time taken and resources required in execution of various tasks, presented in bar chart. The Construction Schedule must reflect construction period stipulated in the Tendering Documents.

Construction Management Strategy	Please attach Construction Management Strategy
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#### **Mobilization Schedule (SCORE: N/A)**

Tenderers are required to submit Mobilization Schedule for Personnel, Equipment and Materials.

Mobilization Schedule	Please attach your mobilization schedule for this assignment
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#### **Method Statement (SCORE: N/A)**

Tenderers are required to submit clear details on how works will be executed and completed in accordance with the proposed program, thereafter upload the document into the system for submission.

#### **Environmental and Social Management Strategies and Implementation Plans (ES-MSIP) (SCORE: N/A)**

Tenderer shall provide comprehensive and concise environmental and Social Management Strategies and Implementation Plans as per requirements.

Environmental and Social Management Strategies and Implementation Plans (ES-MSIP)	Please Attach Environmental and Social Management Strategies and Implementation Plans (ES-MSIP)
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## **Financial Evaluation**

### **1. Priced Bills of Quantities**

#### **Priced Bill of Quantities (SCORE: N/A)**

Tenderers are required to quote each item in the Bills of Quantities as per procuring entity's requirements.

## **SECTION V: TENDERING FORMS**



## Schedule of Cost Indexation

The formulae for price adjustment shall be of the following general type:

$$P_n = a + bL_n/L_0 + cE_n/E_0 + dM_n/M_0 + \dots$$

where:

“P<sub>n</sub>” is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period “n”, this period being a month unless otherwise stated in the SCC;

“a” is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

“b”, “c”, “d”, ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

“L<sub>n</sub>”, “E<sub>n</sub>”, “M<sub>n</sub>”, ... are the current cost indices or reference prices for period “n”, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 30 days prior to the last day of the period(to which the particular Payment Certificate relates); and

“L<sub>0</sub>”, “E<sub>0</sub>”, “M<sub>0</sub>”, are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the Table of Adjustment Data shall be used. If their source is in doubt, it shall be determined by the Project Manager. For this purpose, reference shall be made to the values of the indices at stated dates(quoted in the fourth and fifth columns respectively of the table).

If the currency in which the Contract price is expressed is different from the currency of the country of origin of the indices, a correction factor will be applied to avoid incorrect adjustments of the Contract price. The correction factor shall be: Z<sub>0</sub> / Z<sub>1</sub>, where,

Z<sub>0</sub> = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Base date, and

Z<sub>1</sub> = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Date of Adjustment.

### Schedule of Adjustment Data

[In Tables A, B, and C, below, the Tenderer shall (a) indicate its amount of local currency payment, (b) indicate its proposed source and base values of indices for the different foreign currency elements of cost, (c) derive its proposed weightings for local and foreign currency payment, and (d) list the exchange rates used in the currency conversion. In the case of very large and/or complex works contracts, it may be necessary to specify several families of price adjustment formulae corresponding to the different works involved.]

**Table A. Local Currency**

Index code	Index description	Source of index	Base value and date	Tenderer's related currency amount	Range of weighting Proposed by the Procuring Entity	Tenderer's proposed weighting
					a: * b: ----- to ---- --* c: ----- to --- --* d: ----- to --- --* e: ----- to --- --* etc.	a: * b: c: d: e: etc.
<b>TOTAL</b>						<b>1.00</b>

[\* To be entered by the PE. Whereas “a” should a fixed percentage, b, c, d and e should specify a range of values and the Tenderer will be required to specify a value within the range such that the total weighting = 1.00]

**Table B. Foreign Currency (FC)**

**State type:** ..... [If the Tenderer is allowed to receive payment in foreign currencies this table shall be used. If Tenderer wishes to quote in more than one foreign currency (up to three currencies permitted) then this table should be repeated for each foreign currency.]

Index code	Index description	Source of index	Base value and date	Tenderer's related source currency in type/amount	Equivalent in Foreign Currency 1	Range of weighting Proposed by the Procuring Entity	Tenderer's proposed weighting
	Non-adjustable	-	-	-		<b>a: *</b> <b>b: ----- to --</b> <b>----*</b> <b>c: ----- to -</b> <b>----*</b> <b>d: ----- to -</b> <b>----*</b> <b>e: ----- to -</b> <b>----*</b> <b>etc.</b>	<b>a: *</b> <b>b:</b> <b>c:</b> <b>d:</b> <b>e:</b> <b>etc.</b>

[\*To be entered by the PE. Whereas "a" should a fixed percentage, b, c, d and e should specify a range of values and the Tenderer will be required to specify a value within the range such that the total weighting = 1.00]

### Table C. Summary of Payment Currencies

#### Table: Alternative A

For.....[insert name of Section of the Works]

Name of payment currency	A Amount of currency	B Rate of exchange (local currency per unit of foreign)	C Local currency equivalent $C = A \times B$	D Percentage of Total Tender Price (TTP) $\frac{100 \times C}{TTP}$
Local currency		1.00		
Foreign currency #1				
Foreign currency #2				
Foreign currency #				
Total Tender Price				100.00
Provisional sums expressed in local currency	[To be entered by the PE]		[To be entered by the PE]	
TOTAL TENDER PRICE (including provisional sum)				

#### Table: Alternative B

*To be used only with Alternative B Prices directly quoted in the currencies of payment. (Clause ITT 16.1)*

Summary of currencies of **the Tender** for .....[insert name of Section of the Works]

Name of currency	Amounts payable
Local currency:	
Foreign currency #1:	
Foreign currency #2:	
Foreign currency #3:	
Provisional sums expressed in local currency	[To be entered by the PE]



### **3. Bills of Quantities**

*(Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities.)*

## **Special Power of Attorney**

*(Form is available in the system during tender submission)*

**5. Tender Security (Bank Guarantee) or Tender Security (Tender Bond)**

*(Form is available in the system during tender submission)*



## **Financial Situation and Performance**

***(Tenderers are required to fill and update information concerning their financial situation and performance in their profile to enable submission of the same during tender application.)***

## SECTION VI: ELIGIBLE COUNTRIES

### **Procurement Reference Number:**

All countries are eligible except countries subject to the following provisions.

A country shall not be eligible if:

- (a) as a matter of law or official regulation, the Government of the United Republic of Tanzania prohibits commercial relations with that country, provided that the Government of the United Republic of Tanzania is satisfied that such exclusion does not preclude effective competition for the provision of goods or related services required; or
- (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Government of the United Republic of Tanzania prohibits any import of goods from that country or any payments to persons or entities in that country.

## **SECTIONVII - WORKS REQUIREMENTS**

### **Scope of Works**

*(This information is provided in the Tender Data Sheet)*



## **ATTACHMENTS (SPECIFICATIONS AND DRAWINGS)**

**Tender Number:** TR152/2024/2025/W/06

**List of related files, including specifications, drawings, etc.**

**LOT NO. TR152/2024/2025/W/06**

**Proposed Establishment of a BOT branch at Kigoma**

Attachment is not Applicable for this item.

**BILLS OF QUANTITIES**  
**Lot Description: Proposed Establishment of a BOT branch at Kigoma**

Code/SN	Description	Unit of Measure	Quantity	Unit Rate	Total
<b>FENCE</b>					
<b>BILL NO. 4</b>	<b>EXTERNAL WORKS</b>				
<b>ELEMENT NO. 5</b>	<b>BOUNDARY WALL</b>				
<b>I</b>	<b>EXCAVATION AND EARTHWORKS ...</b>				
	<b>Excavating trenches; to receive foundations; starting from ground level</b>				
A	Excavate foundation trench; up to 1.50 m deep	M3	646.00		
	<b>Excavating pits; to receive foundations; starting from ground level</b>				
A	Excavate pit to receive column bases or the like ; up to 1.50 m deep	M3	949.00		
B	over 1.50 m deep but not exceeding 3.0m deep	m3	158.00		
C	Excavating in rock (Provisional)	m3	175.00		
	<b>Disposal and Backfilling ..</b>				
A	Ground fill compacted om 200mm layers to 95% maximum dry density (MDD)	m3	431.00		
B	Selected excavated material; Deposited and compacted in layers;around foundations	m3	1,407.00		
C	Hardcore beds; compacted ; 200 mm thick; hardcore bed on compacted natural ground	m2	633.00		
D	Soil sterilization ; Aldrin 0.50% solution or other equal and approved anti-termite treatment applied at a rate of 7 litres per m2 ; to surfaces of compacted hardcore	m2	633.00		
<b>II</b>	<b>DISPOSAL OF ALL WATER ...</b>				
A	Surplus excavated material ; Remove from site;to tip supplied by the Contractor	m3	522.00		
B	Allow for keeping all excavations irrespective of depth free from general surface water, spring or running water by pumping, baling or by other means necessary; generally	item	1.00		
<b>III</b>	<b>PLANKING AND/OR STRUTTING ..</b>				
A	Allow for the provision and subsequent removal of planking and strutting to uphold and maintain all faces of excavations irrespective of depths and ground conditions ; generally	item	1.00		
<b>IV</b>	<b>INSITU CONCRETE; PLAIN ..</b>				
G	Normal; mix Grade 15 at 28 days - 19mm aggregate vibrated strenght 15N/mm2 at 28 days ; 50mm blinding to column bases and strip foundation or the like	M2	1,064.00		
<b>V</b>	<b>IN-SITU CONCRETE; REINFORCED .</b>				
A	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Ground beams; rectangular or square in section	M3	42.00		
B	Normal; mix Grade 30 at 28 days - 19mm	m3	108.00		

	aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Strip foundation				
C	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Columns bases and the like	m <sup>3</sup>	85.00		
D	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Column and the like	m <sup>3</sup>	81.92		
<b>VI</b>	<b>REINFORCEMENT BARS ..</b>				
	<b>Bars; mild steel; hot rolled; B.S. 4449; In any location ..</b>				
A	Reinforcement including bends, hooks, tying wire, distance blocks and ordinary spacers (all provisional) ; High tensile steel bar reinforcement to B.S. 4661:Grade 460 ; 8mm diameter	Kg	3,176.00		
B	Ditto ; 16mm diameter	Kg	21,380.00		
<b>VII</b>	<b>FORMWORK TO IN-SITU CONCRETE; GENERALLY</b>				
A	Strip Foundation	m <sup>2</sup>	308.00		
B	Columns bases and the like	m <sup>2</sup>	279.00		
C	columns	m <sup>2</sup>	1,094.00		
D	ground beams	m <sup>2</sup>	369.00		
<b>IX</b>	<b>BLOCKWORKS ..</b>				
A	Solid concrete blocks to B.S. 6073 type "A" with compressive cement strength of 7 N/mm <sup>2</sup> at 28 days, bedded and jointed in mortar (1:3) ; 230 mm wall	m <sup>2</sup>	2,459.00		
B	DAMP PROOF COURSE ; Hessian based bituminous felt damp proof course to B.S. 743 type 5A with 200 mm laps bedded and pointed in cement mortar (1:3) ; 230 mm wide	m	615.00		
C	DAMP PROOF MEMBRANE ; 250 Micro Damp Proof Membrane (Standard DPM to BS 8102), laid with 200 mm side and end laps on blinded hardcore(m/s) to receive concrete	m <sup>2</sup>	633.00		
<b>X</b>	<b>IN-SITU FINISHINGS ..</b>				
A	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Block walls/Columns	m <sup>2</sup>	5,415.00		
<b>XI</b>	<b>PAINTING TO PLASTERED WORKS</b>				
A	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; Block walls/Columns	m <sup>2</sup>	2,459.00		
B	Weatherguards paints; Block walls/Columns	m <sup>2</sup>	2,459.00		
<b>XII</b>	<b>DOORS AND GATES ..</b>				
A	Metal Works ; Fencing Panels ; 2500mm high grill comprised of 75x75mm vertical hollow members with sharpened top edged spaced at	m <sup>2</sup>	230.00		

	150mm centre to centre; 2Nos 50x75mm hollow stel fixed horizontally one bottom, obo top embedded to concrete columns				
B	Prepare and apply one coat of zinc primer and two coats of epoxy paint	m2	230.00		
<b>POWER HOUSE</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>SUBSTRUCTURE</b>				
<b>1.2</b>	<b>EXCAVATION AND EARTHWORKS</b>				
<b>i</b>	<b>Foundation trenches</b>				
A	Excavate foundation trench ; up to 1.50 m deep	m3	134.00		
<b>ii</b>	<b>Column pits</b>				
A	Excavate pit to receivecolumn bases or the like ; up to 1.50 m deep	m3	53.00		
B	over 1.50 m but not exceeding 3.0 m deep	m3	2.00		
<b>iii</b>	<b>Breaking up rock</b>				
C	EXTRA OVER general excavation for:- Excavating in rock (Provisional)	m3	19.00		
<b>iv</b>	<b>Back filling or imported/ selected fill materials</b>				
D	Deposited and compacted in layers ; around foundations	m3	167.00		
<b>v</b>	<b>Disposal of excavated materials</b>				
A	Surplus excavated material ; Remove from site; to tip supplied by the Contractor	m3	22.00		
<b>1.3</b>	<b>DISPOSAL OF WATER</b>				
A	Allow for keeping all excavations irrespective of depth free from general surface water, spring or running water by pumping, baling or by other means necessary ; generally	item	1.00		
<b>1.4</b>	<b>PLANKING AND STRUTTING</b>				
A	Allow for the provision and subsequent removal of planking and strutting to uphold and maintain all faces of excavations irrespective of depths and ground conditions ; generally	item	1.00		
<b>1.5</b>	<b>HARDCORE OR THE LIKE</b>				
<b>i</b>	<b>Filling in making up levels</b>				
A	200 mm thick; hardcore bed on compacted natural ground	m2	117.00		
<b>1.6</b>	<b>ANTI-TERMITE TREATMENT</b>				
<b>i</b>	<b>Gammalin 20 EC Solution or other equal approved solution</b>				
A	Aldrin 0.50% solution or other equal and approved anti-termite treatment applied at a rate of 7 litres per m2 ; to surfaces of compacted hardcore	m2	117.00		
<b>1.7</b>	<b>INSITU CONCRETE; PLAIN</b>				
<b>i</b>	<b>Normal; class 1:10</b>				
A	Normal; mix Grade 15 at 28 days - 19mm	m2	125.00		

	aggregate vibrated strength 15N/mm <sup>2</sup> at 28 days ; 50mm blinding to column bases and strip foundation or the like				
<b>1.8</b>	<b>INSITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated</b>				
A	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Ground beams; rectangular or square in section	m3	3.00		
B	Ditto Reinforced concrete Grade 25 ; 100 mm Thick bed	m2	117.00		
C	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Strip foundation	m3	12.00		
D	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Columns bases and the like	m3	6.00		
E	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Column and the like	m3	1.33		
<b>1.9</b>	<b>REINFORCEMENT</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461; In any location</b>				
A	8mm	kg	106.00		
D	16mm	kg	1,230.00		
<b>iii</b>	<b>Fabric wire mesh</b>				
A	Reference A252; weighing 2.22 kgs/m <sup>2</sup> ; 300 mm. side and end laps	m2	117.00		
<b>1.10</b>	<b>FORMWORK TO INSITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally</b>				
A	Strip Foundation	m2	34.00		
B	Columns bases and the like	m2	25.00		
C	Columns	m2	23.00		
D	Ground beams	m2	28.00		
<b>1.11</b>	<b>BLOCKWORK OR STONEWORKS</b>				
<b>i</b>	<b>Blockwork foundation wall</b>				
A	230mm thick wall; concrete block; BS 6073; type A; 7.0N per square millimetre; solid; in cement mortar (1:4)	m2	83.00		
<b>1.12</b>	<b>DAMP PROOF MATERIALS</b>				
<b>i</b>	<b>Damp Proof Course</b>				
A	Hessian based bituminous felt damp proof course to B.S. 743 type 5A with 200 mm laps bedded and pointed in cement mortar (1:3) ; 230 mm wide	m	69.00		
<b>ii</b>	<b>Damp Proof Membranes</b>				
A	500 Gauge polythene damp-proof membrane, laid with 200 mm side and end laps on blinded hardcore(m/s) to receive concrete	m2	117.00		

<b>1.14</b>	<b>INSITU FINISHINGS</b>				
<b>i</b>	<b>In situ rendering/ bedding</b>				
A	12mm Cement and sand render to walls (1:4) external rendering to concrete or blockwork	m2	28.00		
<b>1.15</b>	<b>DECORATION</b>				
<b>i</b>	<b>Weatherguard Paint</b>				
A	Prepare and apply two coats of black bituminous paint on rendered surfaces externally	m2	28.00		
<b>ELEMENT NO. 2</b>	<b>FRAMES/ REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>2.1</b>	<b>IN-SITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated around reinforcement</b>				
A	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Columns	m3	3.00		
B	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days; Horizontal beams	m3	7.00		
C	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Concrete Gutter	m3	2.00		
D	600 x 50 mm thick Conc Apron, see to S.E details	m2	10.00		
<b>2.2</b>	<b>REINFORCEMENT BARS</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461</b>				
A	8mm	kg	361.00		
B	16mm	Kg	1,964.00		
<b>2.3</b>	<b>FORMWORK TO IN-SITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally to concrete surfaces</b>				
A	Columns	m2	49.00		
B	Sides and soffits of horizontal beams lintels and the like	m2	78.00		
<b>ELEMENT NO. 3</b>	<b>WALLING</b>				
<b>3.2</b>	<b>EXTERNAL WALLING</b>				
<b>I</b>	<b>BLOCKWORK</b>				
A	Solid Concrete Hollow Blocks to Architect Approval blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement mortar (1:4) ; 150mm Wall	m2	158.00		
<b>ELEMENT NO. 4</b>	<b>ROOFING</b>				
<b>4.1</b>	<b>ROOF COVERING</b>				
<b>I</b>	<b>CORRUGATED OR TROUGHED SHEET ROOFING</b>				
A	G IT5 galvanized corrugated roof sheets; covering not exceeding 45 degrees; on and including 50x25mm treated sawn cypress battens @ 260mm center ; Coverings ; sloping not exceeding 45 degrees from horizontal and	m2	75.85		

	fixed with appropriate accessories				
<b>4.2</b>	<b>ROOF STRUCTURE</b>				
<b>I</b>	<b>STRUCTURAL TIMBER</b>				
<b>i</b>	<b>Mpodo, mtambara, cypress or cedar; seasoned with moisture content below 18%; pressure impregnated; treated with insecticide</b>				
A	STRUCTURAL STEEL MEMBERS ; The following are mild steel roof truss spanning over 16.00m not exceeding 18.00m to BS 449 and BS 4360 grade 43A including one primer coat and two finishing coats of oil paint, before and after (respectively) erected into position by steel fabricator ; site welded and connected (Provisional) ; 150 x 75 mm RHS Wall plates	m	53.00		
B	Ditto ; 100 x 50 mm rafter and bearers in trusses	m	115.00		
C	Ditto ; 63x4mm CHS bottom chord	m	103.00		
D	Ditto : 63x4mm CHS top chord	m	133.00		
E	Ditto : 150 x 50 x 20 x 2.5mm Purlins	m	280.00		
<b>ii</b>	<b>Wrought Cypress; pressure impregnated Boarding</b>				
A	25 x 300mm thick fascia boarding ; butt joints	m	25.00		
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>6.1</b>	<b>HARDWOOD DOORS</b>				
<b>II</b>	<b>GENERAL JOINERY; APPROVED LOCAL HARDWOOD</b>				
A	Fabricated steel door grill, powder coated black, with a horizontal bar pattern and equally distributed bar spacing, to fit a door of size 2,400m x 1,200m including all necessary fixings and hardware; Door Size 2000 x 2400 mm overall	Nr	3.00		
<b>III</b>	<b>DOOR ELEMENT MEMBERS</b>				
A	Supply and fix 10mm x 150mm thick Powder coated Steel frame fixed to concrete column structure using screws/ welding.	m	20.40		
<b>IV</b>	<b>IRONMONGERY</b>				
	<b>Supply and fixing ironmongery as specified in the door schedule or other equal approved; To softwood; hardwood or the like; fixing with screws</b>				
A	Galvanized High Security Grade 1 Single-Cylinder Deadbolts Complete Set as per H'A'FELE or Equal Approved.	Nr	3.00		
B	Galvanized Steel Strike Plate, Galvanized Steel 4 Pair 75 x 50 x 3mm Ball Bearing Hinges	prs	12.00		
<b>6.7</b>	<b>PAINTING AND/OR VANISH</b>				
A	Prepare and apply one coat of red oxide paint followed by finishing coats as per Arch approval ; Grill door	m2	30.00		
<b>ELEMENT NO. 7</b>	<b>FINISHING AND DECORATION</b>				
<b>7.2</b>	<b>EXTERNAL WALL FINISHING AND DECORATION</b>				
<b>II</b>	<b>IN-SITU FINISHINGS</b>				
A	Plaster; 12mm first coat of cement and sand	m2	158.00		

	(1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Hollow Block walls				
<b>III</b>	<b>DECORATIONS</b>				
A	Prepare and apply one primer coat and two finishing coats of as of PLASCON or equal and approved brand weather guard paint or other equal and approved to Rendered wall	m2	158.00		
<b>7.4</b>	<b>INTERNAL FLOOR FINISHING</b>				
<b>II</b>	<b>IN SITU FINISHING OR THE LIKE</b>				
A	Floor Finish; Brushed finish concrete screed with surface hardener and treated with tremco /vulken polyurethanewater proofing coating system & traffic electromestic deck coating vulken ; To floors	m2	180.00		
<b>7.5</b>	<b>INTERNAL WALL FINISHING AND DECORATION</b>				
<b>II</b>	<b>PAINTING AND DECORATION</b>				
A	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Hollow Block walls	m2	158.00		
B	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; Block walls	m2	158.00		
<b>ASKARI HOUSE</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>SUBSTRUCTURE</b>				
<b>1.2</b>	<b>EXCAVATION AND EARTHWORKS</b>				
<b>i</b>	<b>Foundation trenches</b>				
A	Excavation to receive foundation not exceeding 1.50 m	m3	54.00		
<b>iii</b>	<b>Breaking up rock</b>				
A	Extra over any kind of excavation for breaking up rock and the like (provisional)	m3	8.00		
<b>iv</b>	<b>Back filling or imported/ selected fill materials</b>				
A	Selected excavated material, deposit, well compacted and consolidated to make up levels under floor;	m3	70.00		
<b>v</b>	<b>Disposal of excavated materials</b>				
A	Load up surplus excavated material and remove from site	m3	12.00		
<b>1.3</b>	<b>DISPOSAL OF WATER</b>				
A	Allow for keeping excavations free from water (except spring or running water) by pumping, baling or other means necessary	item	1.00		
<b>1.4</b>	<b>PLANKING AND STRUTTING</b>				



A	Allow for the provision and subsequent removal of planking and strutting to uphold and maintain all faces of excavations	item	1.00		
<b>1.5</b>	<b>HARDCORE OR THE LIKE</b>				
<b>i</b>	<b>Filling in making up levels</b>				
A	Hardcore; 200mm Bed levelled, compacted to 95% MDD and blinded to receive polythene membrane (measured separately)	m3	35.00		
<b>ii</b>	<b>Sand blinding</b>				
<b>iii</b>	<b>Hardcore; bard or coral stone; recommenced size 40 - 75mm</b>				
<b>1.6</b>	<b>ANTI-TERMITE TREATMENT</b>				
<b>i</b>	<b>Gammalin 20 EC Solution or other equal approved solution</b>				
A	Aldrin 0.50% solution applied at a rate of 7 litres per square metre to hardcore bed	m2	35.00		
<b>1.8</b>	<b>INSITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated</b>				
A	Reinforced insitu concrete grade "25" granite or basalt aggregates including vibrating around reinforcement; to Ground beam	m3	2.00		
B	Reinforced insitu concrete grade "25" ; 100mm Thick bed	m2	23.00		
C	Reinforced insitu concrete grade "30" granite or basalt aggregates including vibrating around reinforcement ; to Strip foundation	m3	4.00		
D	Reinforced insitu concrete grade "30 ; to Column bases	m3	3.00		
E	Reinforced insitu concrete grade "30 ; Columns and the like	m3	1.00		
<b>iii</b>	<b>Normal; class 15/10; vibrated</b>				
A	Plain insitu concrete grade "15" granite or basalt aggregates ; 50mm Blinding	m2	55.00		
<b>1.9</b>	<b>REINFORCEMENT</b>				
<b>i</b>	<b>Bars; mild steel; hot rolled; B.S. 4449; In any location</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461; In any location</b>				
A	8mm diameter bars	kg	78.00		
B	16mm diameter bars	Kg	419.00		
C	20mm diameter bars	Kg	284.00		
<b>iii</b>	<b>Fabric wire mesh</b>				
A	reference A252; weighing 2.22kg/m2; 300mm side and end laps	m2	23.00		
<b>1.10</b>	<b>FORMWORK TO INSITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally</b>				
A	Strip foundation	m2	12.00		
B	Columns bases	m2	9.00		
C	Columns	m2	8.00		
D	Ground beams	m2	14.00		

<b>ii</b>	<b>Edges of beds or the like</b>				
<b>1.11</b>	<b>BLOCKWORK OR STONEWORKS</b>				
<b>i</b>	<b>Blockwork foundation wall</b>				
A	230mm thick wall; concrete block; BS 6073; type A; 7.0N per square millimetre; solid; in cement mortar (1:3)	m2	28.00		
<b>1.12</b>	<b>DAMP PROOF MATERIALS</b>				
<b>i</b>	<b>Damp Proof Course</b>				
A	Hessian based bituminous felt damp proof course to B.S. 743 type 5A with 200 mm laps bedded and pointed in cement mortar (1:3) ; 230mm wide	m	27.00		
<b>ii</b>	<b>Damp Proof Membranes</b>				
A	500 Gauge polythene damp-proof membrane, laid with 200 mm side and end laps on blinded hardcore(m/s) to receive concrete	m2	35.00		
<b>1.14</b>	<b>INSITU FINISHINGS</b>				
<b>i</b>	<b>In situ rendering/ bedding</b>				
A	12mm Cement and sand render to walls (1:4) external rendering to concrete or blockwork	m2	15.00		
<b>1.15</b>	<b>DECORATION</b>				
<b>i</b>	<b>Weatherguard Paint</b>				
A	Prepare and apply one undercoat and two finishing coats of bituminous paint to rendered plinth wall; wood floated rendered surfaces; external	m2	15.00		
<b>ELEMENT NO. 2</b>	<b>FRAMES/ REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>2.1</b>	<b>IN-SITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated around reinforcement</b>				
A	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; to Horizontal beams	m3	2.00		
B	Reinforced concrete grade "25" ;Concrete gutter	m3	1.00		
C	Reinforced concrete grade "30"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; to Columns	m3	1.00		
D	Precast concrete coping ; 230 x 75mm thick concrete coping to the top of the parapet wall	m	24.00		
<b>2.2</b>	<b>REINFORCEMENT BARS</b>				
<b>i</b>	<b>Bars; mild steel; hot rolled; B.S. 4449</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461</b>				
A	8mm diameter bars	kg	85.00		
B	16mm diameter bars	Kg	503.00		
<b>2.3</b>	<b>FORMWORK TO IN-SITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally to concrete surfaces</b>				
A	Vertical sides of columns	m2	17.00		

B	Sides and soffit of horizontal beam	m2	26.00		
<b>ii</b>	<b>Edges of concrete</b>				
<b>ELEMENT NO. 3</b>	<b>WALLING</b>				
<b>3.2</b>	<b>EXTERNAL WALLING</b>				
<b>I</b>	<b>BLOCKWORK</b>				
A	Solid Concrete blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement mortar (1:4) ; 150mm Wall	m2	57.00		
B	150mm Wall to Parapet Wall	m2	24.00		
<b>ELEMENT NO. 4</b>	<b>ROOFING</b>				
<b>4.1</b>	<b>ROOF COVERING</b>				
<b>I</b>	<b>CORRUGATED OR TROUGHED SHEET ROOFING</b>				
<b>4.2</b>	<b>ROOF STRUCTURE</b>				
<b>I</b>	<b>STRUCTURAL TIMBER</b>				
<b>i</b>	<b>Mpodo, mtambara, cypress or cedar; seasoned with moisture content below 18%; pressure impregnated; treated with insecticide</b>				
A	Pitch pine structural grade 1 ; treated, bolts with different size is to be deemed included ; 150 x 75 mm Wall plates ; spiked to masonry	m	31.00		
B	Ditto: 100 x 50 mm rafter and bearers in trusses	m	72.00		
C	Ditto: 100 x 50 mm bottom chord	m	70.00		
D	Ditto: 100 x 50 mm struts	m	17.00		
E	Ditto : 50 x 50 mm. purlins	m	73.00		
<b>ii</b>	<b>Wrought Cypress; pressure impregnated Boarding</b>				
A	25 x 300mm thick fascia boarding ; butt joints (Hardwood selected)	m	7.00		
B	450x350x18mm Thick Marine Plywood plate (Hardwood selected )	m	24.00		
C	150x100x6mm Thick Angle Cleat	Nr	12.00		
D	ALUMINIUM ZINC SHEET FLASHINGS ; 26 gauge sheet flashing 100 mm. girth once bent aluminium zinc flashing fixed in raked out joint in blockwork ; closed with sealant	m	7.00		
E	Roof screeds ; 50mm (average) to falls to concrete gutter roof	m2	11.00		
F	PROPRIETARY WATERPROOF ROOFING MEMBRANE ; 50mm thick thermal insulation vapour control layer bonded on mastic asphalt ; to concrete slab ; over 300mm . girth	m2	11.00		
G	TILCOR ROOFING TILES ; Tilcor tiles roof covering not exceeding 45 degrees; on and including 50x25mm treated sawn cypress battens @ 260mm center ; Coverings ; sloping not exceeding 45 degrees from horizontal and fixed with appropriate accessories;	M2	37.00		
H	Ditto TILCOR ROOFING TILES : to Ridge	m	12.00		
I	Ditto TILCOR ROOFING TILES : to Hip	Nr	9.00		

<b>4.3</b>	<b>RAINWATER DISPOSAL</b>				
<b>I</b>	<b>Gutter work; unplasticised pvc half round gutters and fittings; purpose made; white colour; BS 4514</b>				
A	ROOF OUTLETS ; ACO Fulbora ; cast aluminium roof outlet ; domed grating cast into concrete and dress roof membrane to suit 110 mm. diameter pipe	Nr	6.00		
B	Carrodon Terrain uPvc rainwater gutter and pipework system ; BS 4576 ; white colour ; fascia brackets at 1.8 m centres ; slip in fittings in running length ; 110mm. uPVC pipe stand off wall brackets clips at at 1800mm. Centres	m	23.00		
C	Carrodon Terrain uPvc rainwater gutter and pipework system ; BS 4576 ; white colour ; fascia brackets at 1.8 m centres ; slip in fittings in running length ; extra over for shoe	Nr	6.00		
<b>ELEMENT NO. 5</b>	<b>WINDOWS</b>				
<b>5.1</b>	<b>PRECAST CONCRETE; WINDOW CILL</b>				
<b>I</b>	<b>Normal; class M20 (C16/20); vibrated; surface fair finish</b>				
A	Window Cills: 150mm Wall	m2	5.00		
<b>5.2</b>	<b>PURPOSE MADE UNITS (ALUMINIUM WINDOWS)</b>				
<b>I</b>	<b>Supply, fix/ install and commission all windows as per design</b>				
A	Bronze Anodized Aluminium Window Frames 100 mm x 40 mm , 2 mm thick sections complete with 6mm thick wired glass and mosquito gauze framing and all necessary ironmongeries; to Block work or Concrete work; Window size 1500 x 1800 mm overall W1	Nr	3.00		
B	Ditto: Window size 900 x 900 mm overall W5	Nr	1.00		
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>6.1</b>	<b>HARDWOOD DOORS</b>				
<b>II</b>	<b>GENERAL JOINERY; APPROVED LOCAL HARDWOOD</b>				
A	Doors; solid hardwood 'Mkongo" ; fixing 40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails soild Hardwood(Mkongo)door with 6 mm clear glass fanlight (m/s) ; Door Size 900 x 2400 mm overall D3.	Nr	1.00		
B	Doors; solid hardwood 'Mkongo" ; fixing 40mm thick single leaf veneered and polished solid door comprising of 20 x 50mm louvers "Z' shape ; Door Size 1200 x 2400 mm overall D5	Nr	1.00		
C	Doors; solid hardwood 'Mkongo" ; fixing 40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails soild Hardwood(Mkongo)door ; Door Size 800 x 2400 mm overall D6	Nr	1.00		
<b>III</b>	<b>DOOR ELEMENT MEMBERS</b>				
A	Frames: comprising of 0.50 mm thick Veneer finish and polished with oil paint as per	m	6.00		

	Approved Sample. ; to surfaces requiring plugging ; rough grounds ; 45 x210mm. rebated ; screwed and pellated				
B	Ditto Frame : 45x290mm. rebated ; screwed and pellated	m	12.00		
<b>IV</b>	<b>IRONMONGERY</b>				
	<b>Supply and fixing ironmongery as specified in the door schedule or other equal approved; To softwood; hardwood or the like; fixing with screws</b>				
A	Supply and fix ironmongery as per HAFELLE or equal and approved manufacturer to or timber with suitable screws provided ; Ball Bearing Hinges with 9 pair of 75(length) x 6(diameter) mm Lag screws or equal approved.	Prs	27.00		
B	SS Rebate Strike Plate with SS 9 Pair of 75(width) x 50(depth) x 6mm(thick)	Nr	18.00		
C	SS Strike Plate,SS 4Pair 75 x50mm	Nr	4.00		
D	Hafele Door handle Stainless steel brass coloured Cat No. 903.06.038 600mmX400mmX25mm for 8-80mm door thickness	Nr	3.00		
E	Hydraulic door closers or equal Approved door closer	Nr	1.00		
F	Medium Duty Door closer	Nr	2.00		
G	High security cylinder mortise lock complete set, as per HAFELE or an equivalent approved brand.	Nr	2.00		
H	Door Signage/Door Name Plates	Nr	3.00		
<b>VII</b>	<b>PAINTING AND/OR LIQUERING</b>				
<b>6.7</b>	<b>PAINTING AND/OR VANISH</b>				
A	Prepare and apply one coat of sand sealer, one coat of dark stain and two coats of clear eggshell polyurethane varnish. on wood surfaces before fixing ; Frames and the like over 100 but not exceeding 200mm girth	m	18.00		
B	Prepare, prime and apply three coats of mahogany varnish stain as per manufacturer's specification on wood surfaces ; General surfaces	m2	57.00		
C	Prepare, prime and apply three coats of mahogany varnish stain as per manufacturer's specification on wood surfaces ; Frames and the like over 100 but not exceeding 200mm girth	m	18.00		
<b>ELEMENT NO. 7</b>	<b>FINISHING AND DECORATION</b>				
<b>7.2</b>	<b>EXTERNAL WALL FINISHING AND DECORATION</b>				
<b>II</b>	<b>IN-SITU FINISHINGS</b>				
A	External cement and sand (1:4) rendering with approved plasticizer in two coats, inclusive of skimming steel trowelled to a smooth finish ; 15mm To walls	m2	24.00		
B	Ditto Plaster ; 15mm To coping	m2	24.00		

C	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Block walls	m2	87.00		
D	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; Isolated Coulmns	m2	1.00		
E	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to walls	m2	47.00		
<b>III</b>	<b>DECORATIONS</b>				
A	Prepare and apply one primer coat and two finishing coats of GALAXY weather guard paint or other equal and approved to Rendered wall	m2	24.00		
B	Ditto paint ; Rendered coping	m2	24.00		
C	Prepare and apply one primer coat and two finishing coats of as of PLASCON or equal and approved brand weather guard paint or other equal and approved to Rendered wall	m2	47.00		
<b>7.3</b>	<b>EXTERNAL CEILING FINISHING AND DECORATION</b>				
<b>II</b>	<b>BRANDERINGS</b>				
<b>III</b>	<b>PLAIN SHEET FINISHINGS</b>				
A	12mm Thick gypsum ceiling as per Arch drawings and approval including all necessary support grid system	m2	43.00		
B	60x60mm girth moulded gypsum cornice	m2	30.00		
<b>V</b>	<b>PAINTING, DECOREATION ETC</b>				
<b>7.4</b>	<b>INTERNAL FLOOR FINISHING</b>				
<b>I</b>	<b>TILES, SLAB OR BLOCK FINISHING</b>				
A	600x600x14mmMatt granite Tiles with approved high strength rapid setting adhesive to wood floated concrete floors and flush pointed with heavy duty grout; open joints straight both ways; to cement and sand base; generally to floors	m2	40.00		
B	Ditto; 600x300x14mmMatt granite Tiles	m2	32.00		
C	Skirting ; Full body Matt Porcelain tiles; 150mm high skirting (Match to tiles)	m	26.00		
D	300x600x14mm Porcelain wall Tiles ; Walls (WC)	m	10.00		
E	BEDS OR BACKINGS ; Mortar; cement and sand (1:4) ; 30mm to floors	m2	47.00		
F	BEDS OR BACKINGS ; Mortar; cement and sand (1:4) ; 12mm to walls	m2	10.00		
<b>7.5</b>	<b>INTERNAL WALL FINISHING AND DECORATION</b>				

<b>II</b>	<b>PAINTING AND DECORATION</b>				
A	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; to Block walls	m2	77.00		
B	Ditto paint ; Isolated Columns	m2	1.00		
<b>GUARD HUT CURRENCY</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>SUBSTRUCTURE</b>				
<b>1.2</b>	<b>EXCAVATION AND EARTHWORKS</b>				
<b>i</b>	<b>Foundation trenches</b>				
A	Excavate foundation trench commencing at formation level and not exceeding 1.50 metres deep	m3	164.00		
B	Excavate pit commencing at stripped level and not exceeding 1.50 metres deep	m3	82.00		
<b>iii</b>	<b>Breaking up rock</b>				
A	Extra over any kind of excavation for breaking up rock and the like (provisional)	m3	25.00		
<b>iv</b>	<b>Back filling or imported/ selected fill materials</b>				
D	Selected excavated material, deposit, well compacted and consolidated to make up levels under floor;	m3	207.00		
<b>v</b>	<b>Disposal of excavated materials</b>				
F	Load up surplus excavated material and remove from site	m3	39.00		
<b>1.3</b>	<b>DISPOSAL OF WATER</b>				
A	Allow for keeping excavations free from water (except spring or running water) by pumping, baling or other means necessary	item	1.00		
<b>1.4</b>	<b>PLANKING AND STRUTTING</b>				
A	Allow for the provision and subsequent removal of planking and strutting to uphold and maintain all faces of excavations	item	1.00		
<b>1.5</b>	<b>HARDCORE OR THE LIKE</b>				
<b>i</b>	<b>Filling in making up levels</b>				
<b>ii</b>	<b>Sand blinding</b>				
<b>iii</b>	<b>Hardcore; bard or coral stone; recommenced size 40 - 75mm</b>				
A	200mm Bed levelled, compacted to 95% MDD and blinded to receive polythene membrane (measured separately)	m2	84.00		
<b>1.6</b>	<b>ANTI-TERMITE TREATMENT</b>				
<b>i</b>	<b>Gammalin 20 EC Solution or other equal approved solution</b>				
A	Aldrin 0.50% solution applied at a rate of 7 litres per square metre to hardcore bed	m2	84.00		
<b>1.7</b>	<b>INSITU CONCRETE; PLAIN</b>				

<b>i</b>	<b>Normal; class 1:10</b>				
A	Plain insitu concrete grade "15" granite or basalt aggregates ; 50mm Blinding	m2	164.00		
<b>1.8</b>	<b>INSITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated</b>				
A	Reinforced insitu concrete grade "25" granite or basalt aggregates including vibrating around reinforcement ; Ground beam	m3	5.00		
B	Ditto Reinforced insitu concrete grade "25"; 100mm Thick bed	m2	106.00		
C	Reinforced insitu concrete grade "30" granite or basalt aggregates including vibrating around reinforcement ; Strip foundation	m3	14.00		
D	Ditto Reinforced insitu concrete grade "30" ; Column bases	m3	7.00		
E	Ditto Reinforced insitu concrete grade "30" ; Columns and the like	m3	2.00		
<b>1.9</b>	<b>REINFORCEMENT</b>				
<b>i</b>	<b>Bars; mild steel; hot rolled; B.S. 4449; In any location</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461; In any location</b>				
A	8mm Diameter bars	kg	228.00		
B	16mm Diamater bars	Kg	1,244.00		
C	20mm Diameter bars	Kg	852.00		
<b>iii</b>	<b>Fabric wire mesh</b>				
A	reference A252; weighing 2.22kg/m2; 300mm sieide and end laps	m2	106.00		
<b>1.10</b>	<b>FORMWORK TO INSITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally</b>				
A	Strip foundation	m2	39.00		
B	Columns bases	m2	24.00		
C	Columns	m2	25.00		
D	Ground beams	m2	45.00		
<b>iii</b>	<b>Sides of risers of steps or staircases</b>				
<b>1.11</b>	<b>BLOCKWORK OR STONEWORKS</b>				
<b>i</b>	<b>Blockwork foundation wall</b>				
A	230mm thick wall; Solid Concrete blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement mortar (1:4)	m2	86.00		
<b>1.12</b>	<b>DAMP PROOF MATERIALS</b>				
<b>i</b>	<b>Damp Proof Course</b>				
A	Hessian based bituminous felt damp proof course to B.S. 743 type 5A with 200 mm laps bedded and pointed in cement mortar (1:3) ; 230mm wide	m	374.00		
<b>ii</b>	<b>Damp Proof Membranes</b>				



A	500 Gauge polythene damp-proof membrane, laid with 200 mm side and end laps on blinded hardcore(m/s) to receive concrete	m2	84.00		
<b>1.14</b>	<b>INSITU FINISHINGS</b>				
<b>i</b>	<b>In situ rendering/ bedding</b>				
A	12mm Cement and sand render to walls (1:4) external rendering to concrete or blockwork	m2	28.00		
<b>1.15</b>	<b>DECORATION</b>				
<b>i</b>	<b>Weatherguard Paint</b>				
A	Prepare and apply one undercoat and two finishing coats of bituminous paint to rendered plinth wall; wood floated rendered surfaces; external	m2	28.00		
<b>ELEMENT NO. 2</b>	<b>FRAMES/ REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>2.1</b>	<b>IN-SITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated around reinforcement</b>				
A	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Horizontal beams	m2	8.00		
B	Reinforced concrete grade "25" ; Concrete gutter	m2	1.00		
C	Reinforced concrete grade "30"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Columns	m3	3.00		
D	Precast concrete coping ; 230 x 75mm thick concrete coping to the top of the parapet wall	m	52.00		
<b>2.2</b>	<b>REINFORCEMENT BARS</b>				
<b>i</b>	<b>Bars; mild steel; hot rolled; B.S. 4449</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461</b>				
A	8mm diameter	kg	264.00		
B	16mm diameter	Kg	1,483.00		
C	20mm Diameter bars	Kg	852.00		
<b>2.3</b>	<b>FORMWORK TO IN-SITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally to concrete surfaces</b>				
A	Vertical sides of columns	m2	52.00		
B	Sides and soffit of horizontal beam	m2	85.00		
<b>iii</b>	<b>Sides of risers of staircases</b>				
<b>ELEMENT NO. 3</b>	<b>WALLING</b>				
<b>3.2</b>	<b>EXTERNAL WALLING</b>				
<b>I</b>	<b>BLOCKWORK</b>				
A	Solid Concrete blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement mortar (1:4) ; 150mm Wall	m2	207.00		
B	Ditto Window Cills ; 150mm Wall	m2	15.00		
C	Ditto Parapet wall ;	m2	52.00		

<b>ELEMENT NO. 4</b>	<b>ROOFING</b>				
<b>4.1</b>	<b>ROOF COVERING</b>				
<b>I</b>	<b>CORRUGATED OR TROUGHED SHEET ROOFING</b>				
A	26Gauge IT 5 corrugated roofing sheets; Coverings ; sloping not exceeding 45 degrees from horizontal and fixed with appropriate accessories	m2	148.00		
B	Ditto ; Ridge/hip	m	31.00		
<b>4.2</b>	<b>ROOF STRUCTURE</b>				
<b>I</b>	<b>STRUCTURAL TIMBER</b>				
<b>i</b>	<b>Mpodo, mtambara, cypress or cedar; seasoned with moisture content below 18%; pressure impregnated; treated with insecticide</b>				
A	Pitch pine structural grade 1 ; treated, bolts with different size is to be deemed included ; 150 x 75 mm Wall plates ; spiked to masonry	m	52.00		
B	Ditto ; 150 x 75 mm Wall plates ; spiked to masonry	m	101.00		
C	Ditto; 100 x 50 mm bottom chord	m	90.00		
D	Ditto ; 100 x 50 mm struts	m	101.00		
E	Ditto; 50 x 50 mm. purlins	m	491.00		
<b>ii</b>	<b>Wrought Cypress; pressure impregnated Boarding</b>				
A	Hardwood selected ; 25 x 300mm Facsia boarding, butt joints	m	52.00		
<b>4.3</b>	<b>RAINWATER DISPOSAL</b>				
<b>I</b>	<b>Gutter work; unplasticised pvc half round gutters and fittings; purpose made; white colour; BS 4514</b>				
<b>ELEMENT NO. 5</b>	<b>WINDOWS</b>				
<b>5.1</b>	<b>PRECAST CONCRETE; WINDOW CILL</b>				
<b>I</b>	<b>Normal; class M20 (C16/20); vibrated; surface fair finish</b>				
<b>5.2</b>	<b>PURPOSE MADE UNITS (ALUMINIUM WINDOWS)</b>				
<b>I</b>	<b>Supply, fix/ install and commission all windows as per design</b>				
A	Bronze Anodized Aluminium Window Frames 100 mm x 40 mm with 6mm Clear Glass fixed to Block work or Concrete work ; Window size 1500 x 1800 mm overall W1	Nr	9.00		
B	Ditto ; Window size 1500 x 1500 mm overall W2	Nr	2.00		
C	Ditto ; Window size 900 x 900 mm overall W5	Nr	2.00		
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>6.1</b>	<b>HARDWOOD DOORS</b>				
<b>II</b>	<b>GENERAL JOINERY; APPROVED LOCAL HARDWOOD</b>				
A	Doors; solid hardwood 'Mkongo" ; fixing 40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails soild Hardwood(Mkongo)door with 6 mm clear glass fanlight (m/s) ; Door Size 900 x 2400 mm overall D3	Nr	5.00		

B	40mm thick single leaf veneered and polished solid door comprising of 20 x 50mm louvres "Z" shape; Door Size 1200 x 2400 mm overall D5	Nr	1.00		
C	40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails solid Hardwood(Mkongo)door ; Door Size 800 x 2400 mm overall D6	Nr	3.00		
<b>III</b>	<b>DOOR ELEMENT MEMBERS</b>				
A	Frames: comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging ; rough grounds ; 45x210mm. rebated ; screwed and peltated	m	6.00		
B	Frames: comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging ; rough grounds ; 45x290mm. rebated ; screwed and peltated	m	47.00		
C	Architraves; comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. mould ; 45 x 70mm Architrave	m	106.00		
D	Prepare and apply one coat of sand sealer, one coat of dark stain and two coats of clear eggshell polyurethane varnish. on wood surfaces before fixing ; Frames and the like over 100 but not exceeding 200mm girth	m2	53.00		
E	Prepare and apply one coat of sand sealer, one coat of dark stain and two coats of clear eggshell polyurethane varnish. on wood surfaces before fixing ; General surfaces	m2	57.00		
<b>IV</b>	<b>IRONMONGERY</b>				
	<b>Supply and fixing ironmongery as specified in the door schedule or other equal approved; To softwood; hardwood or the like; fixing with screws</b>				
A	Supply and ironmongery as per HAFELLE or equal and approved manufacturer to or timber with suitable screws provided ; Ball Bearing Hinges with 9 pair of 75(length) x 6(diameter) mm Lag screws or equal approved	Prs	13.50		
B	SS Rebate Strike Plate with SS 9 Pair of 75(width) x 50(depth) x 6mm(thick)	Nr	8.00		
C	SS Strike Plate,SS 4Pair 75 x50mm	Nr	1.00		
D	Hafele Door handle Stainless steel brass coloured Cat No. 903.06.038 600mmX400mmX25mm for 8-80mm door thickness	Nr	9.00		
E	Hydraulic door closers or equal Approved door closer	Nr	1.00		
F	Medium Duty Door closer	Nr	8.00		
G	High security cylinder mortise lock complete set, as per HAFELE or an equivalent approved brand.	Nr	1.00		
H	Cylinder Lock Martice Lock and handle	Nr	8.00		

	Complete Set as per HAFELE or Equal Approved				
I	Door Signage/Door Name Plates	Nr	9.00		
<b>ELEMENT NO. 7</b>	<b>FINISHING AND DECORATION</b>				
<b>7.2</b>	<b>EXTERNAL WALL FINISHING AND DECORATION</b>				
<b>II</b>	<b>IN-SITU FINISHINGS</b>				
A	External cement and sand (1:4) rendering with approved plasticizer in two coats, steel trowelled to a smooth finish ; 15mm To walls	m2	126.00		
B	Ditto Plaster ; 15mm To coping	m2	52.00		
C	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Block walls	m2	245.00		
D	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Block walls	m2	112.00		
<b>III</b>	<b>DECORATIONS</b>				
A	Prepare and apply one primer coat and two finishing coats of GALAXY weather guard paint or other equal and approved to Rendered wall	m2	126.00		
B	Ditto paint ; Rendered coping	m2	52.00		
C	Prepare and apply one primer coat and two finishing coats of as of PLASCON or equal and approved brand weather guard paint or other equal and approved to Rendered wall	m2	112.00		
<b>7.3</b>	<b>EXTERNAL CEILING FINISHING AND DECORATION</b>				
<b>I</b>	<b>INSITU FINISHING OR THE LIKE</b>				
A	Internal work ; Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; Block walls	m2	231.00		
<b>II</b>	<b>BRANDERINGS</b>				
<b>III</b>	<b>PLAIN SHEET FINISHINGS</b>				
C	Gypsum boards; to approval of the Project Manager; fixing with screws to manufacturer's recommendations; 10mm; scrim coat filler to tapped joints; set to pattern to timber base; generally to ceilings	m2	110.00		
<b>V</b>	<b>PAINTING, DECOREATION ETC</b>				
E	Prepare and apply one undercoat and two full coats of weather guard paint as per Project Manager's approval to gypsum ceiling	m2	110.00		
<b>7.4</b>	<b>INTERNAL FLOOR FINISHING</b>				
<b>I</b>	<b>TILES, SLAB OR BLOCK FINISHING</b>				
A	600x600x14mm Matt granite Tiles ; To floor	m2	76.00		

B	Skirting ; Full body Matt Porcelain tiles ; 150mm high skirting (Match with floor tiles)	m	89.00		
<b>7.5</b>	<b>INTERNAL WALL FINISHING AND DECORATION</b>				
<b>II</b>	<b>PAINTING AND DECORATION</b>				
A	WALL TILES ; 600x300x14mmMatt procelain Tiles ; To walls	m2	14.00		
B	BEDS OR BACKINGS ; Mortar; cement and sand (1:4) ; 30mm to floors	m2	90.00		
C	BEDS OR BACKINGS ; Mortar; cement and sand (1:4) ; 12mm to walls	m2	14.00		
<b>7.6</b>	<b>INTERNAL CEILING FINISHING AND DECORATION</b>				
<b>I</b>	<b>IN-SITU FINISHINGS OR THE LIKE</b>				
A	Supply and fix 60x60mm girth moulded gypsum cornice	m2	97.00		
B	Supply and fix 12mm Thick gypsum ceiling as per Arch drawings and approval including all necessary support grid system	m2	110.00		
<b>ROADS</b>					
<b>SERIES 2000</b>	<b>DRAINAGE</b>				
<b>Series 2300</b>	<b>Concrete Kerbing, Concrete Channelling,Open Concrete Chutes and Concrete Lining for Open Drains</b>				
<b>24.02</b>	<b>Concrete Class 30 for kerbstone</b>				
A	ACCESS ROADS ; Drains ; Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Concrete for drains	m3	90.00		
B	ACCESS ROADS; Fabric mesh reinforcment; BS 4483 ; Reference A142; weighing 2.22 kgs/m2 ; 300 mm. side and end laps	m2	893.00		
C	ACCESS ROADS ; Kerbstone ; 450x325x150mm Precast concrete grade 20 kerbstone, battered at top laid on and including 380x250mm high concrete grade 20 haunch, 200x100mm channel concrete grade 20, hot poured rubber bitumen compound joint sealer and including excavations, grading bottoms and disposal of excavated material	m	200.00		
D	Concrete class 15 haunching for kerbstones	m3	10.00		
E	PAVED CIRCULATION; General excavation from stripped ground level ; Excavate to receive filling materials and pavers to Engineer's drawing details	m3	40,655.00		
F	PAVED CIRCULATION ; Grade and compact surfaces of excavations to falls and cambers	m2	7,475.00		
G	PAVED CIRCULATION; 150mm thick deep insitu scarified materials G15 deep subgrade and compacted to 93% (of Max Dry Densit) to be approved by Engineer	m3	169.00		
H	PAVED CIRCULATION; 150mm thick deep insitu scarified materials G45 deep subgrade and compacted to 93% (of Max Dry Densit) to be approved by Engineer	m3	1,121.00		

I	PAVED CIRCULATION; 30mm well graded and compacted bedding sand	m2	7,475.00		
J	DAMP PROOF MEMBRANE ; 500 Gauge polythene damp-proof membrane, laid with 200 mm side and end laps on blinded hardcore(m/s) to receive concrete	m2	7,475.00		
K	Pre Cast Concrete Paving Blocks ; 200x100x80mm Heavy duty interlocking paver blocks with compressive strength not less than 40N/mm2	m2	7,475.00		
L	'KERBSTONE ; 450x325x150mm Precast concrete grade 20 kerbstone, battered at top laid on and including 380x250mm high concrete grade 20 haunch, 200x100mm channel concrete grade 20, hot poured rubber bitumen compound joint sealer and including excavations, grading bottoms and disposal of excavated material	m	1,132.00		
M	Concrete class 15 haunching for kerbstones	m3	60.00		
<b>SERIES 4000</b>	<b>BITUMINOUS LAYERS AND SEALS</b>				
<b>4200</b>	<b>Asphalt Concrete Surfacing</b>				
A	50mm Thick Asphalt concrete surfacing mix type AC14 (with 60/70 penetration grade bitumen) compacted to minimum 93% of maximum theoretical dry density	m3	67.00		
B	Bitumen for Asphalt concrete surfacing 40/50 penetration grade bitumen	ton	9.00		
C	Prime coat MC30 of 30% stable grade bitumen emulsion	litres	1,339.00		
<b>SERIES 5000</b>	<b>ANCILLARY ROADWORKS</b>				
<b>5400</b>	<b>Road Signs</b>				
A	Road Signs with reflective sheeting (Standard Aluminium 2.0mm thick, area not exceeding 2.0m2) ; Regulatory signs (600mm)	Nr	1.00		
B	Ditto ; Warning signs (600mm)	Nr	1.00		
C	Information signs (0-m2)	Nr	1.00		
<b>5500</b>	<b>Road Markings</b>				
<b>55.01</b>	<b>Road Markings Paint</b>				
A	Road Markings including setting out and premarking of lines. ; Road-marking paint: ; White and Yellow lines (broken or unbroken) ; Width of White line 100mm	m	250.00		
B	Ditto ; Width of Yellow line 100mm	m	250.00		
C	Setting out and pre-marking the lines (excluding traffic-island markings, lettering and symbols)	m	500.00		
E	Re-establishing the painting unit at the end of the Defect Liability Period:	L.S	1.00		
<b>5700</b>	<b>Landscaping and Grassing</b>				
<b>57.03</b>	<b>Preparing areas for grassing</b>				
A	ACCESS ROADS ; CAR DRIVEWAYS;	m3	540.00		

	Asphalt Concrete; Grade and compact surface of excavations to falls and cambers				
B	ACCESS ROADS ; CAR DRIVEWAYS; Asphalt Concrete; 150mm Thick deep improved subgrade layer G15 scarified and compacted 95% of Max Dry DensityBS Heavy to be approved by Engineer on site to typical road section	m3	201.00		
C	ACCESS ROADS ; CAR DRIVEWAYS; Asphalt Concrete; 150mm Thick deep improved subgrade layer G7 scarified and compacted 95% of Max Dry DensityBS Heavy to be approved by Engineer on site to typical road section	m3	209.00		
D	ACCESS ROADS ; CAR DRIVEWAYS; Asphalt Concrete; 200mm Thick deep thick subbase layer, C1 compacted to Minimum 97% of Max Dry Density BS Heavy to Engineers approval	m3	268.00		
E	ACCESS ROADS ; CAR DRIVEWAYS; Asphalt Concrete; 150mm Thick deep thick layer, CRR compacted to Minimum 88% of Aggregate Density to Engineer's approval	m3	201.00		
F	ACCESS ROADS ; CAR DRIVEWAYS; Asphalt Concrete; Chemical stabiliser agents :Ordinary Portland Cement	ton	11.00		
<b>FIRE FIGHTING INSTALLATION</b>					
<b>BILL NO. 4</b>	<b>BUILDING SERVICES INSTALLATIONS</b>				
<b>ELEMENT NO. 1</b>	<b>SANITARY AND PLUMBING INSTALLATIONS</b>				
	<b>1. MAIN BUILDING</b>				
	<b>FIRE FIGHTING INSTALLATIONS</b>				
	<b>PORTABLE FIRE EXTINGUISHER</b>				
	<b>Supply and install the following portable fire extinguisher bottles complete with wall mounting brackets</b>				
A	Supply, install, test and commission Fire extinguisher bottles Dry powder (ABC), 6kg mounted on wall	Nr	10.00		
B	Supply, install, test and commission Fire extinguisher bottles Carbon dioxide (Co2), 6kg mounted on wall	Nr	10.00		
	<b>HOSE REEL INSTALLATION</b>				
	<b>Pipe work galvanized mild steel pipes to BS 1387 medium grade with screwed and socketed joints Exposed parts painted red</b>				
A	Piping; Supply install, test and commission in good working condition hose reel pipes and fittings in galvanized heavy grade material to BS 1387 and BS 1256; Pipes and fittings in running length fixed to backgrounds requiring plugging ; 65mm diameter,GI pipe	m	115.00		
B	Ditto; 50mm diameter, GI pipe	m	60.00		
C	Ditto; 25mm diameter, GI pipe	m	12.00		
D	Ditto Elbow ; 25mm diameter	Nr	10.00		

E	Ditto Tee ; 50 x 25mm	Nr	8.00		
F	Ditto Union GI ; 25mm	Nr	10.00		
G	Ditto Gate valve ; 25mm diameter	Nr	10.00		
H	Supply, install, test and commission Automatic Fire Hose Reel, swinging type, 25mm diameter hose, 30m long,	Nr	10.00		
I	Hose Reel connection to Pump ; Allow for extra pipe fittings as per site conditions	item	1.00		
<b>SPRINKLER INSTALLATION</b>					
A	AUTOMATIC SPRINKLER SYSTEM ; Supply install, test and commission Automatic Fire pump comprising two pumps, one electrical and other diesel engine pump each of capacity 50m <sup>3</sup> /h - 80m head and jockey pump capacity 12m <sup>3</sup> /hr - 80m head at characteristics required to suite the system . The pump must be self priming and operate in parralel. Electrical power from the generator must be available to electrical pump through automatic changeover facility The pumps should be installed on a common base complete with all associated accessories like pannel etc	Set	1.00		
B	Supply and install fuel tank with capacity of 100 litres, complete with fuel gauge, fill cap, stand approximate 1m high and other fittings.	Nr	1.00		
<b>Supply and install fire-fighting system complete with all associated accessories; pipe work, galvanized mild steel pipes to BS 1387 , medium grade with screwed and socketed joints. Exposed parts painted red. Pipes, galvanized hangers or holderbats fixing to backgrounds requiring plugging</b>					
A	Supply install, test and commission in good working condition sprinkler pipes and fittings in galvanized heavy grade material to BS 1387 and BS 1256: Ø 100 mm to be connected with flanges . All areas without false ceiling to be provided with upright type ; Pipes and fittings in running length suspended from concrete soffit, suspension hangers 1 metre apart; Pipes: Ø 25mm	m	1,764.00		
B	Ditto pipe ; Ø 32mm	m	600.00		
C	Ditto pipe ; Ø 40mm	m	525.00		
D	Ditto pipe ; Ø 50mm	m	630.00		
E	Ditto pipe ; Ø 100mm	m	160.00		
F	Allow for Supply and install pipe fittings and accessories for the above piping ;	item	1.00		
G	Supply and fix Butterfly isolating valve ; Ø 100mm	Nr	9.00		
H	Supply and fix Non return valve	Nr	9.00		
I	Supply and fix Floor drain valve	Nr	9.00		
J	Supply and fix Floor test sign glass	Nr	9.00		
K	Sprinkler heads; Supply, install, test and commission Sprinkler heads with temperature rating of 57°C.	Nr	927.00		



L	Sprinkler heads ; Supporting brackets for entire piping	item	1.00		
<b>BUILDER'S WORKS IN CONNECTION</b>					
<b>Builder's work in connection with Plumbing Installations and all the foregoing works.</b>					
A	FM-200 FIRE SUPPRESSION SYSTEM ; Supply, installation, testing and commissioning of Automation Fire Suppression system based on FM-200 (HFC 227 EQ) and consisting of minimum 100 Kg FM 200 (HFC227EQ) Cylinder Ionization/optical Smoke Detectors -4 Nos. Fire Alarm Bell -1 No. Siren / Hooter -1 No. Automatic Discharge Nozzles(180/360 deg.) -1 Nos. Pipes and accessories of ASTM Schedule 40 - 15m Complete with Fire Extinguisher Control Panel, high rated Discharge Valve, Auto / Manual Actuator with Explosive Cartridge, Pressure Gauge, Pressure Switch, Discharge Hose, Protection Cap, Bracket etc.	Set	20.00		
B	FIRE HYDRANT SYSTEM ; Supply and install 65mm nominal diameter pillar fire hydrant type "ANGUS", "NAFFCO" or similar to be approved.	Nr	6.00		
C	FIRE HYDRANT SYSTEM; Supply install, test and commission in good working condition fire hydrant pipes and fittings in galvanized heavy grade material to BS 1387 and BS 1256: Ø 100mm to be connected with flanges	m	578.00		
D	FIRE HYDRANT SYSTEM; Supply and install Flat Fire Hose, 65mm diameter hose, 30m long,	Nr	6.00		
E	FIRE HYDRANT SYSTEM; Supply and install Fire Hydrant equipment cabinet-560x1180x330mm (floor mounted type)	Nr	6.00		
F	Factory Acceptance Test (FAT) ; Allow for Factory Acceptance Test on major equipment like Fire pump set , Fire doors , Fire panel, and other related equipment's for at least five (5) days at Manufacturer's premises for at least five (5) pax BoT Representatives, All cost for Air ticket, Local transport abroad, Per Diem, Vizas, COVID-19 protocols compliance shall be borne by the Supplier (Service provider)	item	1.00		
FIRE PUMP	Supply install, test and commission AutomaticFire pump comprising two pumps, one electrical and other diesel engine pump each of capacity 15m³/h - 50m head and . The pump must be self priming and operate in parralel.The pumps should be installed on a common base complete with all associated accessories like pannel etc	Set	2.00		
FUEL TANK	Supply and install fuel tank with capacity of 100 litres, complete with fuel gauge, fill cap, stand approximate 1m high and other fittings.	Nr	2.00		
<b>FLAGPOST</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				

ELEMENT NO. 1	SUBSTRUCTURE				
1.2	EXCAVATION AND EARTHWORKS				
i	Foundation trenches				
A	Excavate pit to receive column bases or the like ; up to 1.50 m deep	m3	3.00		
1.8	INSITU CONCRETE; REINFORCED				
i	Normal; class 25/20; vibrated				
A	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Columns	m3	0.10		
B	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Steps	m3	2.00		
1.9	REINFORCEMENT				
ii	Bars; high yield steel; cold worked; B.S. 4461; In any location				
A	8mm	kg	3.00		
B	16mm	Kg	61.00		
1.10	FORMWORK TO INSITU CONCRETE				
i	Formwork generally				
A	Steps	m2	5.00		
B	Columns bases and the like	m2	1.00		
ELEMENT NO. 5	WINDOWS				
5.4	GRILLES				
I	ROLLED PLATES; BARS SECTIONS AND TUBES				
A	Providing and fixing 50mm, 7.00m high stainless steel flag post as per Str Eng drawing and Arch approval including all necessary components necessary cost of laser cutting and fitting installing in position.	item	1.00		
ELEMENT NO. 7	FINISHING AND DECORATION				
7.1	EXTERNAL FLOOR FINISHING				
I	TILE, SLAB OR BLOCK FINISHINGS				
HVAC INSTALLATION					
BILL NO. 4	BUILDING SERVICES INSTALLATIONS				
ELEMENT NO. 3	HEATING, VENTILATION AND AIR CONDITIONING INSTALLATIONS				
	AIR-CONDITIONING AND VENTILATION				
	Single Split Air Conditioners with ceiling cassette Fan coil unit				
BASEMENT FLOOR	STRONG ROOMS; Large ducted Single/Dual Split Air Conditioning system LG/ CARRIER Brand or Approved Equivalent. or Approved Equivalent. ; Supply, install, test and commission Direct expansion (DX) air conditioning with air-cooled condensers and Ducted type floor mounted indoor with rear air intake and top/front air supply outlet with cooling capacity of 87.0kW Intergrated with wired remote Controller The installation will include copper pipes and insulations for	item	1.00		

	connecting between the units.				
B	Supply, install, test and commission Direct expansion (DX) air conditioning with air-cooled condensers and Ducted type floor mounted indoor with rear air intake and top/front air supply outlet with cooling capacity of 72.0kW Integrated with wired remote Controller The installation will include copper pipes and insulations for connecting between the units.	item	2.00		
C	Supply, install, test and commission Direct expansion (DX) air conditioning with air-cooled condensers and Ducted type floor mounted indoor with rear air intake and top/front air supply outlet with cooling capacity of 25.0kW Intergrated with wired remote Controller The installation will include copper pipes and insulations for connecting between the units.	Nr	1.00		
D	ROOF PACKAGED UNIT Air Conditioning system LG/ CARRIER Brand or Approved Equivalent ; Packaged roof top unit of cooling capacity of 48kW at 35 deg C ambient temperature and 20 deg C entering wet bulb. Roof top packaged air conditioning unit with both cooling & heating capabilities through inverter control. It shall have outdoor air section with damper to allow for upto 30% outdoor fresh air, Return plenum / economizer section, Filter section, Cooling coil section, Supply fan section, Condensing unit section, as well as exhaust fan. The evaporator coil, condenser coil, compressors and refrigerant circuit shall be designed for heat pump operation. The refrigerant circuit shall contain a 4 way reversing valve for the heat pump operation. The outdoor coil shall have an electronic expansion valve to control the refrigerant flow. Supply and exhaust fans shall have variable air volume (VAV) control. The unit shall be factory charged with R-410A refrigerant and shall be as Mitsubishi or approved equivalent ;	Nr	2.00		
E	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 900x600mm	m	150.00		
F	Ditto Duct ; 700x600mm size	m	80.00		
G	Ditto Duct ; 700x500mm Size	m	60.00		
H	Ditto Duct ; 600x600mm Size	m	90.00		
I	Ditto Duct ; 500x300mm Size	m	40.00		

J	Ditto Duct ; 300x300mm Size	m	10.00		
K	Supply Air diffuser (SAD) ; Supply and install Air Supply diffuser, with air flow rate of 2300m3/hr	Nr	26.00		
L	Supply Air diffuser (SAD) ; Supply and install Air Supply diffuser, with air flow rate of 1000m3/hr	Nr	10.00		
Return Air grille (RAG)	Supply and install Air Return grille, with air flow rate of 2300m3/hr	Nr	26.00		
B	Supply and install Air Return grille, with air flow rate of 1000m3/hr	Nr	10.00		
Air Volume Control Damper	Supply and install Air Volume Control Damper ; 900x600mm Size	Nr	5.00		
B	Supply and install Air Volume Control Damper ; 700x600mm Size	Nr	2.00		
C	Supply and install Air Volume Control Damper ; 700x500mm Size	Nr	2.00		
D	Supply and install Air Volume Control Damper ; 600x600mm Size	Nr	7.00		
E	Supply and install Air Volume Control Damper ; 500x300mm Size	Nr	2.00		
Condensate Drainage System	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 32mm	m	130.00		
Wiring	Supply and installation of power wiring from the isolator switch to outdoor units 25.0mm2 PVC/SWA/PVC Copper cable	m	60.00		
B	Supply and installation of power wiring from the isolator switch to outdoor units 6.0mm2 PVC/SWA/PVC Copper cable	m	60.00		
C	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm2 PVC/PVC Copper cable	m	48.00		
D	Allow for supply and install of control cable for the system. 0.75mm2 PVC/PVC Copper cable	m	200.00		
Multi-split Systems/ Variable Refrigerant Flow (VRF)	Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow	Nr	2.00		

	away dust and sand accumulated on the condenser coil ; 39.2 kW Cooling capacity				
B	Ditto ; 44.8 kW Cooling capacity	Nr	1.00		
C	Ditto ; 56.0 kW Cooling capacity	Nr	1.00		
INDOOR UNITS	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 12.3kW	Nr	7.00		
B	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Suspended type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 4.5kW	Nr	16.00		
C	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Suspended type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 3.6kW	Nr	4.00		
Refnet joint	Y- Shapes refrigerant piping connection joint matching the circuit capacity	Nr	24.00		
B	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 6.32mm	m	50.00		
C	Ditto Copper pipe ; Diameter 9.5mm	m	43.00		
D	Ditto Copper pipe ; Diameter 12.7mm	m	80.00		
E	Ditto Copper pipe ; Diameter 15.9mm	m	85.00		
F	Ditto Copper pipe ; Diameter 19.1mm	m	45.00		
G	Ditto Copper pipe ; Diameter 22.2mm	m	39.00		
H	Ditto Copper pipe ; Diameter 28.6mm	m	30.00		
I	Ditto Copper pipe ; Diameter 31.75mm	m	20.00		
Condensate Drainage System	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 32mm	m	150.00		
Wiring	Supply and installation of power wiring from the isolator switch to outdoor units ; 6.0mm <sup>2</sup> PVC/SWA/PVC Copper cable	m	80.00		
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm <sup>2</sup> PVC/PVC Copper cable	m	50.00		

C	Allow for supply and install of control cable for the system. 0.75mm <sup>2</sup> PVC/PVC Copper cable	m	200.00		
DUCT SYSTEM FOR AIR SUPPLY AND RETURN	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 600x200mm	m	50.00		
B	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 400x200mm	m	35.00		
C	Supply and install Air Supply diffuser, 600 x 600mm	Nr	20.00		
D	Return Air grille (RAG); Supply and install Air Return grille, 600 x 600mm	Nr	15.00		
E	Return Air grille (RAG); 150mm insulated flexible duct manufactured from aluminium foil complete with connectors, stiffeners.	m	80.00		
MECHANICAL VENTILATION	Toilet Exhaust System ; Supply, install, test and commission In-line Extract fan with capacity of 300m <sup>3</sup> /hr - 120Pa, complete with all accessories	Nr	1.00		
B	Supply, install, test and commission In-line Extract fan with capacity of 900m <sup>3</sup> /hr - 120Pa, complete with all accessories	Nr	1.00		
C	Supply, install, test and commission In-line Extract fan with capacity of 1600m <sup>3</sup> /hr - 120Pa, complete with all accessories	Nr	1.00		
D	Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 500x200mm	m	6.00		
E	Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 300x200mm	m	6.00		
F	Supply and install ventilation duct in galvanised steel plate, with flanged joints air-	m	20.00		

	tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm; 200x200mm				
G	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	38.00		
H	Supply and install flexible duct with 150mm diameter	m	70.00		
I	Allow for supply and fix Transition piece from square to round duc	Nr	70.00		
J	Supply and install external air grille 600 x 600 mm, maximum noise 45 db	Nr	3.00		
GROUND FLOOR - MAIN BUILDING	Multi-split Systems/ Variable Refrigerant Flow (VRF); Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condesing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil; 39.2 kW Cooling capacity	Nr	2.00		
B	Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condesing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil; 56.0 kW Cooling capacity	Nr	2.00		
C	INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 14.1kW	Nr	5.00		
D	INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan	Nr	1.00		

	Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 12.3kW				
E	INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 10.6kW	Nr	7.00		
F	INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 7.1kW	Nr	3.00		
F	INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 5.6kW	Nr	1.00		
G	INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 3.6kW	Nr	2.00		
H	Refnet joint ; Y- Shapes refrigerant piping connection joint matching the circuit capacity	Nr	15.00		
I	Refnet joint ; Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 6.32mm	m	25.00		
J	Refnet joint ; Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 9.5mm	m	33.00		
K	Refnet joint ; Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 12.7mm	m	72.00		
L	Refnet joint ; Supply, install, test and commission single copper piping system for	m	50.00		



	liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 15.9mm				
M	Refnet joint ; Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 19.1mm	m	45.00		
N	Refnet joint ; Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 22.2mm	m	59.00		
O	Refnet joint ; Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 28.6mm	m	38.00		
Condensate Drainage System	Condensate Drainage System ; Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 32mm	m	150.00		
B	Condensate Drainage System ; Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 40mm	m	18.00		
Wiring	Supply and installation of power wiring from the isolator switch to outdoor units 6.0mm <sup>2</sup> PVC/SWA/PVC Copper cable	m	80.00		
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm <sup>2</sup> PVC/PVC Copper cable	m	35.00		
C	Allow for supply and install of control cable for the system. 0.75mm <sup>2</sup> PVC/PVC Copper cable	m	150.00		
DUCT SYSTEM FOR AIR SUPPLY AND RETURN	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated,	m	90.00		

	assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 600x200mm				
B	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 400x200mm	m	100.00		
Supply Air diffuser (SAD)	Supply and install Air Supply diffuser, 600 x 600mm	Nr	47.00		
B	Supply and install Air Supply diffuser ;	Nr	5.00		
Return Air grille (RAG)	Supply and install Air Return grille, 600 x 600mm	Nr	35.00		
B	150mm insulated flexible duct manufactured from aluminium foil complete with connectors, stiffeners.	m	100.00		
MECHANICAL VENTILATION	Toilet Exhaust System ; Supply, install, test and commission In-line Extract fan with capacity of 750m3/hr - 120Pa, complete with all accessories	Nr	1.00		
B	Supply, install, test and commission In-line Extract fan with capacity of 500m3/hr - 120Pa, complete with all accessories	Nr	1.00		
C	Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 200x200mm	m	15.00		
D	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	17.00		
E	Supply and install flexible duct with 150mm diameter	m	13.00		
F	Allow for supply and fix Transition piece from square to round duct	Nr	7.00		
G	Supply and install external air grille 600 x 600 mm, maximum noise 45 db	Nr	2.00		
FIRST FLOOR - MAIN BUILDING	Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5/Super Modular Multi System (SMMS) Inverter units Air-conditioning system (VRF) of LG/TOSHIBA Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a	Nr	2.00		

	Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil.				
B	Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 39.2 kW Cooling capacity	Nr	1.00		
C	Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 44.8 kW Cooling capacity	Nr	1.00		
D	Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust	Nr	1.00		

	removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 56.0 kW Cooling capacity				
INDOOR UNITS	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 14.1kW	Nr	5.00		
B	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 10.6kW	Nr	6.00		
C	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 5.6kW	Nr	2.00		
Refnet joint	Y- Shapes refrigerant piping connection joint matching the circuit capacity	Nr	17.00		
B	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 6.32mm	m	35.00		
C	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 9.5mm	m	33.00		
D	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 12.7mm	m	72.00		
E	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 15.9mm	m	70.00		
F	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 19.1mm	m	63.00		

G	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 22.2mm	m	59.00		
H	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 28.6mm	m	78.00		
Condensate Drainage System	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 32mm	m	150.00		
B	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 40mm	m	18.00		
Wiring	Supply and installation of power wiring from the isolator switch to outdoor units ; 6.0mm <sup>2</sup> PVC/SWA/PVC Copper cable	m	100.00		
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm <sup>2</sup> PVC/PVC Copper cable	m	50.00		
C	Allow for supply and install of control cable for the system. 0.75mm <sup>2</sup> PVC/PVC Copper cable	m	200.00		
DUCT SYSTEM FOR AIR SUPPLY AND RETURN	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 600x200mm	m	60.00		
B	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 400x200mm	m	85.00		
Supply Air diffuser (SAD)	Supply and install Air Supply diffuser, 600 x 600mm	Nr	45.00		

Return Air grille (RAG)	Return Air grille (RAG) ; Supply and install Air Return grille, 600 x 600mm	Nr	36.00		
B	150mm insulated flexible duct manufactured from aluminium foil complete with connectors, stiffeners.	m	90.00		
C	SERVER ROOM; Single Split Precision Air Conditioning system HIREF, STULZ, UNIFLAIR Brand or Approved Equivalent. ; Supply, install, test and commission Direct expansion precision air conditioning with air-cooled condensers and floor mounted indoor with front air intake and front/bottom air supply complete with distribution plenum and grille, cooling capacity of 25.3kW Intergrated Controller to control room temperature and humidity. The installation will include copper pipes and insulations for connecting between the units.	Nr	2.00		
D	EQUIPMENT ROOM ; Single Split Precision Air Conditioning system HIREF, STULZ, UNIFLAIR Brand or Approved Equivalent; Supply, install, test and commission Direct expansion precision air conditioning with air-cooled condensers and floor mounted indoor with front air intake and front/bottom air supply complete with distribution plenum and grille, cooling capacity of 11.1kW Intergrated Controller to control room temperature and humidity. The installation will include copper pipes and insulations for connecting between the units.	Nr	2.00		
E	CONTROL ROOM ; Single Split Precision Air Conditioning system HIREF, STULZ, UNIFLAIR Brand or Approved Equivalent;; Supply, install, test and commission Direct expansion precision air conditioning with air-cooled condensers and floor mounted indoor with front air intake and front/bottom air supply complete with distribution plenum and grille, cooling capacity of 25.3kW Intergrated Controller to control room temperature and humidity. The installation will include copper pipes and insulations for connecting between the units.	Nr	2.00		
MECHANICAL VENTILATION	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 700x450mm	m	5.00		
B	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ;300x200mm	m	10.00		
C	Toilet Exhaust System; Supply and install	m	10.00		

	ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 300x200mm				
D	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 200x200mm	m	15.00		
E	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	13.00		
F	Supply and install flexible duct with 150mm diameter	m	25.00		
G	Allow for supply and fix Transition piece from square to round duct	Nr	13.00		
H	Discharge/Exhaust duct System for A/C Outdoor units ; Allow for supply, install, test and commission GMS Duct with gradual curve (large curve) size: 1250 x 600mm (WxD), for casing two fans of outdoor uniits and other necessary accessories to enable the system to operate properly	Set	10.00		
SECOND FLOOR - MAIN BUILDING	Supply, Install, test, and commission the LG MULTI-V 5/Super Modular Multi System (SMMS) Inverter units Air-conditioning system (VRF) of LG/TOSHIBA Brand or any other approved equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil.	Nr	2.00		
B	Multi-split Systems/ Variable Refrigerant Flow (VRF); Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.	Nr	2.00		

	Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 33.9 kW Cooling capacity				
C	Multi-split Systems/ Variable Refrigerant Flow (VRF); Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 56.0 kW Cooling capacity	Nr	2.00		
D	INDOOR UNITS; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 14.1kW	Nr	7.00		
E	INDOOR UNITS; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 12.3kW	Nr	5.00		
F	INDOOR UNITS; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 10.6kW	Nr	2.00		
G	INDOOR UNITS; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 7.1kW	Nr	7.00		
H	INDOOR UNITS; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 5.6kW	Nr	1.00		



Refnet joint	Y- Shapes refrigerant piping connection joint matching the circuit capacity	Nr	17.00		
B	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 6.32mm	m	38.00		
C	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 9.5mm	m	83.00		
D	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 12.7mm	m	108.00		
E	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 15.9mm	m	85.00		
F	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 19.1mm	m	45.00		
G	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 22.2mm	m	59.00		
H	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 22.2mm	m	59.00		
Condensate Drainage System	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 32mm	m	150.00		
B	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 40mm	m	18.00		

Wiring	Supply and installation of power wiring from the isolator switch to outdoor units ; 6.0mm <sup>2</sup> PVC/SWA/PVC Copper cable	m	120.00		
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm <sup>2</sup> PVC/PVC Copper cable	m	50.00		
C	Allow for supply and install of control cable for the system. 0.75mm <sup>2</sup> PVC/PVC Copper cable	m	250.00		
DUCT SYSTEM FOR AIR SUPPLY AND RETURN	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm; 600x200mm	m	100.00		
B	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 400x200mm	m	130.00		
Supply Air diffuser (SAD)	Supply and install Air Supply diffuser, 600 x 600mm	Nr	63.00		
Return Air grille (RAG)	Supply and install Air Return grille, 600 x 600mm	Nr	46.00		
B	150mm insulated flexible duct manufactured from aluminium foil complete with connectors, stiffeners.	m	125.00		
MECHANICAL VENTILATION	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 700x450mm	m	5.00		
B	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 300x200mm	m	10.00		
C	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate	m	10.00		

	thickness 0.8mm ; 300x200mm				
C	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 200x200mm	m	15.00		
D	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	13.00		
E	Supply and install flexible duct with 150mm diameter	m	25.00		
F	Allow for supply and fix Transition piece from square to round duct	Nr	13.00		
G	Discharge/Exhaust duct System for A/C Outdoor units ; Allow for supply, install, test and commission GMS Duct with gradual curve (large curve) size: 1250 x 600mm (WxD), for casing two fans of outdoor units and other necessary accessories to enable the system to operate properly	set	6.00		
THIRD FLOOR - MAIN BUILDING	Supply, Install, test, and commission the LG MULTI-V 5/Super Modular Multi System (SMMS) Inverter units Air-conditioning system (VRF) of LG/TOSHIBA Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil.	Nr	2.00		
B	Multi-split Systems/ Variable Refrigerant Flow (VRF); Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 33.9 kW Cooling capacity	Nr	1.00		
C	Multi-split Systems/ Variable Refrigerant Flow	Nr	2.00		

	<p>(VRF); Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35°C dB temperature &amp; 50Hz/R410A/380 ~415 &amp; should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified &amp; should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.</p> <p>Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 44.8 kW Cooling capacity</p>				
D	<p>Multi-split Systems/ Variable Refrigerant Flow (VRF); Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35°C dB temperature &amp; 50Hz/R410A/380 ~415 &amp; should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified &amp; should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.</p> <p>Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 56.0 kW Cooling capacity</p>	Nr	1.00		
E	<p>INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 14.1kW</p>	Nr	7.00		
F	<p>INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 12.3kW</p>	Nr	3.00		
G	<p>INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 10.6kW</p>	Nr	2.00		
H	<p>INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan</p>	Nr	6.00		

	Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 7.1kW				
I	INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 5.6kW	Nr	1.00		
Refnet joint	Y- Shapes refrigerant piping connection joint matching the circuit capacity	Nr	14.00		
B	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 6.32mm	m	38.00		
C	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 9.5mm	m	83.00		
D	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 12.7mm	m	108.00		
E	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 15.9mm	m	85.00		
F	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 19.1mm	m	45.00		
G	Retry Saving Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 22.2mm	m	59.00		
H	Retry Saving Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 28.6mm	m	70.00		

I	Condensate Drainage System ; Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 32mm	m	150.00		
J	Condensate Drainage System ; Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 40mm	m	18.00		
Wiring	Supply and installation of power wiring from the isolator switch to outdoor units ; 6.0mm <sup>2</sup> PVC/SWA/PVC Copper cable	m	120.00		
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm <sup>2</sup> PVC/PVC Copper cable	m	50.00		
C	Allow for supply and install of control cable for the system. 0.75mm <sup>2</sup> PVC/PVC Copper cable	m	250.00		
DUCT SYSTEM FOR AIR SUPPLY AND RETURN	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 600x200mm	m	95.00		
B	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 400x200mm	m	120.00		
Supply Air diffusser (SAD)	Supply and install Air Supply diffusser, 600 x 600mm	Nr	57.00		
Return Air grille (RAG)	Supply and install Air Return grille, 600 x 600mm	Nr	40.00		
B	150mm insulated flexible duct manufactured from aluminium foil complete with connectors, stiffeners.	m	120.00		
MECHANICAL VENTILATION	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with	m	5.00		

	BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 500x200mm				
B	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 300x200mm	m	10.00		
C	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 200x200mm	m	15.00		
D	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	13.00		
E	Supply and install flexible duct with 150mm diameter	m	25.00		
F	Allow for supply and fix Transition piece from square to round duct	Nr	13.00		
G	Discharge/Exhaust duct System for A/C Outdoor units ; Allow for supply, install, test and commission GMS Duct with gradual curve (large curve) size: 1250 x 600mm (WxD), for casing two fans of outdoor units and other necessary accessories to enable the system to operate properly	Set	6.00		
FOURTH FLOOR - MAIN BUILDING	Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 22.4 kW Cooling capacity	Nr	14.00		
B	Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The	Nr	1.00		

	<p>Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.</p> <p>Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 28.0 kW Cooling capacity</p>				
C	<p>Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature &amp; 50Hz/R410A/380 ~415 &amp; should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified &amp; should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.</p> <p>Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 33.9 kW Cooling capacity</p>	Nr	2.00		
D	<p>Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature &amp; 50Hz/R410A/380 ~415 &amp; should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified &amp; should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.</p> <p>Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 56.0 kW Cooling capacity</p>	Nr	1.00		
INDOOR UNITS	<p>Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 14.1kW</p>	Nr	10.00		
B	<p>Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 12.3kW</p>	Nr	1.00		



C	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 10.6kW	Nr	2.00		
D	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 7.1kW	Nr	6.00		
E	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 5.6kW	Nr	1.00		
F	Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 3.6kW	Nr	4.00		
Refnet joint	Y- Shapes refrigerant piping connection joint matching the circuit capacity	Nr	16.00		
B	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 6.32mm	m	38.00		
C	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 9.5mm	m	83.00		
D	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 12.7mm	m	108.00		
E	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be approved and charged with R410A refrigerant gas; Diameter 15.9mm	m	85.00		
F	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with "Armaflex" or similar to be	m	45.00		

	approved and charged with R410A refrigerant gas; Diameter 19.1mm				
G	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 22.2mm	m	59.00		
H	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 28.6mm	m	70.00		
I	Condensate Drainage System ; Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 32mm	m	150.00		
J	Condensate Drainage System ; Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ;Diameter 40mm	m	18.00		
Wiring	Supply and installation of power wiring from the isolator switch to outdoor units ; 6.0mm2 PVC/SWA/PVC Copper cable	m	160.00		
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm2 PVC/PVC Copper cable	m	50.00		
C	Allow for supply and install of control cable for the system. 0.75mm2 PVC/PVC Copper cable	m	250.00		
DUCT SYSTEM FOR AIR SUPPLY AND RETURN	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 600x200mm	m	95.00		
B	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both	m	120.00		

	sides off site. Plate thickness 0.8mm ; 400x200mm				
Supply Air diffuser (SAD)	Supply and install Air Supply diffuser, 600 x 600mm	Nr	59.00		
Return Air grille (RAG)	Supply and install Air Return grille, 600 x 600mm	Nr	44.00		
B	150mm insulated flexible duct manufactured from aluminium foil complete with connectors, stiffeners.	m	120.00		
MECHANICAL VENTILATION	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm; 500x200mm	m	5.00		
B	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm; 300x200mm	m	10.00		
C	Toilet Exhaust System ; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm; 200x200mm	m	15.00		
D	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	13.00		
E	Supply and install flexible duct with 150mm diameter	m	25.00		
F	Allow for supply and fix Transition piece from square to round duct	Nr	13.00		
G	Supply, install, test and commission In-line/Roof mounted Extract fan with capacity of 5700m3/hr - 200Pa, complete with all accessories	Nr	1.00		
H	Discharge/Exhaust duct System for A/C Outdoor units ; Allow for supply, install, test and commission GMS Duct with gradual curve (large curve) size: 1250 x 600mm (WxD), for casing two fans of outdoor units and other necessary accessories to enable the system to operate properly	Set	8.00		
GROUND FLOOR - AUXILIARY BUILDING	Supply, Install, test, and commission the LG MULTI-V 5/Super Modular Multi System (SMMS) Inverter units Air-conditioning system (VRF) of LG/TOSHIBA Brand or any other approved equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified &	Nr	3.00		

	<p>should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.</p> <p>Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil.</p>				
B	<p>INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Wall Mounted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 7.1kW</p>	Nr	2.00		
C	<p>INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Wall Mounted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 3.6kW</p>	Nr	3.00		
D	<p>INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Wall Mounted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons; Cooling capacity of 2.5kW</p>	Nr	12.00		
E	<p>Supply and install, test, commission and set to work of the Fan Evaporator Unit, 4-Way Ceiling Cassette type each complete with integral Condensate Pumps and Wired Remote Controller &amp; Cassette Panel (PT-MCHW0). The Wired remote controller should have colored screen with touch buttons. All Indoor Units shall be equiped with Human Detection Sensor (PTVSMA0) &amp; Humidity Sensors for energy savings ; Cooling capacity of 10.6kW</p>	Nr	8.00		
Refnet joint	<p>Y- Shapes refrigerant piping connection joint matching the circuit capacity</p>	Nr	22.00		
B	<p>Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 6.32mm</p>	m	30.00		
C	<p>Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 9.5mm</p>	m	75.00		
D	<p>Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk</p>	m	60.00		

	insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 12.7mm				
E	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 15.9mm	m	55.00		
F	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 19.1mm	m	45.00		
G	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas; Diameter 22.2mm	m	30.00		
H	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 28.6mm	m	55.00		
I	Condensate Drainage System ; Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100 ; Allow for all joints and necessary fittings ; Diameter 32mm	m	170.00		
Wiring	Supply and installation of power wiring from the isolator switch to outdoor units ; 6.0mm <sup>2</sup> PVC/SWA/PVC Copper cable	m	60.00		
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm <sup>2</sup> PVC/PVC Copper cable	m	55.00		
C	Allow for supply and install of control cable for the system. 0.75mm <sup>2</sup> PVC/PVC Copper cable	m	200.00		
MECHANICAL VENTILATION	Toilet Exhaust System ; Supply, install, test and commission In-line Extract fan with capacity of 1600m <sup>3</sup> /hr - 120Pa, complete with all accessories	Nr	2.00		
B	Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 500x200mm	m	30.00		
C	Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing	m	15.00		

	compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 300x200mm				
D	Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 200x200mm	m	20.00		
E	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	30.00		
F	Supply and install flexible duct with 150mm diameter	m	60.00		
G	Allow for supply and fix Transition piece from square to round duct	Nr	30.00		
H	Supply and install external air grille 600 x 600 mm, maximum noise 45 db	Nr	2.00		
FIRST FLOOR - AUXILIARY BUILDING	Supply, Install, test, and commission the LG MULTI-V 5/Super Modular Multi System (SMMS) Inverter units Air-conditioning system (VRF) of LG/TOSHIBA Brand or any other Approved equivalent. The outdoor units should operate up to 35oC dB temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years. Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil.	Nr	4.00		
B	INDOOR UNITS ; Supply and install, test, commission and set to work of the Fan Evaporator Unit, Wall Mounted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 2.5kW	Nr	4.00		
C	Supply and install, test, commission and set to work of the Fan Evaporator Unit, 4-Way Ceiling Cassette type each complete with integral Condensate Pumps and Wired Remote Controller & Cassette Panel (PT-MCHW0). The Wired remote controller should have colored screen with touch buttons. All Indoor Units shall be equipped with Human Detection Sensor (PTVSMA0) & Humidity Sensors for energy savings ; Cooling capacity of 10.6kW	Nr	18.00		
Refnet joint	Y- Shapes refrigerant piping connection joint matching the circuit capacity	Nr	20.00		

B	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 6.32mm	m	15.00		
C	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 9.5mm	m	43.00		
D	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 12.7mm	m	50.00		
E	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 15.9mm	m	55.00		
F	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 19.1mm	m	95.00		
G	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 22.2mm	m	105.00		
H	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 28.6mm	m	82.00		
Condensate Drainage System	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100; Allow for all joints and necessary fittings ; Diameter 32mm	m	180.00		
B	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100; Allow for all joints and necessary fittings ; Diameter 40mm	m	90.00		
Wiring	Supply and installation of power wiring from the isolator switch to outdoor units ; 6.0mm <sup>2</sup>	m	180.00		

	PVC/SWA/PVC Copper cable				
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm <sup>2</sup> PVC/PVC Copper cable	m	70.00		
C	Allow for supply and install of control cable for the system ; 0.75mm <sup>2</sup> PVC/PVC Copper cable	m	230.00		
MECHANICAL VENTILATION	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm; 500x200mm	m	8.00		
B	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm; 300x200mm	m	10.00		
C	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm; 200x200mm	m	15.00		
D	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	10.00		
E	Supply and install flexible duct with 150mm diameter	m	20.00		
F	Allow for supply and fix Transition piece from square to round duct	Nr	10.00		
G	Kitchen Exhaust System ; Allow for supply and fix Kitchen hood 6000 x 3000 x 800mm with associated ducts and exhaust fan with capacity of 4000m <sup>3</sup> /hr - 200Pa	Set	2.00		
H	Refuse Chute System; Allow for supply, install, test and commission GMS Refuse chute size: 600 x 600mm (WxD), 8m long, 1 Intake door and 1 discharge door 600 x 600mm complete with In-line exhaust fan 1500m <sup>3</sup> /hr - 200Pa and other necessary accessories to enable the system to operate properly	Set	1.00		
I	Refuse Chute System; Allow for supply waste collector trolley to support the above system	m	1.00		
SECOND FLOOR - AUXILIARY BUILDING	Supply, Install, test, and commission the LG MULTI-V 5/Super Modular Multi System (SMMS) Inverter units Air-conditioning system (VRF) of LG/TOSHIBA Brand or any other approved equivalent. The outdoor units should operate up to 35°C db temperature & 50Hz/R410A/380 ~415 & should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified & should have the minimum EER of 3.25. The	Nr	2.00		



	<p>Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.</p> <p>Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil.</p>				
B	<p>Multi-split Systems/ Variable Refrigerant Flow (VRF) ; Condensing units ; Supply, Install, test, and commission the LG MULTI-V 5 Inverter units Air-conditioning system (VRF) of LG Brand or any other equivalent. The outdoor units should operate up to 35oC dB temperature &amp; 50Hz/R410A/380 ~415 &amp; should have frequency modulation from 10HZ to 165HZ. The machines should be Eurovent Certified &amp; should have the minimum EER of 3.25. The Condensing Units must have a Corrosion Resistance Certification from third party (like UL or TUV) for Testing of Heat Exchanger for a minimum simulation of 25 Years.</p> <p>Condensing Unit shall be able to perform Dust removal function, during which, the condensing unit fan will rotate in reverse direction to blow away dust and sand accumulated on the condenser coil ; 56.0 kW Cooling capacity</p>	Nr	4.00		
INDOOR UNITS	<p>Supply and install, test, commission and set to work of the Fan Evaporator Unit, Wall Mounted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons.; Cooling capacity of 3.6kW</p>	Nr	5.00		
B	<p>Supply and install, test, commission and set to work of the Fan Evaporator Unit, 4-Way Ceiling Cassette type each complete with integral Condensate Pumps and Wired Remote Controller &amp; Cassette Panel (PT-MCHW0). The Wired remote controller should have colored screen with touch buttons. All Indoor Units shall be equipped with Human Detection Sensor (PTVSMA0) &amp; Humidity Sensors for energy savings ; Cooling capacity of 7.1kW</p>	Nr	4.00		
C	<p>Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 14.1kW</p>	Nr	18.00		
D	<p>Supply and install, test, commission and set to work of the Fan Evaporator Unit, Ceiling Ducted type each complete with integral Condensate Pumps and Wired Remote Controller. The Wired remote controller should have colored screen with touch buttons ; Cooling capacity of 12.3kW</p>	Nr	2.00		
Refnet joint	Y- Shapes refrigerant piping connection joint	Nr	21.00		

	matching the circuit capacity				
B	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 6.32mm	m	30.00		
C	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 9.5mm	m	90.00		
D	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 12.7mm	m	55.00		
E	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 15.9mm	m	75.00		
F	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 19.1mm	m	130.00		
G	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 22.2mm	m	100.00		
H	Supply, install, test and commission single copper piping system for liquid and vapour refrigerants, run in vertical/horizontal trunk insulated with “Armaflex” or similar to be approved and charged with R410A refrigerant gas ; Diameter 28.6mm	m	120.00		
Condensate Drainage System	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100; Allow for all joints and necessary fittings ; Diameter 32mm	m	300.00		
B	Supply, install, test and commission condensate drainage system in PVC pipe in accordance with BS 3505 and 4634. All pipes to be insulated with 10mm rock wool or styropur and provided with vapour barrier and installing at a slope of 1:100; Allow for all joints and necessary fittings ; Diameter 40mm	m	90.00		

Wiring	Supply and installation of power wiring from the isolator switch to outdoor units ; 6.0mm <sup>2</sup> PVC/SWA/PVC Copper cable	m	120.00		
B	Ditto from DP switches to indoor units as indicated in the drawing 2.5mm <sup>2</sup> PVC/PVC Copper cable	m	70.00		
C	Allow for supply and install of control cable for the system. ; 0.75mm <sup>2</sup> PVC/PVC Copper cable	m	300.00		
DUCT SYSTEM FOR AIR SUPPLY AND RETURN	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 600x200mm	m	172.00		
B	Supply, install and commissioning the following duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension, complete with proper insulations as specified in technical specifications. Ducts should be fabricated, assembling, proper cleaning and sealed both sides off site. Plate thickness 0.8mm ; 400x200mm	m	85.00		
Supply Air diffuser (SAD)	Supply and install Air Supply diffuser, 600 x 600mm	Nr	54.00		
Return Air grille (RAG)	Supply and install Air Return grille, 600 x 600mm	Nr	42.00		
B	150mm insulated flexible duct manufactured from aluminium foil complete with connectors, stiffeners.	m	120.00		
MECHANICAL VENTILATION	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 500x200mm	m	12.00		
B	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate thickness 0.8mm ; 300x200mm	m	10.00		
C	Toilet Exhaust System; Supply and install ventilation duct in galvanised steel plate, with flanged joints air-tightened with approved long lasting sealing compound in accordance with BS requirements, including straps, rawl bolts, screws and brackets for suspension. Plate	m	10.00		

	thickness 0.8mm ; 200x200mm				
D	Supply and install 150mm diameter disc valve to be mounted in the toilet	Nr	10.00		
E	Supply and install flexible duct with 150mm diameter	m	20.00		
F	Allow for supply and fix Transition piece from square to round duct	Nr	10.00		
G	Supply, install, test and commission In-line/Roof mounted Extract fan with capacity of 5700m3/hr - 200Pa, complete with all accessories	Nr	1.00		
Factory Acceptance Test (FAT)	Allow for Factory Acceptance Test on major equipment's of VRF System, DX system, Packaged units, Precision cooling units, etc.; for at least five (5) days at Manufacturer's premises for at least five (5) BoT Representatives, All cost for Air ticket, Local transport abroad, Per Diem, Vizas, Covid-19 protocols compliance shall be borne by the Supplier (Service provider)	item	1.00		
BASEMENT(Dust Collector - Note counting and processing)	Supply and install the dust collector as per below specifications 1. the unit with mixed flow dust fan ultra quite TD- SILENT Sound rating of 80dBA at 5ft 2. Straight through or side discharge 3. Odor and high efficiency filters 4. Collects wet or dry particulates 5. Air volume (CFM) 1000- 2000 6. instalation: Ceiling suspended mounting 7. Country of origin: european Countries and USA	Nr	5.00		
J	Allow for supply and install air dehumidifier with capacity of 20L	Nr	7.00		
K	Allow for supply and installation of hand dryer; As per Architect approval	Nr	6.00		
GROUND FLOOR - AUXILIARY BUILDING	Power room Exhaust System ; Supply, install, test and commission wall mounted Extract fan with capacity of 2500m3/hr - 120Pa, complete with all accessories	Nr	2.00		
M	Allow for supply and installation of hand dryer	Nr	9.00		
FIRST FLOOR - AUXILIARY BUILDING (COLD ROOM)	Supply and install the Cold room/store as per below specifications. As manufactured by DANFOSS or equivalent approved Room size: 3 x 2.5m (length and width) Height 2940mm for Panel thickness of 100mm Insulated Panel: PU cold room panel produced with rigid polyurethane foam insulation, with average density of 40-43 kg/m³; shall be applied for walls, floor, ceiling and door, Panel thickness of 100mm Door (2Nos.): Sliding door with opening of Width: 800mm, Height: 2100mm, Thickness: 80mm Cooling unit : Operating temperature: -20C to -180C Cooling capacity:5.60kW (18,000Btu/hr) for each unit	Set	1.00		
P	Allow for supply and installation of hand dryer; As per Architect approval	Nr	4.00		
SECOND FLOOR - AUXILIARY	Allow for supply and installation of hand dryer; As per project manager approval.	Nr	5.00		

BUILDING					
GROUND FLOOR - MAIN BUILDING	Allow for supply and install hand dryer ; As per Project manager approval	Nr	4.00		
FIRST FLOOR - MAIN BUILDING	Allow for supply and installation of hand dryer ; As per Project Manager Approval	Nr	2.00		
SECOND FLOOR - MAIN BUILDING	Allow for supply and installation of hand dryer ; As per Project Manager Approval	Nr	2.00		
THIRD FLOOR - MAIN BUILDING	Allow for supply and installation of hand dryer ; As per Project Manager Approval	Nr	2.00		
ASKARI HURTS (8NOS.)	Single Split Air Conditioners with wall mounted Indoor/ Fan Coil Unit: Supply, install, test and commission Single Split Air conditioner of LG Brand or Approved Equivalent. Each Set shall be completed with outdoor air-cooled condensing unit, indoor wall mounted fan coil unit complete with wireless remote controller Type of refrigerant should be R410A/ R407C	Nr	10.00		
A	Refrigerant Pipes and Fittings to BS 2871 ; a) Cooling Capacity: 3.5kW (12000Btu/h) Refrigerant copper pipes complete with all associated fittings like elbows etc. and all supports ; a) 6.4mm (1/4") diameter	m	50.00		
B	Refrigerant Pipes and Fittings to BS 2871 ; a) Cooling Capacity: 3.5kW (12000Btu/h) Refrigerant copper pipes complete with all associated fittings like elbows etc. and all supports ; b) 12.7mm (1/2") diameter	m	50.00		
C	Armaflex insulation - 10mm thick a) 6.4mm diameter	m	50.00		
D	Armaflex insulation - 10mm thick ; a) 6.4mm diameter	m	50.00		
E	Armaflex insulation - 10mm thick ; b) 12.7mm diameter	m	50.00		
Condensate	Supply, install, test and commission condensate drainage PVC pipes complete with associated fittings i.e. tees, elbows reducers etc so as to make the system work perfectly; a ) 25mm diameter PVC pipe	m	50.00		
G	Supply and install the mounting brackets, supports and other fittings for outdoor units	Nr	10.00		
Wiring	Supply, install, test and commission control and power cables between units and DP switch located near the door position.	Nr	10.00		
I	Supply, install, test and commission over/under voltage protection device (Automatic Voltage Switcher - AVS) to matching with the capacity of A/C unit.	Nr	10.00		
Waste Incinerator	Supply, install test and commission waste incinerator as per below specifications 1. Capacity: 400kg/day 2. Hearth: 1.02m <sup>2</sup> 3. Furnace Capacity: 1.12m <sup>2</sup> 4. Blower air pressure: 3000Pa 5. Blower air volume; 42m <sup>3</sup> /min.	Set	1.00		

	Single Split Air Conditioners with wall cassette Fan coil unit				
MAIN BUILDING					
BILL NO. 1	PRELIMINARIES AND GENERAL MATTERS				
SECTION B	PRELIMINARY AND CONTRACT PARTICULARS				
1(PRELIMINARIES AND GENERAL CONDITIONS OF CONTRACT)	STANDARD PHRASEOLOGY Note:- These Bills of Quantities have been prepared by computer using a standard phraseology and the contractor's attention is drawn to the preambles to sections in these Bills of Quantities QUALIFICATIONS OF THE RULES OF THE SMM Quantities Notwithstanding the provisions of EASMM Clause A6 (c) fractions of a unit less than half, which would cause an entire item to be eliminated have been regarded as whole units. DEFINITIONS/ABBREVIATIONS Definitions Words importing the singular only also include the plural and vice versa where the context requires The term "the works" shall mean the whole of the works envisaged by the contract, including, unless expressly stated otherwise, the works of nominated sub-contractors, nominated suppliers, local authorities and public undertakings whether or not the works of the latter are represented by prime cost sums. The term "instructions", and words derived there from, shall mean written instructions issued by the Architect unless otherwise described. The term "approval" and words derived there from, shall mean written approval issued by the Architect unless otherwise described. DEFINITIONS/ABBREVIATIONS Definitions The term "manufacturer's recommendations" shall mean all printed or written recommendations or instructions issued by a manufacturer and current at the tender date. The term "or other equal and approval" shall mean the standard required and that materials or goods of equal written approval of the Project Manager/ Architect. The terms "approval", approved", "to approval", "as directed" and the like, refer always to approval or directions given by the Architect. Approval will not be valid unless given in writing. When the contractor seek approval for work which cannot proceed without the Project mArchitect's selection or inspection (e.g.) performance tests; work of aesthetic importance) he shall give two weeks notice in order that arrangements approval, such approvals will be limited to the visual appearance of the work involved and are not in any case particularly in relation to the kind and standards of materials, goods and work. Abbreviations The following abbreviations are used:- BS British Standard current at tender date BSCP British Standard Code of Practice current at tender date SMM East African Standard Method of Measurement of Building Works (with Quantities) First Edition M Meter	null	1.00		

	<p>(s) DEFINITIONS/ABBREVIATIONS  Abbreviations MM Millimetre (s) M2 Square metre (s) M3 (Cubic metre (s) T Tonne (s) KG Kilogramme (s) N Newton (s) Nr Number Ea Each General attendance In addition to the facilities referred to in Smm Clause B19(b) all items of general attendance include arranging with nominated sub-contractors and nominated suppliers as to time for submission of drawings for the Architect's approval, commencement of their work on the site or manufacture and delivery of their goods and materials as appropriate, obtaining from them particulars of holes, mortices, chases, recesses, fixings and the like and supplying them with all dimensions and other information for the proper execution of the works. The contractor shall be responsible for the procurement and/or preparation of all detailed setting out and shop drawings sufficient to achieve proper co-ordination of the works As part of his obligations under this contract and the various sub-contracts the contractor will be ultimately sub-contractor's and nominated suppliers' activities and to ensure that they are aware of the requirements of his programmed insofar as work on site and the issue of information is concerned.. PRELIMINARY PARTICULARS: PROJECT Name The project shall be known as PROPOSED CONSTRUCTION OF BOT OFFICE BUILDING - KIGOMA Nature of the works. The works comprise: Construction of Main Building, Auxilliary Buildings, Gate House, Power House External Works and Associated Building Services Location The works are situated in Kigoma Region General description of the works The Project consists of the following works;- 1. Building Works BOT Main Office Building 2. Auxilliary Building 3. External works comprising of soft landscaping, parking, walkways 4. Gate house, power house, incinerator building 4. All services associated with the project; incl. electrical installations and plumbing and engineering installations etc. Size of Building The gross floor area of the building is approximately 24,305 M2 Time for Completion The construction period is to be stated in the tender In this connection the contractor is to submit with his tender a programme showing how he proposes to carry out the work including a method statement and details of plant he intends to employ during the execution of the contract. Bases for tendering The Contractor is requested to submit tenders on the bases of the Bid document requirements. Employer "The Employer is BANK OF TANZANIA (BOT)" P.O.BOX 2939 - DAR ES SALAAM Architect is: "OGM CONSULTANTS P.O.BOX 32428 - DAR ES SALAAM" Quantity Surveyor is: "COST-CONSULT LIMITED P.O.BOX 4621 - DAR ES SALAAM" Structural &amp; Civil Engineers are: EDGE ENGINEERING AND</p>				
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	<p>CONSULTING LTD, P.O. BOX 24520, DAR ES SALAAM Electrical and Mechanical Engineers are: EDGE ENGINEERING AND CONSULTING LTD, P.O. BOX 24520, DAR ES SALAAM PRELIMINARY PARTICULARS: DESCRIPTION OF THE SITE Position of the works and access thereto The site is located at Kigoma Region Character of the operations Before pricing the Bills of Quantities the contractor must satisfy himself in detail as to the character of the operations and in particular in respect of the type of structure to be erected, the design of reinforcement, the nature of temporary works required and where necessary the standard of finish required for exposed concrete surfaces. Site investigations The details of the site investigation and the site investigation report ( Geo- Survey Report) shall form part of the Tender document. Visiting of the site The Contractor will be deemed to have visited the site and to have satisfied himself as to the nature, extent and character of the works, local conditions, accessibility of the works, the supply of and conditions affecting labour and materials and any other matter which may affect his tender. Visits to the site shall be by appointment only and tenderer are to contact the Architect to make the necessary arrangements. Tender documents The tender documents are as indicated in the Instructions to Tenders: The tender is requested to note this as no claim in respect of the discrepancy between the Bill of Quantities (BOQs), Specification and Tender drawings shall be entertained during project implementation. Any discrepancy shall be notified to the Employer during tendering and be clarified accordingly. The Contractor is requested to check the documents and the number of each page if any are missing or duplicated or if any writing or figures are indistinct, to notify at once to the Quantity Surveyor through Employer. No subsequent claim for loss consequently upon the Contractor's failure to comply with this clause will be entertained. No alteration, addition or qualifying note is to be made by the Contractor in the text of the Bills of Quantities. Should any alteration, addition or note be made such will not be recognized and the text of the Bills as printed will be strictly adhered to If there is any matter upon which the Contractor requires further information or clarification he is to contact the employer in good time in order that all tenderers may be given such additional information as is available. Tender documents Note:- The Contractor is to submit at the time of delivering his tender, as per the Instructions to Tenders No claims arising from any neglect on the part of the Contractor in these matters will be entertained. The drawings enclosed with the tender documents are for the Contractor's convenience in tendering and are not intended as a substitute for a thorough inspection of the</p>				
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	<p>remaining drawings at the Architect's and Structural Engineer's offices by appointment as previously described. Contractor's scrutiny The Contractor is to compare the drawings including the drawings of sub-contractors, the specification and/or Bills of Quantities before the work is up in hand or materials ordered and he shall report any discrepancies to the Project Manager in good time. If the Contractor or any of his sub-contractors (whether nominated or otherwise) has reason to question the application of any details or materials described In the specification and/or Bills of Quantities or shown on the drawings he will inform the Project Manager two (2) weeks before construction so that she shall be further considered. Pricing of Preliminaries Bill The Contractor will be required to provide, for purpose of contract administration, a detailed break-down of his pricing of this section of the Bills of Quantities during submission of his tender and this will for basis for the award of contract. This detailed break-down, which shall be submitted with the priced Bills of Quantities, shall indicate clearly the initial cost, running and removal cost of each item of the preliminaries. Pricing and correction of Bills of Quantities, etc. Costs relating to items which are not priced will be deemed to have been included elsewhere in these Bills of Quantities Bills of Quantities All work included in these Bills of Quantities have been measured accurately except where an item has been described as "provisional" The tenderer is to note that firm quantities will not be subject to adjustment if remeasurement of a bill item will result in less than or equal to plus or minus 1% of the bill quantity. CONTRACT:</p> <p><b>CONTRACTOR'S LIABILITY</b> Risk of injury, injury to person and property and of damage to the works The contractor must provide for the efficient protection of the general Public and the occupants and users of the surrounding buildings during the progress of the works included in or to be done in connection with this contract and the Contractor shall, for this purpose guard and protect his plant, tools and materials and take all necessary measure in order to prevent mishaps and accidents</p> <p><b>Insurances</b> The Contractor is to allow in his tender for effecting insurance under and in accordance with the GCC Clause 16 of the PPRA Conditions of contract All the foregoing insurances are to be with a reputable, local and an approved insurance company CONTRACT:</p> <p><b>OBLIGATIONS AND RESTRICTIONS IMPOSED BY THE EMPLOYER</b> Access to site The Contractor's attention is directed to the congested and confined area in which the site is situated and he must ascertain from the police and the local authority vehicles and any restricted times or places for unloading, etc. Particular attention is drawn to the limited</p>				
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	<p>space available for storage of materials, plant, etc., and to the location of the site having regard to traffic conditions The Contractor in tendering will be deemed to have taken account of these matters and any additional costs in purchasing materials in small quantities, special deliveries etc. Possession of the site At commencement of the contract the contractor will be given possession of the complete site</p> <p><b>CONTRACT: OBLIGATIONS AND RESTRICTIONS IMPOSED BY THE EMPLOYER</b></p> <p>Use of site The Contractor shall use the site for the execution of the works embraced in the contract including storage of materials and plant necessary in the carrying out of the same. In no way will the contractor be permitted to use the site for the preparation of and storage of materials for use other than on this Contract.</p> <p><b>Schedule of Condition</b> The Contractor, Prior to commencement of work on site, shall in conjunction with the Project manager /Architect, adjoining owners and relevant authorities prepare and agree a "schedule of Condition" of roads, paths, manholes, drains, etc., which are adjacent to the site. at completion of the works, but prior to formal hand-over, this schedule shall be checked and any work found to be damaged due to the Contractor's building operations shall be made good at the Contractor's expense. The Contractor shall also, prior to commencement of work on site, prepare and agree with the Architect a grid of existing site levels</p> <p><b>CONTRACT: OBLIGATIONS AND RESTRICTIONS IMPOSED BY THE EMPLOYER (CONTINUED)</b></p> <p><b>Use of Site</b> The Contractor shall use the site for the execution of the works embraced in the contract including storage of materials and plant necessary in the carrying out of the same. In no way will the contractor be permitted to use the site for the preparation of and storage of materials for use other than on this Contract.</p> <p><b>Schedule of Condition</b> The Contractor, Prior to commencement of work on site, shall in conjunction with the Project manager, adjoining owners and relevant authorities prepare and agree a "schedule of Condition" of roads, paths, manholes, drains, etc., which are adjacent to the site. at completion of the works, but prior to formal hand-over, this schedule shall be checked and any work found to be damaged due to the Contractor's building operations shall be made good at the Contractor's expense. The Contractor shall also, prior to commencement of work on site, prepare and agree with the Project Manager a grid of existing site levels</p> <p><b>Limitations of Working Space</b> The Contractor is to take all reasonable precautions to prevent workmen, including those employed by sub-contractors, from trespassing on adjoining owner's property.</p> <p><b>Overtime</b> Where and when it is found</p>				
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	<p>necessary to work overtime in order to maintain progress or for other reasons the Architect's sanction in writing must first be obtained and any such sanction will only be granted on the understanding that such overtime will not entail the Employer in any payment thereby additional to the Contract sum unless the Project Manager shall otherwise direct. In cases where the Project Manager shall direct that the Contractor is to be paid the additional cost of overtime working which he may have sanctioned in writing, the additional cost concerned shall be limited to the net cost of overtime working payable to the operatives involved, plus an addition for overheads but subject to no other addition of any kind as the Project Manager may consider for this purpose:- (1) "Additional cost" shall mean the "non-productive element" of payments made to workpeople in accordance with the working rules of the relevant wage -fixing body for overtime working in excess of that allowed for by the contractor in the calculation of the contract sum; and (2) "Overhead" shall mean additional direct costs necessarily incurred by the contractor as a direct result of such additional temporary lighting, extend hours for canteen facilities, direct supervision and the like but shall exclude head or regional office costs or charges In this connection the contractors will be deemed to have made allowance in his tender for any overtime he considers necessary to complete the works by the agreed date Use of materials found on site The use of materials found on site shall be prohibited except for those specifically described as to be re-used and excavated material, which are suitable may be used for making up levels, etc. Should the Contractor discover materials on site he feels can be re-used as filling media he must obtain the Project Manager's written approval to their use prior to proceeding with incorporating them in the works. Disposal of materials Unless otherwise described all materials found on site shall be removed from site to a pit provided by the Contractor</p>				
2	Temporary Name Boards; The Contractor is to erect a display board indicating the name of the project and the names of the various firms and persons engaged on the works. The dimensions, design and construction of the same are to be to the satisfaction of the Project Manager	item	1.00		
3	Temporary Name Boards; Allow for the associated cost for the registration of the project registration of all firms engaged in the projects.	item	1.00		
4	Hoardings ; The Contractor is to construct and maintain, a strong temporary fence as necessary during the execution of the works as per local Authority requirements and as per Project	item	1.00		

	Manager approval and remove after completion of this contract. The Contractor is to provide all necessary additional access doors and gates complete with proper locks and fastenings and maintain, alter and adapt as necessary during the carrying out of the works.				
5	<p>Employer's Notice Boards During the course of the contract the Employer or his agents reserve the right to instruct the contractor to erect, "To Let", and other sign boards in suitable positions on the building and the contractor must allow for in his tender. These sign boards are not to be obstructed or removed by the contractor without the consent of the Employer or his agent. When removed with authority, they are to be carefully stored until handed over. The Contractor will be responsible for any damage or loss in respect of these sign boards from the time they are erected on the site until they are handed over to the Employer or to his agents</p> <p>Advertising Rights All rights in advertising in connection with this contract are strictly reserved to the Employer and the contractor is expressly forbidden to advertise or to permit to be advertised. No information concerning this contract may be released to the press or to any other party or person without the prior consent of the Employer to whom the proposed press hand-out or other information shall be submitted in each case for approval</p> <p>Maintenance of Existing Services The Contractor is to take all reasonable measures to ascertain the location of all existing services including liaising with local authorities, public undertakings, the Employer's representative and any other persons having knowledge of the site to avoid damage to any existing services The Contractor shall be responsible for protecting, upholding and maintaining all existing services during progress of the works and for giving all necessary notices to the statutory authorities and he is to make good any damage due to any cause within his control at his own expense or pay any costs and charges in connection therewith</p>	null	1.00		
6	<p><b>CONTRACT: OBLIGATIONS AND RESTRICTIONS IMPOSED BY THE EMPLOYER</b> Order of execution and completion of the works: The Contractor will be required prior to commencement of the works to prepare a fully detailed programme and progress chart covering the whole of the work. The draft chart is to be submitted to the Architect for comment and after revision, if necessary, one copy is to be kept on the site and four copies supplied for the use of the Architect and other consultants. On this chart the contractor is to indicate the latest dates for receipt of information from the design team in connection with both the general work and work to be executed by nominated sub-contractors and suppliers. At any time during</p>	item	1.00		

	<p>the progress of the works the Contractor shall allow at least seven days for receipt of information or clarification of queries. Such days shall exclude Saturdays, Sundays and Public Holidays. Refer to the relevant special condition of contract of the contract. Progress of work executed on site shall be indicated weekly on the Contractor's copy of the chart and this information will be available for transfer by the Project Manager's representative to other copies of the chart. When for any reason the contract falls substantially behind programme or the sequence of the operations is materially altered the contractor shall, if so requested by the Project Manager, prepare a revised programme in the manner described above taking into account the current situation. Temporary accommodation and facilities for use of the Employer Contractor shall provide temporary accommodation and facilities for use by the Clerk of Works, Resident Engineer, Resident Quantity Surveyor, Architect and Services Engineer staff to the following standards:-</p> <ol style="list-style-type: none"> <li>1. Workable Floor spaces: 16 square metres minimum</li> <li>2. Furniture: Tables, Six chairs and One lockup desks.</li> <li>3. Equipment: Work-top plan chest, filing cabinets, drawing board and tee square</li> <li>4. Lighting</li> <li>5. Protective clothing and survey equipment</li> <li>6. Male and female latrine accommodation separate from general site latrine accommodation hereinafter described.</li> <li>7. New (Desktop Computer, A3 printer, photocopy, access to internet, telephone and airtime per month</li> </ol>				
7	<p><b>CONTRACT: OBLIGATIONS AND RESTRICTIONS IMPOSED BY THE EMPLOYER</b> Temporary Accommodation and Facilities for Use of the Employer In addition the Contractor shall provide for the said office all necessary electric light, daily cleaning and proper attendance and take down and clear away on completion or when no longer required and make good all work disturbed. The Contractor is also to provide for the sole use of the Engineer or his representative, for the duration of the contract, a modern theodolite, level and staff in good condition and proper working order. The Contractor shall also provide the full time services of a competent foreman to act under the directions of the Engineer or his representative. Protective clothing and boots for the sole use of the Engineer and visiting staff shall also be made available. The Contractor shall be responsible for cleaning, maintaining and protecting such instruments and clothing as may be necessary during the carrying out of the contract. The Contractor shall also provide accommodation either as part of his general site establishment or a separate accommodation space for holding site meetings chaired by the Project Manager generally or by the Contractor in respect of co-</p>	null	1.00		

	ordination meetings with sub-contractors. Such accommodation is to be sufficient to accommodate Contractor's organisation and sub-contractors as required. The citting of all temporary buildings, etc., is to be approved by the Architect				
8	Setting out of Works and Tolerances ; The Contractor shall survey the reinforced concrete structure floor by floor immediately after the completion of each section of the work. The survey (to be given to the Project Manager without delay before superincumbent work is constructed) shall record on a drawing the position, levels, dimensions and alignments of all parts of the structure and shall show clearly any divergence from the specified tolerances	item	1.00		
9	Adjoining Owners Property and Land; The Contractor is to make his own arrangements with adjoining owners regarding access to their premises where this is convenient or necessary for executing the works Except as provided in the Contract conditions, the Contractor shall be held responsible for any damage to third party premises resulting from the works and shall make good such damage at his own expense to the reasonable satisfaction of the Project Manager and the owners or occupiers thereof or their authorized representatives	item	1.00		
10	Materials and Workmanship The whole of the materials and workmanship are to be as described in these Bills of Quantities, the best of their respective kinds and all articles and materials unless otherwise described are to be of a standard or quality not less than those contained in the latest relevant standard. Standard of workmanship are to be not less than those contained in the Codes of Practice where such are applicable to the Works	null	1.00		
11	Materials and Workmanship Samples of materials as may be required shall be furnished to the Project Manager by the Contractor without delay. The samples approved will be retained by the Project Manager who will be at liberty to reject all materials and workmanship not corresponding with the approved sample. All samples not forming part of the finished works shall be removed on completion of the works or when no longer required. The Contractor will forthwith remove all materials and workmanship rejected by the Project Manager in writing within such time as may be specified and replace them with others of such better quality as shall be satisfactory to the Architect and shall be approved by him In case the Contractor shall neglect or refuse to comply with the foregoing conditions, the Project Manager or his representative may on behalf of the Employer remove such materials and workmanship or any part thereof and replace the same with such other materials and workmanship as shall be satisfactory to him	item	1.00		

	The Employer will deduct all expenses thereby incurred or for which the Employer may be liable, from the amount of any money which may be or become due to the Contractor or may recover the same by action at law or otherwise from the Contractor as the Employer may determine All crates, packing cases and casings of all kinds containing goods delivered to the site and included in this contract, including goods supplied by nominated suppliers are, where required to be returned, shall be carefully preserved and properly nailed down and the contractor is to allow in his prices for re-addressing and returning them to the senders. He will be responsible for any loss or damage claimed				
12	Testing Materials; The Contractor is to provide all samples of materials for testing and is to allow for delivery to the nominated testing authority If the results of any tests are unsatisfactory the cost of the testing and any resulting reconstruction which may be ordered by the Architect is to be borne by the contractor Note:- A provisional sum for laboratory charges for testing materials has been included in the "Provisional and Prime Cost Sums" section of these Bills of Quantities	item	1.00		
13	Temporary Works; In certain cases described herein, the contractor's proposals for temporary works may be required to be submitted to the Architect or Structural Engineer for prior approval Such approval, where given, will relate only to the general principles and methods proposed and in every case of the Contractor shall remain entirely responsible for the detailed design and adequacy of all temporary works required for completion of the Contract Where a suggested method of effecting temporary works has been described in the Bills of Quantities, and/or is indicated on the drawings, the Contractor may adopt some alternative method subject to the prior approval of the Project Manager or Engineer as described above, but in any case the Contractor will be held entirely responsible for the detailed design and adequacy of whatever method he adopts	item	1.00		
14	Site Meetings; The Contractor shall attend site meetings to be arranged by the Architect at regular intervals. The purpose of these meetings, to be held under the administration of the Project Manager is to review progress and clarify any matters arising to maintain the regular progress of the works At each site meeting the Contractor shall present a written report which clearly notes the progress planned and actually achieved since the last site meeting, outstanding information required and weather reports for the period since the last site meeting stating the effects, if any, on progress of the works	item	1.00		

15	<p>Co-ordination Meetings; The Contractor shall be responsible for holding co-ordination meetings with all sub-contractors engaged on this project The purpose of the co-ordination meetings, to be held under the administration of the Main Contractor, is to clarify matters etc., and to arrange wit other trades routes of services and position of equipment and to ensure that all services are installed in the correct sequence. Progress photographs</p> <p>Sureties and Bond The Contractor will be required to enter into a Bond with one surety being a reputable local bank acceptable to the employer or guarantee society or insurance company for an amount equal to 10% of the contract sum, for the due and proper observance of the terms and stipulations of the Contract and pay the necessary stamp duties. In the event of the surety approved by the Employer dying or permanently leaving the country, or becoming bankrupt or insolvent or compounding with his or their creditors, the Contractor shall and will forthwith upon being required by the Employer to do so, obtain a joint security or security as the case may be, and obtain a new Bond for the due and proper observance of the terms of the Contract The Contractor may alternatively make a cash deposit of 10% of the contract sum with the Employer</p>	item	1.00		
16	<p>Certificates ; Payments in respect of fluctuations in prices of materials and rates of wages for contracts allowing price adjustments may be included in certificates; as per the relevant clause in the conditions of contract. NOT APPLICABLE Every application for a certificate by the contractor must be accompanied by a detailed priced statement setting forth the particulars of the works executed to date together with a list of materials on site Prior to the issue of any certificate pursuant to the GCC Clause 45 of the PPRA Conditions of contract, in which is included the value of materials or goods not incorporated into the works, the contractor shall provide to the Project Manager and the Quantity Surveyor a description and documentary evidence of the measures employed to ensure that the Contractor has the right to pass ownership of the said materials or goods to the Employer and that no contract of sale for the said materials or goods contains any clause maintaining reservation of title to the supplier or vendor. The contractor is further required to indemnify and will be deemed to have indemnified the Employer against any loss or claim in respect of the said materials for which he has requested payment and the value of which has been included in any party or of a supplier implementing a retention as a result of non-payment The Contractor's attention is drawn to to the fact that NO provision is made for the</p>	null	1.00		



	certification of the value of materials stored off-site. In the event that the Project Manager should decide to exercise his discretion in this respect however, it will be necessary for the Contractor first to show that the sub-contract or contract of sale concerned contains the express show/proof Should this course be adopted, it may become necessary for the Quantity Surveyor to carry out a quantity and documentation check. Unless such payments have been specifically requested in writing by the Employer.				
R	<p>Price Adjustment/Fluctuations: In the event of Tenders being accepted as described herein claims for adjustment of the Contract Sum for labour and materials cost variations in accordance with Clause 50 of the PPRA conditions. (Not Applicable) Measurement of Variations; Measurement of variations will be carried out by the Quantity Surveyor who will give to the contractor an opportunity of being present. Completed measurements will be handed to the Contractor periodically for his check and queries, and sections of priced variation will similarly be handed to him at a later stage Measurement of the Works; Measurement of the works, executed in accordance with drawings and instructions of the Project Manager, will normally be carried out by the Quantity Surveyor who will give the Contractor an opportunity of being present. Completed measurements will be handed to the contractor periodically for his check and queries and priced sections will similarly be handed to him at a later stage Upon the request of the Quantity Surveyor the Contractor will furnish him with all invoices, receipts accounts and other vouchers that may be required in connection with the contract Prior to the issue of a certificate the Contractor shall, if requested, produce for the Quantity Surveyor's inspection all receipted accounts relating to prime cost items and provisional sums and receipts for charges paid by the Contractor Wages Books; The Contractor will keep proper wages books and time sheets showing the wages paid to and time worked by the workpeople in his employ or in connection with the execution of the Contract and such wages books and time sheets will be produced whenever required for verification Labour Returns; The Contractor shall prepare for the Project Manager a daily distribution return showing the number and description of workpeople employed on the works including those employed by nominated sub-contractors. The returns are to be forwarded at the end of each week to the Project Manager Dayworks; Should it be found that work ordered by the Project Manager cannot properly be measured according to rules of EASMM and valued at bills of quantities rate, or at rates analogous</p>	null	1.00		

	thereto the contractor may be allowed daywork rates for such work on the instruction by the Project Manager prior to. Where the Contractor intends to record authorized variation work on daywork vouchers the Project Manager is to be informed before such work commences. The daywork sheets in connection therewith must be priced and submitted to the Project Manager or his authorized representative for verification by not later than the end of the week following that in which the work has been executed dayworks. For time and materials (except provisional and prime cost sums) the rates will be the standard rates included in Bills of Quantities with the additions for on cost as specified by the Contractor The individual rates for plant shall be as quoted in the Bills of Quantities				
18	Drawings, etc. The Contractor is to allow for the cost of any copies of drawings, specifications, etc., which he may require in excess of those provided without charge under conditions of contract. All drawings, tracings, prints and writings, except letters, are to be considered the property of the Architect and they are to be returned to him on completion of the works.	item	1.00		
19	Attendance Upon Trades; The Contractor shall provide for attendance on and by all trades as may be required to complete the whole of the works Services Drawings and Testing; At practical completion of the works the contractor is to deposit with the Project Manager two (2) copies of each of record drawings showing in detail as actually executed drainage, electrical, heating and all other service installations and mains, together with certificates confirming that the installations have been TESTED and conform to the specification and requirements of the statutory authorities concerned The Contractor will be responsible for obtaining from his sub-contractors all relevant drawings and certificates and for obtaining and requisite additional supporting certificates from statutory authorities The Certificate of practical completion of the works will not be issued until the contractor has complied with the foregoing requirements. Note:- The Contractor may obtain copy of negatives of the working drawings from the Project Manager for the purpose of preparing record drawings Note:- A provisional sum in respect of testing of electrical, heating, ventilation and any other mechanical installations by independent experts has been included in the "Provisional and Prime Cost Sums" section of these Bills of Quantities	item	1.00		
20	Allow sum for provision of shop drawings for all relevant items	item	1.00		
21	Building Maintenance and Job Diary; When required all sub-contractors and suppliers shall provide in duplicate information and operating	null	1.00		

	and maintenance guidance about the materials or goods included within the works and where necessary record drawings for insertion in the relevant parts of the diary and shall be responsible for the accuracy of such information, guidance and drawings Handing Over Six weeks before any section of the work will be ready for handing over the contractor shall inform the Project Manager/Architect of the fact in writing				
22	<p><b>WORKS BY NOMINATED SUB-CONTRACTORS;</b> Nominated sub-contractors; Tenders for specialist services to be executed by nominated sub-contractors for which prime cost sums are included in these Bills of Quantities will normally be invited by the Project Manager from specialist firms and the Contractor will, be instructed to enter into sub-contracts with the selected tenderers. The Contractor will be responsible for the supervision and administration of all sub-contracts in accordance with the conditions including those applicable to the work of statutory undertakings whether carried out without charge or not and will be responsible for the organization and progression of all such work. The contractor must bear the additional costs to the sub-contract tender which he has been instructed to accept for any revisions to the sub-contractor's agreed programme which he requires for his own convenience</p> <p><b>Attendance Upon Sub-Contractors</b> The contractor is to add to all prime cost sums for work to be executed by nominated sub-contractors for general attendance as may be specifically required; he shall also include a profit margin on all nominated subcontractors works. General attendance on nominated sub-contractors and statutory undertaking engineers shall include for the following:- Use of temporary roads, pavings and paths Use of standing scaffolding, which shall be left in position until no longer required and also altered and adapted to suit the reasonable requirements of the nominated sub-contractors, etc. Use of hoisting facilities; Use of sanitary accommodation and welfare facilities Providing office accommodation, lockable store and space for storage of plant and materials. The contractor will also be required to provide security to properties of all nominated sub contractors including statutory undertakings; should there be any theft due to breakage of said lockable stores, the contractor shall replace at his own cost all articles lost. Providing light including leads, lamps, fittings, etc. Providing water supplies Clearing away rubbish Other attendance on nominated sub-contractors, etc., as defined in the Standard method of measurement of building works has been given where appropriate following each individual prime cost sum Note:- Where electric power is</p>	null	1.00		

	<p>required the contractor is to allow for providing this supply to all floor levels and to positions convenient to nominated sub-contractors' work and shall include for all necessary leads, fittings, etc., and pay all necessary charges</p> <p><b>GOODS AND MATERIALS FROM NOMINATED SUPPLIERS</b> Nominated Suppliers All articles to be supplied by nominated suppliers for which prime cost sums are included in these Bills of Quantities and which the contractor has to fix or place in position or hand to sub-contractor for fixing will be delivered to the site unless otherwise described All goods and fittings delivered to the site are to be received into the charge of the Contractor who must satisfy himself that they are sound, correct and in good order and he will be required to replace at his own cost all articles lost or found to be damaged on completion The Contractor must bear the additional costs to the supplier's tender which he has been instructed to accept for any revisions to the supplier's agreed programme which he required for his own convenience The Contractor is to add to all prime cost sums for articles to be supplied by nominated suppliers for profit Fixing Only, etc. The prices for fixing only (or placing in position or handing to sub-contractors) articles supplied by nominated suppliers, or otherwise supplied to the contractor, are to include for receiving the articles unloading, getting in, sorting, hoisting, distributing, assembling and fixing only, etc., as described in the particular item and for casing up and projecting as required. <b>WORKS BY PUBLIC BODIES</b> Statutory undertaking engineers The Contractor is to note that in statutory undertaking engineers will require access to the building during the progress of the works for the purpose of installing their mains, equipment, etc. The contractor will be responsible for and make application to the appropriate electricity authorities for the permanent main supplies to the building and pay for all charges in connection therewith, including charges for current consumed/used, up to the date of practical completion of the works. the contractor shall also ensure that meter readings are taken on this date and the Employer notified of the readings and arrangements made for payments for all supplies after that date to be transferred from the contractor to the Employer</p>				
23	<p>Attendance Upon Statutory Undertaking Engineers; The Contractor is to add for profit and general attendance as previously defined under the heading "Attendance upon sub-contractors" Prime cost sums for work to be executed or charges to be made by local and statutory authorities will in all cases be net and all cash discount for the contractor excluded therefrom</p>	item	1.00		

24	<p><b>WORKS BY OTHERS DIRECTLY ENGAGED BY THE EMPLOYER;</b>  Reservation of Rights of Use of Site by Employer TheProject Manager reserves the right of use the site or the building or any portion thereof for the execution of any work or storage of materials not included in this contract which he may decide to be carried out by other persons The Contractor is to allow all reasonable access and facilities for the execution of such works but is not required to provide any plant or materials except by special arrangement and will hand over sections of the work as and when reasonable to enable such work to proceed. The Contractor is to afford facilities to the Employer, his Project Manager and/or any other persons authorised by them in or upon the building and site so that this work may proceed simultaneously with the progress of the contract. The provisions of this clause do not relieve the Contractor of any of his obligations under the contract Tradesmen, etc., directly engaged by the Employer or his tenants: The Contractor is to allow access for and permit the execution of work not forming part of this contract to be carried out by contractors, tradesmen or others directly engaged by the Employer or his tenants. Specific attendance upon, or builder's work in connection with such person will not be paid for as an addition to the contract sum unless specifically authorized by the Architect</p>	null	1.00		
25	<p><b>GENERAL FACILITIES AND OBLIGATIONS: IMPLICIT IN THE CONTRACT AND AT THE DISCRETION AND RISK OF THE CONTRACTOR;</b> Plant, Tools and Vehicles Notwithstanding any specific provisions measured in these Bills of Quantities in accordance with the EASMM the Contractor shall provide and maintain during the carrying out of the work and remove on completion all necessary plant, tools, vehicles, etc., for the use of all trades and sub-contractors engaged upon the works</p>	item	1.00		
26	<p>Scaffolding; The Contractor shall provide, erect, maintain, alter and adapt as necessary and dismantle when no longer required and remove on completion all necessary scaffolding or staging, including boards, for the whole of the works including works to be carried out by nominated sub-contractors Such scaffolding and staging shall include independent, suspended putlog or mobile scaffolds, hoist or ladder towers, access platforms, gantries, safety rails and barriers, bricklayers, birdcage, hop-up or other scaffolding, staging or the like or any other temporary means of access either internal or external The Contractor's attention is drawn to the clause entitled "Attendance upon sub-contractors" where general attendance is to be provided for nominated sub-contractors and statutory undertaking engineers so far as the</p>	item	1.00		

	use of standing scaffolding is described If the contractor uses steel scaffolding, this will be painted or galvanized and kept free from rust. If any marks or damage are caused by rust from the scaffolding, the Contractor will be responsible for executing at his own expense all necessary remedial measures required by the Project Manager				
27	IMPLICIT IN THE CONTRACT AND AT THE DISCRETION AND RISK OF THE CONTRACTOR; Site Administration and Security The Contractor shall provide an adequate resident site staff including resident engineers, agent, general and sectional foremen, site surveyors, etc., and a sufficient number of men for the proper, complete and expeditious execution of the works and supply and cartage, workmanship and materials which, although not specifically mentioned, may be nevertheless incidentally necessary for the proper completion of the work described herein The Contractor will be responsible for keeping all persons under his control including men employed by sub-contractors and all unauthorized persons within bounds and will be responsible for the safety of all new and existing buildings, materials, plant, etc., and for all damage to premises and property, roads, footways, fences and gates by workmen, lorries or from any other cause whatsoever The contractor is to give the Project Manager then days notice in writing prior to executing any work affecting adjoining properties or utility services No cutting through walls or floors is to be done other than as indicated by the drawings, without the sanction of the Project Manager and the Contractor will be held responsible for all damage arising through carelessness in this respect The contractor will be held responsible for all damage to the property of the public utility service authorities and for the making good of or paying for all damage thereto The contractor shall provide all watching, and lighting on the site of the works necessary for the carrying out of the works	item	1.00		
28	Protection of the Works from Inclement Weather; The contractor shall protect the Works as necessary against damage or the harmful effects of weather conditions	item	1.00		
29	Water for the Works; The contractor shall provide water for the whole of the works including that required by sub-contractor together with all necessary temporary connections, plumbing, storage tools, fittings, etc., give notice to the local water supply authority, pay all charges and clear away on completion and make good.	item	1.00		
30	Lighting and Power for the Works; The contractor shall provide all necessary and adequate temporary lighting and power including all necessary leads, lamps and	item	1.00		

	<p>fittings, etc., and pay all charges for electric current or other fuel consumed</p>				
31	<p>Temporary Roads, Hardstandings and Similar Items; The contractor shall provide all necessary temporary roads, paths, gangways, hardstandings, crossings, etc., into, on and around the site of the works for lorries, carts, barrows, etc.,. Including all necessary excavation or making up levels to ramps, etc., both for his own use and for the use of all sub-contractors and for the delivery of materials, etc., and for the proper execution of works</p>	item	1.00		
32	<p>Traffic regulations; The Contractor shall comply with all police regulations relative to movement of vehicles, standing vehicles, restrictions as to parking and the like</p>	item	1.00		
33	<p>Safety, Health and Welfare of Workpeople; The Contractor shall provide such welfare and safety measures and amenities required by the nature and situation of the works up to a suitable standard In addition the Contractor shall ascertain and comply with the requirements of all local and statutory authorities in particular the Contractors Registration Board of Tanzania by law in respect of safety precautions taken during construction having regard to building to be erected.</p>	item	1.00		
34	<p>Disbursements Arising from the Employment of Workpeople The Contractor shall comply with the requirements of any national or local trade agreements operating in the area in which the work is to be carried out The Contractor, through his labour relations officer, will be expected to take all necessary steps to avoid disputes in collaboration with recognized trades union officials, and in this connection will be expected to provide welfare facilities to standards not less than those prescribed by the statutory regulations Maintenance of Public Highways The Contractor shall clear all deposits of mud or clay from the public highways as they arise should such deposits be attributable to the vehicles of the contractor and any supplier or sub-contractor under the contract</p>	null	1.00		
35	<p>Removal of rubbish, protective casings and coverings and cleaning the works on completion The Contractor shall remove all rubbish, debris and surplus material, etc., including that arising from sub-contractors' work, etc., at regular and frequent intervals during the carrying out of the Contract to maintain a clean and safe site and on completion clean all floors and pavings, clean all glass on both sides, remove all paint splashes, clean out all rainwater heads and down pipes, drains, gullies, manholes, etc., touch up all paintwork and leave the whole of the works in a clean and perfect condition ready</p>	item	1.00		

	for immediate occupation and use				
36	Tape Protection to Windows, Entrance Screens and Doors; The windows, entrance screens and doors will be supplied with tape protection and the sub-contractor will strip off tape and clean down	item	1.00		
37	The Contractor should allow for any additional protection he may deem necessary and also arrange with the sub-contractor a programme for stripping and cleaning down.	item	1.00		
38	Drying the Works The Contractor will be responsible for and is to allow controlling the humidity of the building immediately before handing over and at all other times (including holiday periods) as may be necessary to facilitate the progress and completion of the works, including the work of sub-contractors, as described in the clauses hereafter.	item	1.00		
39	Temporary Fencing, Hoardings, Screens, Fans, Planked Footways, Guard Rails, Gantries and Similar items; The Contractor shall provide and erect all necessary hoardings, fences, fans, screens, strutting, shoring, gantries, footways, etc., temporary or otherwise for or in consequence of any of the works or for the protection and security of all persons and property whatsoever and take down and clear away on completion or when no longer required and make good all work disturbed	item	1.00		
41	Temporary Fencing, Hoardings, Screens, Fans, Planked Footways, Guard Rails, Gantries and Similar items; The Contractor shall provide all temporary lighting and obtain all licences and consents, pay all deposits legally demandable, maintain, alter and adapt as necessary and comply with the requirements of the local and other authorities in respect of all the hoardings, fences, fences, screens, strutting, shoring, gantries, footways, etc., previously described as necessary during the carrying out of the works. Note:- Any fees or charges (not deposits) payable in connection with the foregoing items of hoardings, fences, fans, screens, strutting, shoring, gantries, footways, etc., should be allowed for this purpose	item	1.00		
42	Control of Noise, Pollution and all Other Statutory Obligations; The and surrounding buildings will be in occupation during the course of this contract and the Contractor is to allow in his prices and programming for carrying out the work so as to cause the minimum disturbance to the occupants and the exercise of all due precautions and for complying with all reasonable instructions from the Project Manager/Architect to achieve this The Contractor shall make every endeavour to reduce construction noise to the minimum. All power tools shall have efficient silencing jackets The Contractor shall take all reasonable precautions to ensure the efficient protection of	item	1.00		



	all streams and waterways against pollution arising out of or by reason of the execution of the works The Contractor shall take all necessary precautions to prevent nuisance from water, smoke, dust, rubbish and other causes The contractor is to comply with all statutory enactments and obligations not previously defined arising out of or as a direct consequence of the execution of the works No claim will be admitted by reason of the Contractor having failed to comply with all or any of the foregoing conditions				
43;	<p>Removal of Rubbish, Protective Casings and Coverings and Cleaning the Works on Completion; The Contractor shall remove all rubbish, debris and surplus material, etc., including that arising from sub-contractors' work, etc., at regular and frequent intervals during the carrying out of the Contract to maintain a clean and safe site and on completion clean all floors and pavings, clean all glass on both sides, remove all paint splashes, clean out all rainwater heads and down pipes, drains, gullies, manholes, etc., touch up all paintwork and leave the whole of the works in a clean and perfect condition ready for immediate occupation and use Tape Protection to Windows, Entrance Screens and Doors: The windows, entrance screens and doors will be supplied with tape protection and the sub-contractor will strip off tape and clean down The Contractor should allow for any additional protection he may deem necessary and also arrange with the sub-contractor a programme for stripping and cleaning down. Drying the Works; The Contractor will be responsible for and is to allow controlling the humidity of the building immediately before handing over and at all other times (including holiday periods) as may be necessary to facilitate the progress and completion of the works, including the work of sub-contractors, as described in the clauses hereafter.</p> <p>Temporary Fencing, Hoardings, Screens, Fans, Planked Footways, Guard Rails, Gantries and Similar items; The Contractor shall provide and erect all necessary hoardings, fences, fans, screens, strutting, shoring, gantries, footways, etc., temporary or otherwise for or in consequence of any of the works or for the protection and security of all persons and property whatsoever and take down and clear away on completion or when no longer required and make good all work disturbed The Contractor shall provide all temporary lighting and obtain all licences and consents, pay all deposits legally demandable, maintain, alter and adapt as necessary and comply with the requirements of the local and other authorities in respect of all the hoardings, fences, fences, screens, strutting, shoring, gantries, footways, etc., previously described as necessary during</p>	item	1.00		

	<p>the carrying out of the works Note:- Any fees or charges (not deposits) payable in connection with the foregoing items of hoardings, fences, fans, screens, strutting, shoring, gantries, footways, etc., should be allowed for this purpose Control of Noise, Pollution and All other Statutory Obligations The and surrounding buildings will be in occupation during the course of this contract and the Contractor is to allow in his prices and programming for carrying out the work so as to cause the minimum disturbance to the occupants and the exercise of all due precautions and for complying with all reasonable instructions from the Project Manager to achieve this The Contractor shall make every endeavour to reduce construction noise to the minimum. All power tools shall have efficient silencing jackets The Contractor shall take all reasonable precautions to ensure the efficient protection of all streams and waterways against pollution arising out of or by reason of the execution of the works The Contractor shall take all necessary precautions to prevent nuisance from water, smoke, dust, rubbish and other causes Control of Noise, Pollution and All other Statutory Obligations (Continued) The contractor is to comply with all statutory enactments and obligations not previously defined arising out of or as a direct consequence of the execution of the works No claim will be admitted by reason of the Contractor having failed to comply with all or any of the foregoing conditions</p>				
44	Case Study/Factory Visit; Allow cost for relevant factory visit for Spiral reinforcement, Skylight roofing, Curtain glass, and other related civil works for at least five (5) days at Manufacturer's premises for at least five (5) BoT Representatives , This will include visit coordination, cost for Visa, air tickets, meals and accommodation, local transport and all allowance to the team.	item	1.00		
45	As Built Drawings; Allow a sum for approved, relevant architectural and Structural As Built Drawings	item	1.00		
46	Case Study/Factory Visit; Allow cost for relevant factory visit for CHUBB Strong room vault Doors, and other related civil works for at least five (5) days at Manufacturer's premises for at least five (5) BoT Representatives , This will include visit coordination, cost for Visa, air tickets, meals and accommodation, local transport and all allowance to the team.	item	1.00		
47	Supply and deliver Brand New Double cabin pickup; make Toyota Hilux Revo or equally approved by the client; Manufacture year minimum 2023; to be used by employer representatives at the site during project implementation. (at the end of the project the vehicle will remain as the Bank property )	Nr	1.00		

<b>BILL NO. 2</b>	<b>PRIME COST AND PROVISIONAL SUMS</b>				
<b>SECTION A</b>	<b>PRIME COST SUMS FOR WORKS TO BE EXECUTED BY LOCAL AUTHORITIES OR PUBLIC UNDERTAKINGS</b>				
<b>iv</b>	<b>Allow sums for telecommunication services</b>				
A	Telephone Main Connection	item	1.00		
B	Add: for profit	2%			
C	Special attendance	item	1.00		
<b>i</b>	<b>Allow sums for water supply connection</b>				
A	Water Main Connection	ps	1.00	3000000	3,000,000.00
B	Add: for Profit	2%			
C	Special attendance	item	1.00		
<b>ii</b>	<b>Allow sums for power connection</b>				
A	Electrical Main Connection	item	1.00		
B	Add: for profit	2%			
C	Special attendance	Item	1.00		
<b>SECTION D</b>	<b>INSURANCES AND CONTINGENCY SUM</b>				
<b>I</b>	<b>Allow provisional sum for</b>				
A	Cost of insurance against loss or damage to the works, Plants and Material TSHSs as indicated in instruction to tenderers , Cost of Insurance against loss or damage to equipment as indicated in instruction to tenderers , Cost of Insurance against loss or damage to property (except the Works, Plant, Material TSHSs and Equipment) as indicated in instruction to tenderers, Cost of Insurance against personal injury in death as indicated in instruction to tenderers and Cost of providing Performance Security as indicated in instruction to tenderers t	lumpsum	1.00		
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 3</b>	<b>REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>I</b>	<b>FRAMES, STAIRCASES AND RAMPS</b>				
<b>b</b>	<b>Normal; class M25 (C20/25); vibrated around reinforcements</b>				
A	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement: To Horizontal beams	m3	1,091.00		
B	Ditto Reinforced concrete grade "25";: To Horizontal rib beams	m3	1,281.00		
C	Ditto Reinforced concrete grade "25" : 150 mm Horizontal suspended slab	m2	7,572.00		
D	Ditto Reinforced concrete grade "25" : 100 mm Horizontal suspended slab (cantilever)	m2	1,240.00		
E	Ditto Reinforced concrete grade "25": 200 mm Horizontal suspended slab	m2	2,233.00		
F	Ditto Reinforced concrete grade "25: To Staircases	m3	224.00		
G	Ditto Reinforced concrete grade "25:150mm thick Suspended Landing	m2	227.00		

<b>a</b>	<b>Normal; class M30 (C25/30); vibrated around reinforcement; including concrete admixtures and additives</b>				
A	Reinforced concrete grade "30"; 19mm. granite or basalt aggregates including vibrating around reinforcement: To Columns	m3	680.00		
B	Ditto Reinforced concrete grade "30": To Lift shaft wall	m3	779.00		
<b>III</b>	<b>FORMWORK TO CONCRETE SURFACE</b>				
<b>a</b>	<b>Formwork generally; wrot/wrought or sawn (delete that is not applicable)</b>				
<b>V</b>	<b>OTHER STRUCTURES</b>				
<b>b</b>	<b>Formwork to general surfaces</b>				
A	Vertical sides of columns	m2	3,592.00		
B	Lift shaft walls	m2	3,118.00		
C	Sides and soffit of horizontal beam	m2	7,161.00		
D	Sides and soffit of horizontal rib beam	m2	14,872.00		
E	Soffit of slab and the like	m2	11,045.00		
F	Vertical riser of 150mm but n.e 225mm	m2	1,944.00		
G	Soffit of suspended Landing	m2	227.00		
H	Vertical side of open raking string 300mm (extreme) high including cutting profile of treads and risers	M	196.00		
I	Vertical riser 150mm high	M	379.00		
J	Sides and soffits of concrete gutter	m2	740.00		
<b>II</b>	<b>REINFORCEMENTS</b>				
<b>a</b>	<b>Bars; high yield steel; cold worked; B.S. 4466; In any location</b>				
A	8mm diameter bars	Kg	16,065.00		
B	10mm diameter bars	Kg	3,246.00		
C	12mm diameter bars	Kg	163,508.00		
D	16mm diameter bars	Kg	24,732.00		
E	20mm diameter bars	Kg	103,453.00		
F	25mm diameter bars	Kg	183,040.00		
G	12mm diameter bars: To stairs	Kg	5,283.00		
H	12mm diameter bars to Roof Gutter	Kg	24,123.00		
<b>IV</b>	<b>THE CONCRETE WORK SUNDRIES</b>				
<b>a</b>	<b>Expansion joints in concrete or blockwork</b>				
A	EXPANSION JOINTS: Sundries associated with in-situ works; Expansion Joints; 12mm thick x 175mm wide construction joint filled with polysulphide sealant.	m	381.00		
B	Isolation Joints: 25mm wide, 50mm deep groove, filled with sealant rubber flex.	m	381.00		
C	Isolation Joints: 100mm wide, aluminium cover on expansion joint	m	381.00		
D	Water bar: 225mm water bar "POLYSTOP"	m	689.00		
E	Power-floated reinforced concrete surface bed	m2	23.00		

	with steel float ; To Floor				
F	Suuply and lay Epoxy based 1 Coat epilac clear primer 2K and 2 coats Epilac floor paints.	m2	23.00		
<b>ELEMENT NO. 5</b>	<b>INTERNAL WALLING</b>				
<b>II</b>	<b>BLOCKWORK; INTERNALLY</b>				
<b>a</b>	<b>Blockwork; concrete blocks, BS 6073; type A; solid, dense aggregate, average compressive strength 5-7N/mm2 ; in cement mortar (1:4)</b>				
A	100mm Wall	m2	62.00		
B	150mm Wall	m2	2,647.00		
C	230mm Wall	m2	3,095.00		
D	150mm Wall to Parapet Wall	m2	350.00		
<b>IV</b>	<b>COMPOSITE UNITS/ PURPOSE MADE UNITS</b>				
<b>a</b>	<b>Light / Demountable partitions</b>				
A	PRE-CAST CONCRETE FINS: Supply and install Vertical fins 150x650mm, 4.50m high installed to complete with nuts, washers, bolts, screws to bolt in place as per Structural Eng details	Nr	800.00		
B	PRE-CAST CONCRETE FINS: Supply and install Vertical fins 150x650mm, 5.50m high installed to complete with nuts, washers, bolts, screws to bolt in place as per Structural Eng details	Nr	170.00		
C	Dry Partition : Supply and install 18mm High pressure laminated partition including a 100mm (floor clearance) complete with door and all necessary ironmongery and fittings	m2	138.00		
D	Dry Partition : 12mm Gypsum board plastered with decorative color, complete with galvanized steel frame 2mm thick, profile size 35x75mm including all necessary fittings and fixed to place, soundproofed to requirements, to Arch approval	m2	990.00		
E	Dry Partition : 8mm Laminated clear glass fixed to aluminium frame 50mm thick, including double doors (5No), iron mongery and all necessary fittings all to Architects details and approval	m2	230.00		
F	Dry Partition : 10mm thick plaster board partition wall with aluminium profile, teller cubicles; including all fittings and iron mongery (if any)	m2	11.00		
G	Precast Concrete: 200x75mm Thick weatger guard precast coping to parapet wall	M	170.00		
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>I</b>	<b>FRAMELESS DOORS</b>				
A	GLASS DOOR; Supply and install 8mm Thick pivot frameless tempered glass door with patch fittings fins, SS push and pull handle and complete with HAFELE iron mongery including 2No 1000x2100 fixed window of 8mm thick tempered glass ;Door Size 4000 x	Nr	1.00		

	2400 mm D9				
B	AUTOMATIC DOOR; Supply and install 12mm thick clear tempered fixed glass Automatic sliding door including all necessary fittings and iron mongery, refer door schedule ; Door Size 2000 x 2400 mm, to suit Main Entrance, D0	Nr	1.00		
<b>II</b>	<b>PURPOSE MADE UNITS</b>				
A	Supply and fix 600x600x35mm Laminated steel raised floor system with HPL/PVC finish complete with all necessary floors, brackets, and beams to support the finished system to Arch approval	m2	160.00		
	<b>Strong room door (to be supplied by Client)</b>				
<b>III</b>	<b>HARDWOOD DOOR; LOCAL SPECIES; MNINGA OR MKONGO</b>				
A	Supply and install 50mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid Hardwood (Mkongo) door equipped with high-security locks with access control panel in addition of SS push and pull handle : Size Door Size 1500 x 2400 mm overall D1	Nr	28.00		
B	Supply and install 50mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid Hardwood(Mkongo)door, Solvent based fire retardant chemical treatment equipped with high-security locks with access control panel in addition of SS push and pull handle : Door Size 1500 x 2400 mm overall D1'	Nr	17.00		
C	Supply and install 50mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid hardwood (Mkongo) door equipped with high-security locks with access control panel in addition of SS push and pull handleand double vision panel 200(width) X 1000(height)mm: Door Size 900 x 2400 mm overall D3	Nr	12.00		
D	Supply and install 40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails soild Hardwood (Mkongo) door ; Door Size 900 x 2400 mm overall D3	Nr	79.00		
E	Supply and install 40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails soild Hardwood (Mkongo) door: Door Size 1000 x 2400 mm overall D4	Nr	6.00		
F	Supply and install 40mm thick single leaf veneered and polished solid door comprising of 20 x 50mm louvers "Z" shape: Door Size 1200 x 2100 mm overall D5'	Nr	25.00		
G	Supply and install 40mm thick single leaf veneered and polished solid door comprising of 20 x 50mm louvers "Z" shape FIRE RATED DOOR; Door Size 600 x 2100 mm overall D10	Nr	5.00		

H	Supply and install 40x75mm Bronze anodized aluminium frame, 6mm clear tempered glass door with patch fittings fins, SS push and pull handle complete with HAFELE ironmongery: including aluminium bronze anodized window frames 100mmx40mmx3mm clear tempered glass fixed to blockwork ; Size 2700 x 2400 mm Dw	Nr	40.00		
IV	<b>FRAMES AND THE LIKE</b>				
A	Frames: Supply and Fix Frames comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging : Size 45 x 210mm. rebated ; screwed and pelltated.	m	340.00		
B	Frames: Supply and Fix Frames comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging : Size 45 x 290mm. rebated ; screwed and pelltated	m	165.00		
C	Frames: Supply and Fix Frames comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging : Size 45 x 560mm. rebated ; screwed and pelltated	m	202.00		
D	Supply and fix Frames: comprising of comprising of solvent-based fire retardant primer with approved finishing paint i.e. two coats of teak oil or equal and approved for frame thickness: Size 45 x 210mm. rebated ; screwed and pelltated	m	88.00		
E	Supply and fix Frames: comprising of comprising of solvent-based fire retardant primer with approved finishing paint i.e. two coats of teak oil or equal and approved for frame thickness: Size 45 x 290mm. rebated ; screwed and pelltated	m	76.00		
F	Supply and fix Frames: comprising of comprising of solvent-based fire retardant primer with approved finishing paint i.e. two coats of teak oil or equal and approved for frame thickness: Size 45 x 360mm. rebated ; screwed and pelltated.	m	25.00		
G	Supply and fix Frames: comprising of comprising of solvent-based fire retardant primer with approved finishing paint i.e. two coats of teak oil or equal and approved for frame thickness: Size 45 x 560mm. rebated ; screwed and pelltated	m	44.00		
H	Supply and fix Frames sanded smooth, primed and finished with two coats of teak oil or equal and approved for frame thickness ; Size 45 x 560mm. rebated ; screwed and pelltated	m	40.00		
I	Supply and fix Architraves; comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. mould: Size 45 x 50mm Architrave	m	707.00		
J	Supply and fix Architraves; comprising of 0.50	m	273.00		

	mm thick Veneer finish and polished with oil paint as per Approved Sample. mould : Size 45 x 75mm Architrave				
<b>V</b>	<b>IRONMONGERY</b>				
<b>a</b>	<b>Supplying and fixing ironmongery; as per design and approved to the Project Manager's approval; to hardwood, softwood or the like; fixing with screws</b>				
A	Supply and fix the following ironmongery as per HAFELLE or equal and approved manufacturer to or timber with suitable screws provided ; Ball Bearing Hinges with 9 pair of 75(length) x 6(diameter) mm Lag screws or equal approved	Prs	243.00		
B	Supply and fix SS Strike Plate,SS 4Pair 75 x50mm ball bearing hinges	prs	780.00		
C	Supply and fix Hafele Door handle Stainless steel brass coloured Cat No. 903.06.038 600mm x 400mm x 25mm for 8-80mm door thickness	Nr	196.00		
D	Supply and fix Multi-Lock and SS handle complete set as per HAFELE or equal and approved	Nr	28.00		
E	Supply and fix Hydraulic and fire door closers or equal Approved door closer	Nr	27.00		
F	Supply and fix Smoke seals and panic bars	Nr	27.00		
G	Supply and fix Medium Duty Door closer	Nr	171.00		
H	Supply and fix Fire Door closer	Nr	25.00		
I	Supply and fix High security and 60minutes fire rated multi lock as per HAFELE or an equivalent approved brand.	Nr	27.00		
J	Supply and fix 60minutes fire rated mortise lock complete set as per HAFELE or an equivalent approved brand.	Nr	25.00		
K	Supply and fix Cylinder Lock Mortice Lock and handle Complete Set as per HAFELE or EqualApproved	Nr	142.00		
L	Supply and fix Galvanized Cylinder Lock Mortice Lock and handle Complete Set as per HAFELE or Equal Approved	Nr	1.00		
M	Supply and fix Heavy duty bottom hinge, top pivot with top pin hinges (offest pivot hinges)	Nr	1.00		
N	Supply and fix Door Signage/Door Name Plates	Nr	224.00		
<b>VII</b>	<b>PAINTING AND/OR VANISH TO HARDWOOD</b>				
<b>a</b>	<b>Apply One coat approved stain; two finish coats polyurethane</b>				
A	Prepare and apply one coat of sand sealer, one coat of dark stain and two coats of clear eggshell polyurethane varnish. on wood surfaces before fixing ; Frames and the like	m	980.00		
B	Ditto : to Architrave	m	980.00		
C	Ditto: General surfaces	m2	1,260.00		
<b>ELEMENT NO. 10</b>	<b>FITTINGS AND FIXTURES</b>				



	<b>TELLER CUBICLES</b>				
	<b>PANTRY</b>				
	<b>The following fitting in pantry areas:</b>				
	<b>Joinery; prime quality 'mninga' or other equal and approved hardwood</b>				
A	Kitchen Cabinet; Supply and fix prime quality 'mkongo'/'mninga' or other equal and approved hardwood pre-fabricated/factory made kitchen cabinets, each shutter shall be fixed to the framework using soft close auto hinges and stainless steel cabinet door handle of HAFELE or approved equivalent to Architect's approval; including making holes for pipes and Kitchen Sinks: Including drawers, 20mm thick 600mm wide granite work top (m/s) to Architect's design and approval ; Lower cabinet unit; overall 600 wide x 800 high; overall	m	33.00		
B	Supply and fix prime quality 'mkongo'/'mninga' or other equal and approved hardwood pre-fabricated/factory made kitchen cabinets, each shutter shall be fixed to the framework using soft close auto hinges and Kitchen cabinet; stainless steel cabinet door handle of HAFELE or approved equivalent to Architect's approval; including making holes for pipes and Kitchen Sinks: Including drawers, 20mm thick 600mm wide granite work top (m/s) to Architect's design and approval; Upper cabinet unit; overall 400 wide x 600 high; overall	m	33.00		
C	Granite Vanity Work tops ; Supply and fix selected pre-polished high quality granite vanity top including necessary fittings to hold top in place ; 20mm Thick purpose made top granite (kitchen, pantry)	m2	28.00		
D	Granite Vanity Work tops ; Supply and fix selected pre-polished high quality granite vanity top including necessary fittings to hold top in place ; 20mm Thick purpose made top granite (wc)	m2	23.00		
E	Reception Counter ; Construct counter;2 levels, one 750mm high, second 1100mm high; 20mm thick 600mm wide granite work top or equal and approved, mild steel square hollow sections at 600mm centers, timber faced sides/cladding finished smooth to Arch approval	Nr	1.00		
	<b>CUSTOMERS AND TELLERS COUNTERS</b>				
B	TELLER CUBICLES; Stainless steel; Supply and fix Money tray as produced by CHUBB Security Installations Limited, Ronald Close, Kempston, Bedford MK 42 7SH, England, or other equal and approved, overall size 443x325x132mm deep	Nr	5.00		
C	Supply and fix Document tray 500 x 300 x 100mm tray, 100 x 15mm thick hardwood sides and 6mm thick plywood bottom	Nr	1.00		
D	Supply and fix Teller bulkhead facader 16mm thick alluminated deco on mdf substrate to	Nr	1.00		

	arch approval supported from ceiling/soffit to 1900high x 8750mm long (Bulkhead, suspended from ceiling/soffit)				
E	Supply and fix Teller bulkhead facader 16mm thick alluminated deco on mdf substrade to arch approval supported from ceiling/soffit to aluminum U-channel 80x40mm supplier details( Bulkhead, suspended from ceiling/soffit )	m	9.00		
F	Glazing; Supply and fix 6.14mm Thick laminated glass division privacy panel, sand blasted pattern, one long side curved inserted into partition boards as per design details; size 1900x1350mm high	Nr	4.00		
G	Glazing; Supply and fix 28mm bullet proof glass in stainless steel channels; Overall size of panel 1750x1345mm high. Note: Included one more glass for testing purposes.	Nr	6.00		
H	Ceiling; Supply and fix 600x600x15mm vinyl gypsum 7x20x25mm gauge expoxy acrylic protected tee clips to approved ssample	m2	17.00		
J	Granite work top/station ; Supply and fix selected high quality granite vanity top including necessary fittings to hold top in place ; 75mm Thick purpose made top granite	m2	10.00		
<b>ELEMENT NO. 4</b>	<b>EXTERNAL WALLING</b>				
<b>IV</b>	<b>CURTAIN/ STRUCTURAL GLASS WALLING</b>				
<b>b</b>	<b>Supply, fix/install, test and commissioning of curtain/ structural glass walling</b>				
A	Supply and fix 12.75mm (6.0+0.75GP+6.0) thick glass fixed to metal Curtain walling ; Supply abd fix frames or to concrete background with all associated accessories; double glazing non solar reflective thermal glass fixed to mild steel painted in grey colour frames; Aqua-green Colored glass and grey color frames: openable shutters to Arch drawings and approval	m2	3,850.00		
<b>ELEMENT NO. 9</b>	<b>FINISHINGS, PAINTING AND DECORATIONS</b>				
<b>I</b>	<b>EXTERNAL FLOOR FINISHINGS</b>				
<b>c</b>	<b>FLOOR TILES</b>				
A	Supply and fix COTTO D'ESTE (Claire De'lune) 600x600mm full body Matt Porcelain Tiles: 14 minimum Thickness Floor tiles	m2	5,232.00		
B	Supply and fix COTTO D'ESTE (Avorystone-Satinata) 300x600mm Full body Non-slip Porcelain Tiles; 14 minimum Thickness Floor tiles to wet areas (pantry, cleaner's room and wc)	m2	400.00		
C	Supply and fix 600x600mm Matt Granite Tiles to Floor	m2	723.00		
D	Supply and fix 500x500mm Heavy duty Commercial Carpet tiles to floor	m2	1,136.00		
E	Supply and fix 150mm high skirting (Match with tiles)	m	1,791.00		

F	Supply and fix 20mm Thick treated Hardwood Skirting	m	613.00		
G	Ditto tiles ; COTTO D'ESTE (Claire De'lune) full body Matt Porcelain Tiles to 300mm wide Tread	m	614.00		
H	Ditto tiles ; COTTO D'ESTE (Claire De'lune) full body Matt Porcelain Tiles to 150mm High Raiser	m	653.00		
<b>ii</b>	<b>Beds and backings</b>				
B	30 mm one coat beds; mortar; cement and sand (1:3) screed; to receive floor tiles; to concrete or blockwork base; generally to floors; level	m2	6,624.00		
<b>II</b>	<b>EXTERNAL WALL FINISHINGS</b>				
<b>a</b>	<b>In-situ Finishings</b>				
A	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled: 15mm two coat work; to concrete or block work base; generally to Block walls	m2	18,343.00		
B	Ditto plaster ; Sloping sides/waist of stairs 300mm wide	m2	131.00		
C	Ditto plaster ; Soffit of Landing	m2	64.00		
D	Ditto plaster; sloping soffits of staircase	m2	209.00		
E	Ditto plaster ; soffits of slab (cantilever)	m2	1,240.00		
F	Ditto plaster : Isolated Coulmns, beams	m2	4,176.00		
G	Cladding ; Supply and lay 12mm thick matt textured Equitone natural cladding complete with all necessary supporting fittings to fix to place all to Engineer and Arch approval ; to walls	m2	1,525.00		
H	Cladding ; Supply and lay 12mm thick matt textured Equitone natural cladding complete with all necessary supporting fittings to fix to place all to Engineer and Arch approval ; to Fins	m2	5,109.00		
<b>b</b>	<b>Painting</b>				
<b>c</b>	<b>Wall tiles</b>				
A	Supply and fix COTTO D'ESTE (Lucidata) 300x600mm Porcelain wall Tiles to Walls (WC)	m2	670.00		
B	Supply and fix COTTO D'ESTE (Lucidata) 300x600mm Porcela in wall Tiles to Backsplash (pantry/tea)	M2	160.00		
<b>d</b>	<b>Beds or Backings</b>				
A	Mortar; cement and sand (1:3); 12 mm one coat backings; screeded; to receive wall tiles; to concrete or blockwork base	m2	830.00		
<b>V</b>	<b>INTERNAL WALLING FINISHINGS</b>				
<b>I</b>	<b>WALL TILES</b>				
<b>a</b>	<b>Glazed ceramic wall tiles; to regular pattern; bedding and jointing in cement mortar (1:1); grouting joints with coloured cement; including matt strip colour of aluminium alloy at</b>				

	edge of blockwork or shear walls				
<b>II</b>	<b>IN-SITU FINISHING</b>				
<b>a</b>	<b>Plaster to Blockwork/ Partitions</b>				
<b>II</b>	<b>PAINTING</b>				
	<b>Prepare and apply two undercoats and two full coats of vinly wash and wear paint as per Architect's approval</b>				
A	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint or equal and approved brand; to Block walls	m2	18,335.00		
B	Ditto paint ; sloping soffits of staircase	m2	209.00		
C	Ditto paint ; sloping sides/waist of stairs	m2	131.00		
D	Ditto paint ; Isolated Coulmns, beams	m2	4,176.00		
E	Ditto paint ; Soffit of suspended Landing	m2	64.00		
	<b>EXTERNAL CEILING FINISHINGS</b>				
	<b>PLAIN SHEET FINISHINGS</b>				
	<b>Gypsum boards; to approval of the Project Manager; fixing with screws to manufacturer's recommendations</b>				
A	Supply and fix 12mm Thick gypsum ceiling as per Arch drawings and approval including all necessary support grid system	m2	1,331.00		
	<b>PATENT SUSPENDED ACOUSTIC CEILING SYSTEM</b>				
	<b>Armstrong; "Cirrus prima" suspended ceiling system or other equal approved; 15 x 600 x 600 mm 100% relative humidity resistance installed in Trulok F24 suspension system main runners at 1200mm centres and cross members at 600mm centers for exposed grid ; wire hangers not exceeding 1000mm long shot-fired to concrete soffit; Trulok matching angle edge trim ; plugging and screwing surfaces requiring plugging at perimeter;</b>				
B	Supply and fix 600x600mm profile approved Luxaion suspended perforated tiles with supporting metal work accessible tile system protected Tee clips to approved sample	m2	5,324.00		
<b>VII</b>	<b>STAIRCASE AND RAMP FINISHINGS</b>				
<b>I</b>	<b>BALUSTRADES</b>				
<b>IC</b>	<b>ROLLED PLATES; BARS; SECTION OR TUBES</b>				
	<b>Stainless steel; grade 316; B.S.3100</b>				
A	Provide 316 stainless steel with 63mm dia Polished stainless steel handrail welded to 30mm dia stainless steel pipe balusters, corrosion resistant, heat resistance, high performance to support a continous load to approval: 900mm High	M	196.00		
B	Ditto Balustrades : 1300mm High	M	38.00		
<b>ELEMENT NO. 8</b>	<b>ROOF STRUCTURE AND COVERING</b>				
<b>II</b>	<b>STRUCTURAL STEEL</b>				
<b>c</b>	<b>STRUCTURAL STEEL SECTION; GRADE 43; BS 4360; COMPLETE</b>				
	<b>Unframed; bolted and welded site connections; treated with anti-rust duram AS4; including paint of red oxide, one coat primer at works; and duram NS8 polytop coat on site after erection; roof trusses</b>				
<b>III</b>	<b>PITCHED ROOF COVERING</b>				

<b>I</b>	<b>Roof covering</b>				
A	The following in Hot-finished Circular Hollow Section to BS 5920-1: 2000: Supply and fix Hot-finished circular hollow section roof truss over 18m span but not exceeding 215m span comprising of 60.3mm diameter with 3.2mm thick circular hollow section top, bottom and section diagonal chord. All pipes are to be treated with anti-rust duram AS4, and painted with duram NS8 postop coat paint. Filla-foam to be placed at ends of the pipe to prevent bird ingress (In 5Nos) All accessories inclusive;	Kg	1,642.00		
B	Supply and fix Purlins (UKPFC) size 150x50x20x2.5mm spaced at 1.2m centres	M	540.00		
C	Supply and fix 16mm diameter SAG-ROD	M	72.00		
D	Supply and fix 100x75x8mm Thick Angle Cleat	M	135.00		
E	Supply and fix 250 x 300 x 10mm Thick M/s steel plate with two (2) pre-drilled holes	Nr	20.00		
F	Supply and fix 20mm Diameter anchorage bolt, 300mm long including head nut and washers	Nr	40.00		
G	Supply and fix pitched IT5 Roof sheet covering Guage 26; Roof covering to falls, cross falls or slopes not exceeding 15 degrees from horizontal.	m2	400.00		
H	Turn at abutment 250mm wide, turn top edge into groove, wedge and point with cement mortar (1:3)	M	125.00		
I	Working into pipes, gullies and the like	Nr	250.00		
<b>II</b>	<b>Accessories to roof covering</b>				
A	SKYLIGHT ROOFING: SKYLIGHT ROOFING: 225sqms pyramid skylight with 12mm thick laminated glass panels laid on 1,500*1,500mm spacing fixed with T-shaped steel beams at 10 degrees angle supported with perimeter beams of reinforced concrete.12mm Thick Laminated Glass Complete with fixing Components on'T'Shape Steel Beam at 10 degrees - All to S.E's Details: T Shape 150mm wide Steel Beam to S.E's Detail ; Allow a sum for the construction of pyramid skylight roof including all necessary structural support system and glass to Eng and Arch approval and designs	item	1.00		
B	GUTTER: Reinforced concrete grade "25" including vibrating around reinforcement ; 150mm Thick concrete gutter size 2150x550mm casted with water proofing materials	M	170.00		
C	cement sand screed 1:3 steel trowelled laid to concrete beds to falls and crossfalls; 50mm thick to concrete gutter	m2	490.00		
<b>IV</b>	<b>FLAT ROOF WATER PROOFING</b>				
A	Roof Screeds: Cement and sand (1:4) lightweight screed with approved water	m2	416.00		

	proofing compound; 50mm (average) to falls to concrete roof				
B	PROPRIETARY WATER PROOF PROOFING: Thoroughly clean concrete surface to remove all types of dirt; fill all visible cracks, honeycombs and holes as per Krystol specifications No. 1: sand surfaces to smooth level, prepare and apply full coat of krystol T1, and wait for three hours to harden then apply finishing coat of Krystol T2, protect and cure properly as per manufacturer's direction and Krystol specification ; to concrete slab, over 300mm girth	m2	1,658.00		
C	Water Proofing to Parapet wall : Thoroughly clean concrete surface to remove all types of dirt; fill all visible cracks, honeycombs and holes as per Krystol specifications No. 1: sand surfaces to smooth level, prepare and apply full coat of krystol T1, and wait for three hours to harden then apply finishing coat of Krystol T2, protect and cure propely as per manufacturer's direction and Krystol specification; Exposed faces of parapet wall	m2	550.00		
D	Concrete Treatment for Permanent Corrosion free, Water/moisture Proofing by Using Kryton/Krystol Technology; to surfaces of service floor	m2	1,377.00		
E	Concrete Treatment for Permanent Corrosion free, Water/moisture Proofing by Using Kryton/Krystol Technology; to summit floor	m2	1,250.00		
F	Concrete Treatment for Permanent Corrosion free, Water/moisture Proofing by Using Kryton/Krystol Technology; to cantilever slab	m2	2,480.00		
<b>V</b>	<b>RAIN WATER DISPOSAL</b>				
<b>I</b>	<b>RAINWATER INSTALLATIONS</b>				
<b>a</b>	<b>Rainwater down pipework; unplasticised PVC pipes and fittings; B.S. 4514; colour to approval; Pipes; solvent weld straight couplings in the running length; embedded in flat concrete/blockwork</b>				
A	Aluminium roof outlet ; domed grating cast into concrete and dress roof membrane: to suit 110 mm. diameter pipe	Nr	12.00		
B	Carrodon Terrain uPvc rainwater gutter and pipework system ; BS 4576 ; white colour ; fascia brackets at 1.8 m centres ; slip in fittings in running length: 110mm. uPVC pipe stand off wall brackets clips at at 1800mm. Centres	m	329.00		
C	extra over for shoe	Nr	12.00		
<b>RAIN WATER DRAINAGE SYSTEM INSTALLATION</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 4</b>	<b>ROOFING</b>				
<b>4.3</b>	<b>RAINWATER DISPOSAL</b>				
<b>II</b>	<b>Rainwater pipe work; unplasticised pvc pipes and fittings; white colour; BS 4514</b>				
Storm water (pipe work) - Main Building	Rain water pipework installation as per specification and drawings.; Note: Rainwater	m	132.00		

	pipe should be uPVC white colour ; Supply, install, test and commission 100mm diameter uPVC down pipe, complete with fittings and fixtures (Vertical pipework)				
B	Supply, install, test and commission 100mm diameter Fulbora	m	4.00		
C	Allow for connection of storm water to nearest storm water channel	item	1.00		
Storm water (pipe work) - Auxiliary Building	Rain water pipework installation as per specification and drawings; Note: Rainwater pipe should be uPVC white colour ; Supply, install, test and commission 100mm diameter uPVC down pipe, complete with fittings and fixtures (Vertical pipework)	m	108.00		
B	Supply, install, test and commission 100mm diameter Fulbora	m	6.00		
C	Allow for connection of storm water to nearest storm water channel	item	1.00		
<b>FOUL/WASTE WATER DRAINAGE SYSTEM INSTALLATION</b>					
<b>BILL NO. 4</b>	<b>EXTERNAL WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>EXTERNAL SOIL DRAINAGE</b>				
<b>1.2</b>	<b>SEPTIC TANKS; 1 NO</b>				
<b>XIX</b>	<b>PIPEWORK</b>				
A	Waste water pipe work ; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging	m	505.00		
B	Ditto ; 150mm diameter, uPVC pipe	m	170.00		
C	Allow for Construction of foul/waste water manholes of internal dimension 600x600mm with invert level not exceeding 1000mm comprising 200mm plain concrete grade "C" bed 230mm block wall plastered internally as per specification and drawings including heavy duty cast iron cover .	Nr	45.00		
D	Allow for Construction of 200X200mm standard gully trap as per specification and drawings including heavy duty cast iron cover .	Nr	15.00		
E	Excavate trench not exceeding 1000 mm deep and average 500mm wide for laying sawerage pipe not exceeding 150mm diameter including backfilling	m	675.00		
F	Allow for Construction of septic tank with internal dimension: 4.8x1.8x3.0m (LxWxD)	Nr	1.00		
G	Allow for Construction of Soakaway pit - 3.0m diameter	Nr	1.00		
H	Allow for connection of septic tank to Soak away pit	item	1.00		
I	Allow for Construction of french drain of	item	1.00		

	100mm diameter corrugated pipe with perforations, gravel and fabric for soaking away effluent into ground				
J	Allow for Construction of Grease trap with internal dimension: 2.0x1.0x1.0m (LxWxD)	item	1.00		
BASEMENT FLOOR	Soil/ waste water and vent pipe work; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe	m	138.00		
B	Ditto ; 50mm diameter, uPVC pipe	m	102.00		
C	Ditto Elbow ; 100 mm diameter	m	25.00		
D	Ditto Elbow ; 50 mm diameter	Nr	35.00		
E	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	20.00		
F	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	35.00		
G	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	10.00		
H	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	5.00		
I	Wastewater Drain Sump ; Allow for construction of waste water drain sump with capacity of 2m3, internal dimensions: 2x1.0x1.5m (LxWxD).	Nr	1.00		
J	Wastewater Drain Sump; Supply and install Submersible drain pump with capacity 2m³/hr at 12m head, complete with control panel/starter, dry running protection and all necessary accessories, manufactured by Grundfos or similar equal approved.	Nr	2.00		
K	Wastewater Drain Sump ; Allow for Construction of foul/waste water manholes of internal dimension 600x600mm with invert level not exceeding 1000mm comprising 200mm plain concrete grade "C" bed 230mm block wall plastered internally as per specification and drawings including heavy duty cast iron cover .	Nr	4.00		
GROUND FLOOR - MAIN BUILDING	Soil/ waste water and vent pipe work ; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe	m	42.00		
B	Ditto pipe ;	m	54.00		
C	Ditto Elbow; 100 mm diameter	Nr	17.00		
D	Ditto Elbow; 50 mm diameter	Nr	25.00		
E	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	5.00		
F	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	15.00		



G	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	5.00		
H	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	5.00		
FIRST FLOOR- MAIN BUILDING	Soil/ waste water and vent pipe work ; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe	m	42.00		
B	Ditto pipe ; 50mm diameter, uPVC pipe	m	66.00		
C	Ditto Elbow ; 100 mm diameter	Nr	8.00		
D	Ditto Elbow ; 50 mm diameter	Nr	10.00		
E	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	10.00		
F	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	22.00		
G	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	10.00		
H	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	22.00		
SECOND FLOOR- MAIN BUILDING	Soil/ waste water and vent pipe work ; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe	m	36.00		
B	Ditto pipe ; 50mm diameter, uPVC pipe	m	56.00		
C	Ditto Elbow ; 100 mm diameter	Nr	8.00		
D	Ditto Elbow ;50 mm diameter	Nr	10.00		
E	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	10.00		
F	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	22.00		
G	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	10.00		
H	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	22.00		
THIRD FLOOR - MAIN BUILDING	Soil/ waste water and vent pipe work ; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe	m	66.00		
B	Ditto pipe ; 50mm diameter, uPVC pipe	m	72.00		
C	Ditto Elbow ; 100 mm diameter	Nr	8.00		
D	Ditto Elbow ; 50 mm diameter	Nr	10.00		
E	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	10.00		
F	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	22.00		
G	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	10.00		

H	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	22.00		
FOURTH FLOOR - MAIN BUILDING	Soil/ waste water and vent pipe work ; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe	m	90.00		
B	Ditto pipe ; 50mm diameter, uPVC pipe	m	102.00		
C	Ditto Elbow ; 100 mm diameter	Nr	12.00		
D	Ditto Elbow ; 50 mm diameter	Nr	17.00		
E	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	13.00		
F	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	28.00		
G	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	10.00		
H	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	28.00		
GROUND FLOOR - AUXILIARY BUILDING	Soil/ waste water and vent pipe work ; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe	m	102.00		
B	Ditto pipe ; 50mm diameter, uPVC pipe	m	130.00		
C	Ditto Elbow ; 100 mm diameter	Nr	12.00		
D	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	13.00		
E	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	35.00		
F	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	28.00		
G	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	20.00		
FIRST FLOOR - AUXILIARY BUILDING	Soil/ waste water and vent pipe work; Supply, install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe	m	20.00		
B	Ditto pipe ; 50mm diameter, uPVC pipe	m	55.00		
C	Ditto Elbow ; 100 mm diameter	Nr	8.00		
D	Ditto Elbow ; 50 mm diameter	Nr	20.00		
E	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	13.00		
F	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	35.00		
G	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	28.00		
H	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	5.00		
SECOND FLOOR -	Soil/ waste water and vent pipe work; Supply,	m	15.00		

AUXILIARY BUILDING	install, test and commission all above ground/exposed of class "B" to BS 8301 - 1985 uPVC pipe complete with associated fitting including chasing walls, pipe supports and necessary decoration for exposed pipe work ; Pipes; fixing with holders to backgrounds requiring plugging ; 100mm diameter, uPVC pipe				
B	Ditto pipe ; 50mm diameter, uPVC pipe	m	22.00		
C	Ditto Elbow ; 100 mm diameter	m	8.00		
D	Ditto Elbow ; 50 mm diameter	Nr	10.00		
E	Ditto Tee - Y ; 100mm diameter, uPVC	Nr	10.00		
F	Ditto Tee - Y ; 50mm diameter, uPVC	Nr	12.00		
G	Ditto 45° Elbow ; 100mm diameter, uPVC	Nr	5.00		
H	Ditto 45° Elbow ; 50mm diameter, uPVC	Nr	5.00		
GREASE TRAP	Allow for Construction of Grease trap with internal dimension: 2.0x1.0x1.0m (LxWxD)	item	1.00		
<b>CHECK POINT</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>SUBSTRUCTURE</b>				
<b>1.2</b>	<b>EXCAVATION AND EARTHWORKS</b>				
<b>i</b>	<b>Foundation trenches</b>				
A	Excavate foundation trench commencing at formation level and not exceeding 1.50 metres deep	m3	61.00		
B	Excavate pit commencing at stripped level and not exceeding 1.50 metres deep	m3	19.00		
<b>iii</b>	<b>Breaking up rock</b>				
A	Extra over any kind of excavation for breaking up rock and the like (provisional)	m3	8.00		
<b>iv</b>	<b>Back filling or imported/ selected fill materials</b>				
A	Selected excavated material, deposit, well compacted and consolidated to make up levels under floor;	m3	63.00		
<b>v</b>	<b>Disposal of excavated materials</b>				
A	Load up surplus excavated material and remove from site	m3	17.00		
<b>1.3</b>	<b>DISPOSAL OF WATER</b>				
A	Allow for keeping excavations free from water (except spring or running water) by pumping, baling or other means necessary	item	1.00		
<b>1.4</b>	<b>PLANKING AND STRUTTING</b>				
A	Allow for the provision and subsequent removal of planking and strutting to uphold and maintain all faces of excavations	item	1.00		
<b>1.5</b>	<b>HARDCORE OR THE LIKE</b>				
<b>i</b>	<b>Filling in making up levels</b>				
A	200mm Bed levelled, compacted to 95% MDD	m3	40.00		

	and blinded to receive polythene membrane (measured separately)				
<b>ii</b>	<b>Sand blinding</b>				
<b>iii</b>	<b>Hardcore; bard or coral stone; recommenced size 40 - 75mm</b>				
<b>1.6</b>	<b>ANTI-TERMITE TREATMENT</b>				
<b>i</b>	<b>Gammalin 20 EC Solution or other equal approved solution</b>				
A	Aldrin 0.50% solution applied at a rate of 7 litres per square metre to hardcore bed	m2	40.00		
<b>1.8</b>	<b>INSITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated</b>				
A	Reinforced insitu concrete grade "25" granite or basalt aggregates including vibrating around reinforcement ; Ground beam	m3	2.00		
B	Ditto Reinforced insitu concrete grade "25" ; 100mm Thick bed	m2	64.00		
C	Reinforced insitu concrete grade "30" granite or basalt aggregates including vibrating around reinforcement ; Strip foundation	m3	5.00		
D	Ditto Reinforced insitu concrete grade "30"; Column bases	m3	2.00		
E	Ditto Reinforced insitu concrete grade "30"; Columns and the like	m3	1.00		
<b>iii</b>	<b>Normal; class 15/10; vibrated</b>				
A	Plain insitu concrete grade "15" granite or basalt aggregates	m2	53.00		
<b>1.9</b>	<b>REINFORCEMENT</b>				
<b>i</b>	<b>Bars; mild steel; hot rolled; B.S. 4449; In any location</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461; In any location</b>				
A	Various size	kg	1,206.00		
<b>iii</b>	<b>Fabric wire mesh</b>				
A	reference A252; weighing 2.22kg/m2; 300mm sieved and end laps	m2	64.00		
<b>1.10</b>	<b>FORMWORK TO INSITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally</b>				
A	Strip foundation	m2	14.00		
B	Columns bases	m2	6.00		
C	Columns	m2	11.00		
D	Ground beams	m2	21.00		
<b>ii</b>	<b>Edges of beds or the like</b>				
<b>1.11</b>	<b>BLOCKWORK OR STONEWORKS</b>				
<b>i</b>	<b>Blockwork foundation wall</b>				
A	230mm thick wall; Solid Concrete blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement mortar (1:4)	m2	32.00		
<b>1.12</b>	<b>DAMP PROOF MATERIALS</b>				

<b>i</b>	<b>Damp Proof Course</b>				
A	Hessian based bituminous felt damp proof course to B.S. 743 type 5A with 200 mm laps bedded and pointed in cement mortar (1:3) ; 230mm wide	m	31.00		
<b>ii</b>	<b>Damp Proof Membranes</b>				
A	500 Gauge polythene damp-proof membrane, laid with 200 mm side and end laps on blinded hardcore(m/s) to receive concrete	m2	40.00		
<b>1.14</b>	<b>INSITU FINISHINGS</b>				
<b>i</b>	<b>In situ rendering/ bedding</b>				
A	12mm Cement and sand render to walls (1:4) external rendering to concrete or blockwork	m2	18.00		
<b>1.15</b>	<b>DECORATION</b>				
<b>i</b>	<b>Weatherguard Paint</b>				
A	Prepare and apply one undercoat and two finishing coats of bituminous paint to rendered plinth wall; wood floated rendered surfaces; external	m2	18.00		
<b>ELEMENT NO. 2</b>	<b>FRAMES/ REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>2.1</b>	<b>IN-SITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated around reinforcement</b>				
A	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Horizontal beams	m3	3.00		
B	Ditto Reinforced concrete grade "25"; 150mm Thick suspended slab	m2	70.00		
C	Reinforced concrete grade "30"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Columns	m3	2.00		
D	Precast concrete coping; 230 x 75mm thick concrete copping to the top of the parapet wall	m	29.00		
<b>2.2</b>	<b>REINFORCEMENT BARS</b>				
<b>i</b>	<b>Bars; mild steel; hot rolled; B.S. 4449</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461</b>				
A	Various sizes	kg	909.00		
<b>2.3</b>	<b>FORMWORK TO IN-SITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally to concrete surfaces</b>				
A	Vertical sides of columns	m2	23.00		
<b>ii</b>	<b>Edges of concrete</b>				
A	Sides and soffit of horizontal beam	m2	33.00		
<b>ELEMENT NO. 3</b>	<b>WALLING</b>				
<b>3.2</b>	<b>EXTERNAL WALLING</b>				
<b>I</b>	<b>BLOCKWORK</b>				
A	150mm thick wall; Solid Concrete blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement	m2	71.00		

	mortar (1:4)				
B	Ditto ; 150mm Wall to Parapet wall	m2	14.00		
<b>ELEMENT NO. 4</b>	<b>ROOFING</b>				
<b>4.1</b>	<b>ROOF COVERING</b>				
<b>I</b>	<b>CORRUGATED OR TROUGHED SHEET ROOFING</b>				
A	TILCOR ROOFING TILES ; Coverings ; sloping not exceeding 45 degrees from horizontal and fixed with appropriate accessories ;	m2	147.00		
B	Ditto; Ridge/hip	m	31.00		
<b>4.2</b>	<b>ROOF STRUCTURE</b>				
<b>I</b>	<b>STRUCTURAL TIMBER</b>				
<b>i</b>	<b>Mpodo, mtambara, cypress or cedar; seasoned with moisture content below 18%; pressure impregnated; treated with insecticide</b>				
A	Pitch pine structural grade 1 ; treated, bolts with different size is to be deemed included ; 150 x 75 mm Wall plates ; spiked to masonry	m	52.00		
B	Ditto ; 100 x 50 mm rafter and bearers in trusses	m	101.00		
C	Ditto ; 100 x 50 mm bottom chord	m	90.00		
D	Ditto ; 100 x 50 mm struts	m	104.00		
E	Ditto ; 50 x 50 mm. purlins	m	491.00		
<b>ii</b>	<b>Wrought Cypress; pressure impregnated Boarding</b>				
A	Hardwood selected ; 25 x 300mm thick fascia boarding ; butt joints	m	52.00		
<b>4.3</b>	<b>RAINWATER DISPOSAL</b>				
<b>I</b>	<b>Gutter work; unplasticised pvc half round gutters and fittings; purpose made; white colour; BS 4514</b>				
<b>ELEMENT NO. 5</b>	<b>WINDOWS</b>				
<b>5.1</b>	<b>PRECAST CONCRETE; WINDOW CILL</b>				
<b>I</b>	<b>Normal; class M20 (C16/20); vibrated; surface fair finish</b>				
<b>5.2</b>	<b>PURPOSE MADE UNITS (ALUMINIUM WINDOWS)</b>				
<b>I</b>	<b>Supply, fix/ install and commission all windows as per design</b>				
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>6.2</b>	<b>GLASS/ ALUMINIUM DOORS</b>				
<b>I</b>	<b>FRAMELESS DOORS</b>				
A	Frameless Glass Door; Supply and fix 40 mm thick Pivot frameless Bullet proof glass door with patch fittings fins and complete with HAFELE Iron Mongery.	Nr	4.00		
<b>ELEMENT NO. 7</b>	<b>FINISHING AND DECORATION</b>				
<b>7.1</b>	<b>EXTERNAL FLOOR FINISHING</b>				
<b>III</b>	<b>BEDS AND BACKINGS</b>				
<b>7.2</b>	<b>EXTERNAL WALL FINISHING AND DECORATION</b>				
<b>I</b>	<b>TILES, SLAB OR BLOCK FINISHINGS</b>				

<b>II</b>	<b>IN-SITU FINISHINGS</b>				
A	External cement and sand (1:4) rendering with approved plasticizer in two coats,including skimming steel trowelled to a smooth finish ; 15mm To walls	m2	27.00		
B	Ditto Plaster ; 15mm To coping	m2	29.00		
C	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Block walls	m2	36.00		
<b>III</b>	<b>DECORATIONS</b>				
A	Prepare and apply one primer coat and two finishing coats of GALAXY weather guard paint or other equal and approved to Rendered wall	m2	27.00		
B	Ditto paint ; to Rendered coping	m	29.00		
C	Prepare and apply one primer coat and two finishing coats of as of PLASCON or equal and approved brand weather guard paint or other equal and approved to Rendered wall	m2	47.00		
<b>7.3</b>	<b>EXTERNAL CEILING FINISHING AND DECORATION</b>				
<b>I</b>	<b>INSITU FINISHING OR THE LIKE</b>				
<b>II</b>	<b>BRANDERINGS</b>				
<b>III</b>	<b>PLAIN SHEET FINISHINGS</b>				
<b>V</b>	<b>PAINTING, DECOREATION ETC</b>				
<b>7.4</b>	<b>INTERNAL FLOOR FINISHING</b>				
<b>I</b>	<b>TILES, SLAB OR BLOCK FINISHING</b>				
A	Supply and lay 600x600x14mmMatt granite Tiles	m2	24.00		
B	Full body Matt Porcelain tiles ; 150mm high skirting (Match to floor tiles)	m	43.00		
C	BEDS OR BACKINGS ; Mortar; cement and sand (1:4) ; 30mm to floors	m2	28.00		
<b>II</b>	<b>IN SITU FINISHING OR THE LIKE</b>				
B	Water Proofing; Concrete Treatment for Permanent Corrosion free, Water/moisture Proofing by Using Kryton/Krystol Technology ; to surfaces of concrete roof slab	m2	62.00		
<b>7.5</b>	<b>INTERNAL WALL FINISHING AND DECORATION</b>				
<b>II</b>	<b>PAINTING AND DECORATION</b>				
A	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; to Block walls	m2	36.00		
<b>7.6</b>	<b>INTERNAL CEILING FINISHING AND DECORATION</b>				
<b>I</b>	<b>IN-SITU FINISHINGS OR THE LIKE</b>				
A	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with	m2	24.00		

	two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand; To ceiling				
B	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to ceiling	m2	24.00		
<b>GENERATOR SHADE</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>SUBSTRUCTURE</b>				
<b>1.2</b>	<b>EXCAVATION AND EARTHWORKS</b>				
<b>i</b>	<b>Foundation trenches</b>				
A	Excavation to receive foundation not exceeding 1.50 m	m3	54.00		
<b>iv</b>	<b>Back filling or imported/ selected fill materials</b>				
A	Selected excavated material, deposit, well compacted and consolidated to make up levels under floor;	m3	27.00		
<b>v</b>	<b>Disposal of excavated materials</b>				
F	Load up surplus excavated material and remove from site	m3	26.00		
<b>1.8</b>	<b>INSITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated</b>				
A	Reinforced insitu concrete grade "25" granite or basalt aggregates including vibrating around reinforcement; Ground beams	m3	4.00		
B	Reinforced in-situ concrete grade "25" ; 100mm thick concrete bed	m2	76.00		
C	Reinforced insitu concrete grade "30" granite or basalt aggregates including vibrating around reinforcement ; Foundation	m3	11.00		
D	Ditto Reinforced in-situ concrete grade "30"; 250mm Thick Generator Plinth	m2	76.00		
E	Ditto Reinforced in-situ concrete grade "30";Column footing	m3	3.00		
F	Ditto Reinforced in-situ concrete grade "30"; Column	m3	2.00		
G	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Horizontal beams	m3	5.00		
H	Reinforced concrete grade "30"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Columns	m3	3.00		
<b>1.9</b>	<b>REINFORCEMENT</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461; In any location</b>				
A	Irrespective of Size	kg	1,705.00		
B	8mm diameter bars	Kg	230.00		
C	16mm diameter bars	Kg	1,482.00		



<b>1.10</b>	<b>FORMWORK TO INSITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally</b>				
A	Sides and soffits of horizontal beams	m2	31.00		
B	Side of column base footing	m2	16.00		
C	Vertical side of column	m2	59.00		
D	Sides and soffit of horizontal beam	m2	58.00		
<b>1.11</b>	<b>BLOCKWORK OR STONEWORKS</b>				
<b>i</b>	<b>Blockwork foundation wall</b>				
A	230mm thick concrete block wall bedded and jointed with cement and sand mortar (1:4)	m2	50.00		
B	Concrete Hollow Blocks to Architect Approval. in cement mortar (1:4) ; 150mm Wall	m2	172.00		
<b>ELEMENT NO. 2</b>	<b>FRAMES/ REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>2.1</b>	<b>IN-SITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated around reinforcement</b>				
<b>ELEMENT NO. 4</b>	<b>ROOFING</b>				
<b>4.1</b>	<b>ROOF COVERING</b>				
<b>I</b>	<b>CORRUGATED OR TROUGHED SHEET ROOFING</b>				
A	26 G IT 5 Galvanized Corrugated Roof Sheet; Coverings ; sloping not exceeding 45 degrees from horizontal and fixed with appropriate accessories	m2	104.00		
B	Turn at abutment 250mm wide, turn top edge into groove, wedge and point with cement mortar (1:3)	m	21.00		
	<b>Accessories; fixing with galvanised steel roofing rails with water proof cover and seal washers</b>				
A	The following are mild steel roof truss spanning over 16.00m not exceeding 18.00m to BS 449 and BS 4360 grade 43A including one primer coat and two finishing coats of oil paint, before and after (respectively) erected into position by steel fabricator ; site welded and connected (Provisional) ; Ditto 63x4mm CHS top chord	m	379.00		
B	Ditto 63x4mm CHS top chord	m	350.00		
C	Ditto 63x4mm CHS bottom chord	m	125.00		
D	Ditto 51x4mm CHS struts chord	m	169.00		
E	Ditto 150 x 50 x 20 x 2.5mm Purlins	m	85.00		
<b>4.3</b>	<b>RAINWATER DISPOSAL</b>				
<b>I</b>	<b>Gutter work; unplasticised pvc half round gutters and fittings; purpose made; white colour; BS 4514</b>				
A	ACO Fulbora ; cast aluminium roof outlet ; domed grating cast into concrete and dress roof membrane to suit 110 mm. diameter pipe	m	4.00		
B	Supply and fix 110mm. uPVC pipe with all necessary accessories and fittings.(U- channel PVC Gutter)	m	24.00		

C	110mm.down pipe	m	15.00		
D	U- channel PVC Gutter; extra over for shoe	m	4.00		
<b>ELEMENT NO. 5</b>	<b>WINDOWS</b>				
<b>5.3</b>	<b>HARDWOOD WINDOW</b>				
<b>VII</b>	<b>Mild steel; B.S. 4360; Burglar bars</b>				
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>6.3</b>	<b>GRILLES DOORS</b>				
A	Heavy duty steel Gate, 25 x 25mm vertical Steel square pipe at 200 mm c/c; design pattern and colour to approval, thickness to Eng details ; 2000 x 2400 mm	Nr	3.00		
<b>ELEMENT NO. 7</b>	<b>FINISHING AND DECORATION</b>				
<b>7.4</b>	<b>INTERNAL FLOOR FINISHING</b>				
<b>I</b>	<b>TILES, SLAB OR BLOCK FINISHING</b>				
A	Brushed finish concrete screed with surface hardener and treated with tremco /vulken polyurethanewater proofing coating system & traffic electromestic deck coating vulken ; To floor	m2	76.00		
B	Pavers ; 600 x 50mm Thick Apron to Engineer approval.; to Splash	m2	31.00		
C	Pavers ; 600 x 50mm Thick Apron to Engineer approval.; to ramp	m2	15.00		
D	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Concrete hollow block walls	m2	344.00		
E	Internal work ; Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; Concrete hollow block walls	m2	172.00		
F	External work ; Prepare and apply one primer coat and two finishing coats of as of PLASCON or equal and approved brand weather guard paint or other equal and approved to Rendered wall	m2	172.00		
<b>ICT AND SECURITY INSTALLATION</b>					
<b>BILL NO. 4</b>	<b>BUILDING SERVICES INSTALLATIONS</b>				
<b>ELEMENT NO. 4</b>	<b>VOICE, DATA AND STRUCTURED CABLING INSTALLATIONS</b>				
	<b>4. SUNDRIES FOR DATA, VOICE AND ITC INSTALLATION</b>				
A	Allow for preparation of "As Built Drawings" ( A3 paper) ; Main Building	Sets	3.00		
B	Allow for producing operational and maintenance ; Main Building	Sets	3.00		
C	Allow for preparation of "As Built Drawings" ( A3 paper); Aux Building	Sets	3.00		
D	Allow for producing operational and	Sets	3.00		

	maintenance ; Aux Building				
<b>I</b>	<b>STRUCTURED CABLING</b>				
<b>a</b>	<b>Structured Cabling, all equipment and accessories as per specifications and approved</b>				
Basement Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	25.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	6.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	25.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as , Excel, Siemon or approved equivalent	Point	6.00		
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	3.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	61.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	56.00		
H	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	10.00		
I	300 x 50mm Galvanied steel cablle trays for distribution complete with suspension supports at 1meters interval, 90 deg flat bends and fixing brackets	m	258.00		
J	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
K	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	2.00		
L	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	6.00		
M	Standard IP Phone (with PoE), 1 SIP accounts, 132 x 64-pixel graphical LCD, 4 Soft Keys, 3-way conferencing, XML Phonebook, 2xLAN ports complete with DC adaptor and mounting	Ea	16.00		

	accessories as yealink, Grandstream, or approved Equivalent				
N	Executive IP Phone 3.7" graphical LCD, Dual USB ports, Up to 12 SIP accounts, PoE, USB headset, Supports expansion modules, Wall mountable, complete with DC adaptor and mounting accessories as yealink, Grandstream, or approved Equivalent	Ea	2.00		
P	Supply and fix 24 cores Multi Mode fiber cable	m	50.00		
Q	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
R	3Mtrs duplex fiber patch cords as , Excel, Siemon or approved equivalent	Ea	2.00		
S	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	item	1.00		
Ground Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	29.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	6.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	29.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as , Excel, Siemon or approved equivalent	Point	3.00		
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Point	3.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	69.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	64.00		
H	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	10.00		
I	300 x 50mm Galvanied steel cablle trays for distribution complete with suspension supports	m	97.00		

	at 1meters interval, 90 deg flat bends and fixing brackets				
J	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
K	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	2.00		
L	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	6.00		
M	Standard IP Phone (with PoE), 1 SIP accounts, 132 x 64-pixel graphical LCD, 4 Soft Keys, 3-way conferencing, XML Phonebook, 2xLAN ports complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	8.00		
N	Executive IP Phone 3.7" graphical LCD, Dual USB ports, Up to 12 SIP accounts, PoE, USB headset, Supports expansion modules, Wall mountable, complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	1.00		
P	Supply and fix 24 cores Multi Mode fiber cable	m	50.00		
Q	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
R	3Mtrs duplex fiber patch cords as , Excel, Siemon or approved equivalent	Ea	2.00		
T	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	item	1.00		
Service Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	2.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	2.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	2.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter,	Point	2.00		

	field RJ45 modular and back box) as , Excel, Siemon or approved equivalent				
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	11.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	10.00		
H	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
I	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	1.00		
J	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	2.00		
K	Supply and fix 24 cores Multi Mode fiber cable	m	50.00		
L	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
M	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
N	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	item	1.00		
First Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	45.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	9.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	45.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as , Excel,	Point	9.00		

	Siemon or approved equivalent				
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	4.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	113.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	96.00		
H	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	10.00		
I	300 x 50mm Galvanied steel cablle trays for distribution complete with suspension supports at 1meters interval, 90 deg flat bends and fixing brackets	m	90.00		
J	Metal Floor box with 1xSingle RJ45 Outlet and 3x13A universal power outlet as legrand, or approved equivalent	Ea	20.00		
K	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	6.00		
L	APC Smart online UPS 1kVA	Ea	1.00		
M	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	4.00		
N	Network Router c/w 4G FLASH,4G DRAM, 4-port Network Interface Module - FXO (Universal), AC Power adapter, Blank faceplate for NIM slot ,Removable faceplate for SM slot, IOS XE Universal and ISR 8200 Bundle with UC SEC Licence including Security, Cisco Communication Manager Express (CME) - User License, IP Base Llicense, Unified Communication license, 32-channel DSP module, all necessary accessories as Cisco C8200-1N-4T series or approved equivalent	Ea	1.00		
P	HPE PROLIANT SERVER ML110 G10 or better equivalent as approved by engineer 2x2GB 2x146GB 10k SFF-SAS PA400-256M * Quad-Core Intel® Xeon® E5335 Pro(2.0 GHz, 80 Watts 1066 FSB) *8MB (2X4MB) Level 2 cache * Net Controller Embedded NC373i Multifunction Gbit Server dapter * Storage controller Smart Array E200i/64 controller (RAID 0/1/1+0) * Internal Storage Storage 6TB LFF SATA 6TB LFF SAS * Optical Drive 16xDVD-ROM Standard * Dual -Core: 48xCD ROM Standard * Power supplies 800 watt CE-mark compliant Hot-Plug PSU * PCI - Express Slots 6 expansion slots (3 PCI Express, 3 PCI-X) * Optional second power supply provides redundant operation fans * 2 fans ship standard, 4 fans total supported (does	Ea	1.00		

	not include power supply or processor heatsink fans) * Form factor one of the following depending on Model * Tower Rack (5U) •HP Redundant Power supply:350/370/380G5/385G2 Kit •HP MONITOR: HP L1710 17-inch LCD Monitor •KEYBOARD, MOUSE •DAT TAPE DRIVE: HP Storage workd DAT 160 USB Int Drive				
Q	IP PBX 500 Users, 120) Concurrent Calls, 1 x Giga LAN, 1 X Giga Wan, Call recording , 1U Rackmount, 6 GSM/16 analog Ports/ 2 x E1 port, 2 x expansion board slot,	Ea	1.00		
R	Server room enviromental monitoring systems (Temperature, Humidity and water linkage) for serve room and control room as per Avtech room alert or better equivalent as approved by engineer	Ea	1.00		
S	Wireless LAN controller as cisco IAR-CT3504-K9 with full required accessories and features.	Ea	1.00		
T	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps, Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	9.00		
U	Standard IP Phone (with PoE), 1 SIP accounts, 132 x 64-pixel graphical LCD, 4 Soft Keys, 3-way conferencing, XML Phonebook, 2xLAN ports complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	23.00		
V	Executive IP Phone 3.7" graphical LCD, Dual USB ports, Up to 12 SIP accounts, PoE, USB headset, Supports expansion modules, Wall mountable, complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	3.00		
W	24 cores Multi Mode fiber cable	m	50.00		
X	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	11.00		
Y	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	4.00		
Z	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	item	1.00		
Second Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	74.00		
B	Single Data point complete with PVC conduits,	Point	4.00		



	Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent				
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	74.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as , Excel, Siemon or approved equivalent	Point	7.00		
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	7.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	161.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	156.00		
H	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	10.00		
I	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	109.00		
J	Metal Floor box with 1xSingle RJ45 Outlet and 3x13A universal power outlet as legrand, or approved equivalent	Ea	48.00		
K	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
L	APC Smart online UPS 1kVA	Ea	1.00		
M	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	7.00		
N	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	7.00		
P	Standard IP Phone (with PoE), 1 SIP accounts, 132 x 64-pixel graphical LCD, 4 Soft Keys, 3- way conferencing, XML Phonebook, 2xLAN ports complete with DC adaptor and mounting acesories as yealink, Grandstream, or approved Equivalent	Ea	24.00		
Q	Executive IP Phone 3.7" graphical LCD, Dual USB ports, Up to 12 SIP accounts, PoE, USB headset, Supports expansion modules, Wall	Ea	6.00		

	mountable, complete with DC adaptor and mounting accessories as yealink, Grandstream, or approved Equivalent				
R	Supply and fix 24 cores Multi Mode fiber cable	m	50.00		
S	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	2.00		
T	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	7.00		
U	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	item	1.00		
Third Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	34.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	6.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	34.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as , Excel, Siemon or approved equivalent	Point	6.00		
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	3.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	79.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	74.00		
H	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	10.00		
I	300 x 50mm Galvanied steel cablle trays for distribution complete with suspension supports at 1meters interval, 90 deg flat bends and fixing brackets	m	101.00		
J	Metal Floor box with 1xSingle RJ45 Outlet and 3x13A universal power outlet as legrand, or approved equivalent	Ea	13.00		

K	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
L	APC Smart online UPS 1kVA	Ea	1.00		
M	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	3.00		
N	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	6.00		
P	Standard IP Phone (with PoE), 1 SIP accounts, 132 x 64-pixel graphical LCD, 4 Soft Keys, 3-way conferencing, XML Phonebook, 2xLAN ports complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	12.00		
Q	Executive IP Phone 3.7" graphical LCD, Dual USB ports, Up to 12 SIP accounts, PoE, USB headset, Supports expansion modules, Wall mountable, complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	8.00		
R	Supply and fix 24 cores Multi Mode fiber cable	m	50.00		
S	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
T	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	3.00		
U	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	item	1.00		
Fourth Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	40.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	10.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	40.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as , Excel,	Point	10.00		

	Siemon or approved equivalent				
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	4.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	93.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	88.00		
H	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	10.00		
I	300 x 50mm Galvanied steel cablle trays for distribution complete with suspension supports at 1meters interval, 90 deg flat bends and fixing brackets	m	108.00		
J	Metal Floor box with 1xSingle RJ45 Outlet and 3x13A universal power outlet as legrand, or approved equivalent	Ea	9.00		
K	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
L	APC Smart online UPS 1kVA	Ea	1.00		
M	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	4.00		
N	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	10.00		
P	Standard IP Phone (with PoE), 1 SIP accounts, 132 x 64-pixel graphical LCD, 4 Soft Keys, 3-way conferencing, XML Phonebook, 2xLAN ports complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	2.00		
Q	Executive IP Phone 3.7" graphical LCD, Dual USB ports, Up to 12 SIP accounts, PoE, USB headset, Supports expansion modules, Wall mountable, complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	10.00		
R	Supply and fix 24 cores Multi Mode fiber cable	m	80.00		
S	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
T	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	4.00		
U	Provide for testing and commissioning the foregoing Installations in accordance with the	item	1.00		

	rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc.				
Summit Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	2.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	2.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	2.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as , Excel, Siemon or approved equivalent	Point	2.00		
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	11.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	10.00		
H	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
I	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	1.00		
J	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	2.00		
K	Supply and fix 24 cores Multi Mode fiber cable	m	90.00		
L	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
M	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
N	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested	item	1.00		

	includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc				
Guard Houses	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	10.00		
B	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as , Excel, Siemon or approved equivalent	Point	10.00		
C	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	8.00		
D	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	24.00		
E	3Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	20.00		
F	9HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 1 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	8.00		
G	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	8.00		
H	Supply and fix 24 cores Multi Mode fiber cable	m	1,600.00		
I	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	8.00		
J	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	8.00		
K	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	item	1.00		
Basement Floor(IP BASED SURVEILLANCE CCTV SYSTEM )	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	67.00		
B	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch	Ea	3.00		

	cords as , Excel, Siemon or approved equivalent				
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	66.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	3.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology	Ea	63.00		
F	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing clNrr images, and more details can be displayed on video wall ClNrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep lNrrning for up to 4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the arNr benNrth the camera as DS-2CD6D55G2-IZHS/(NFC) or approved equivalent	Ea	4.00		
G	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	3.00		
Ground Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	57.00		
B	Category 6A, 24Port patch panel, Complete	Ea	2.00		

	with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent				
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	63.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	3.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	54.00		
F	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing clNrr images, and more details can be displayed on video wall ClNrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep lNrrning for up to 4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the arNr benNrth the camera as DS-2CD6D55G2-IZHS(/NFC) or approved equivalent	Ea	1.00		
G	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	2.00		
Service Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full	Point	10.00		



	diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent				
B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	10.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	1.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	10.00		
F	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
First Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	28.00		

B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	2.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	28.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	2.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	36.00		
F	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing clNrr images, and more details can be displayed on video wall ClNrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep lNrrning for up to 4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the arNr benNrth the camera as DS-2CD6D55G2-IZHS(/NFC) or approved equivalent	Ea	2.00		
G	HikCentral-P-Vibration-Sensor-1Km	Ea	2.00		
H	HikCentral-P-AlarmPanel-1Unit Alarm System Module Expansion package Prerequisite:Video Surveillance Base package Warranty:none Supported: -Alarm System: 1 security alarm	Ea	2.00		

	panel device manageable; Additional: Arming/Disarming Control,etc.				
I	<p>28 Port Fiber Core Switch DS-3E3700-H Series provide 24 or 48 Giga and 4 fixed 10GE ports onboard with one expansion slot. The high port density satisfy the requirements for hybrid configuration of copper ports and fiber ports at the distribution layer in large sized networks or at the core layer in SMB sized networks. DS-3E3700-H Series comes with IPv4/IPv6 dual-stack platform which provides sophisticated IPv4/IPv6 solutions by supporting multiple tunnels, IPv4/IPv6 Layer 3 routing protocols, multicasting, and policy-based routing. The virtualization technology allows Nrch slave device in the stack to serve as the backup of the master, crNrting control and data link redundancy, as well as uninterrupted layer-3 forwarding. This improves the reliability, avoids unplanned business downtime and serves to improve overall performance. When the master device fails, traffic remains uninterrupted. The switch supports unified MAC address authentication, 802.1x authentication, and portal authentication; dynamic or static binding of user identifiers such as user account, IP address, MAC address, VLAN, and port number; and dynamic application of user profiles or policies (such as VLAN, QoS, and ACL) on users. The switch supports Unicast Reverse Path Forwarding (uRPF), which protects a network against source spoofing attacks, preventing DoS and DDoS attacks The DS-3E3700-H switch series adopts hot swappable dual-power supply, which allows you to configure AC or DC power supplies as needed. The switch can detect faults in power supplies, and will if any such faults are found, respond with an alarm. It can automatically adjust fan speed according to the temperature. Apart from device level redundancy, the DS-3E3700-H series switch also provides diverse link redundancy support such as LACP/STP/RSTP/MSTP/Smart Link protocols. It supports virtualization redundancy backup as well as cross-device link aggregation which substantially incrNrses network reliability fully loaded with 1G SFPs and 10G uplinks</p>	Ea	3.00		
J	<p>DS-3E7806 6 Slot Chassis Switch General Weight &lt;75 kg Working Temperature 0°C to 45°C (32°F to 113°F) Max. Power Consumption 1640 W Dimensions (mm) 575mm×436mm×420mm Network Parameters Forwarding Mode Store-and-forward switching Multicast PIM-DM, PIM-SM, PIM-SSM, MSDP, MBGP, and Any-RP IGMP V1/V2/V3 and IGMP V1/V2/V3 snooping MLD V1/V2 and MLD V1/V2 snooping Switching Capacity 1.28Tbps Software Function Device Management SNMP v1/v2/v3 NQA (Network Quality Analysis) RMON and groups 1, 2, 3</p>	Ea	1.00		

	and 9 Fault alarm and automatic fault recovery System logs Device status monitoring mechanism, including the CPU engine, backplane, chips and other key components Routing Feature Static routing, RIP v1/v2, OSPF, IS-IS, and BGP4 IPv4/IPv6 ECMP VRRP IPv4/IPv6 dual stack IPv6 static routing, RIPng, OSPFv3, IS-ISv6, and BGP4+ VRRPv3 Security Hierarchical user management and password protection Portal authentication MAC authentication SSHv1.5/SSHv2 Basic and advanced Access Control Lists for packet filtering OSPF, RIPv2, BGPv4 pain text and MD5 authentication IP address, VLAN ID, MAC address multiple binding combination uRPF Active/standby data backup CPU DoS Protection ARP Attack Protection Environment Working Humidity 5% to 95% (non-condensing)				
K	DS-3E7806-MPU	Ea	2.00		
L	DS-3E7806-PWR650A	Ea	2.00		
M	DS-3E7800-16X24F-SC	Ea	1.00		
N	DS-3E7800-48T-SC	Ea	1.00		
P	HK-SFP+-10G-20-1330	Ea	5.00		
Q	HK-SFP+-10G-20-1270	Ea	5.00		
Second Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	28.00		
B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	35.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	2.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome	Ea	24.00		

	Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent				
F	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing clNrr images, and more details can be displayed on video wall ClNrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep lNrrning for up to 4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the arNr benNrth the camera as DS-2CD6D55G2-IZHS/(NFC) or approved equivalent	Ea	4.00		
G	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
Third Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	21.00		
B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	25.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to	Ea	1.00		

	300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence				
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	18.00		
F	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing clNrr images, and more details can be displayed on video wall ClNrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep lNrrning for up to 4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the arNr benNrth the camera as DS-2CD6D55G2-IZHS(/NFC) or approved equivalent	Ea	3.00		
G	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
Fourth Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	17.00		
B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	2.00		

C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	17.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	1.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	26.00		
F	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
Summit Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	3.00		
B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	5.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection	Ea	1.00		

	for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence				
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	3.00		
F	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
Roof Top Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	2.00		
B	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	6.00		
C	DS-2DP8A845IXG1-LF/864(F0)(O-STD) ". High quality imaging with 64 MP resolution, up to 8160*3616 @30 fps for panoramic channels · Excellent low-light performance with DarkFighter technology · 45x optical zoom and 16x digital zoom provide close up views over expansive arNrs · Expansive night view with up to 500 m laser distance · With one click on the panoramic channel, the PTZ channel shows the details automatically · Continous and stable manual tracking, auto-tracking, and panorama tracking · Automatic switch between multiple targets · Supports 7 alarm inputs, 2 alarm outputs, 1 audio input, and 1 audio output · Supports AR multi-dimensional arming based on professional platform" complete with DS-4604ZJ-PA(O-STD) ". Wall mount bracket · Aluminum alloy	Ea	2.00		



	material · Platinum Gray"				
Lifts	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, Great PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	6.00		
B	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	6.00		
C	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing clear images, and more details can be displayed on video wall CINrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep INrrning for up to 4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the area benNrth the camera as DS-2CD6D55G2-IZHS/(NFC) or approved equivalent	Ea	6.00		
Site Plan Plan CCTV	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6A outdoor UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, Great PVC flame resistance.as , DS-1LN6AUSPE(O-STD) black or approved equivalent	Point	73.00		
B	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as , Excel, Siemon or approved equivalent	Ea	1.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as , Excel, Siemon or approved equivalent	Ea	73.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI	Ea	8.00		

	fully loaded with SFP complete with accessories and licence				
E	4 Direction Camera DS-2CD6D55G2-IZHS(2.8-8mm/2mm)(O-STD) ". 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted · Nrch lens up to 5 MP, capturing cINrr images, and more details can be displayed on video wall · One more lens to cover the arNr benNrth the camera · CINrr imaging against strong back light due to 120 dB true WDR technology · Water and dust resistant (IP67) and vandal proof (IK10) · Human and vehicle target classification based on deep INrrning for up to 4 channels · Unique PTRZ capability for efficient installation · Audio and alarm interface available"	Ea	5.00		
F	TandemVu Camera DS-2SE7C432MWG-EB/26(F0)(O-STD) ". Panoramic channel supports image stitching, with 180° horizontal field of view · High quality imaging with 6 MP resolution in panoramichannel and 4 MP resolution in PTZ channel · Secures an expansive arNr with 32 × optical zoom and 16 × digital zoom · AcuSense technology focuses on human and vehicle targets classification and supports face capture to detect, capture and select faces in motion · Expansive night view with up to 200 m IR distance in PTZ channel and 30 m white light in panoramic channel · Active strobe light and audio alarm to warn intruders off · Smart-linkage between panoramic channel and PTZ channel"	Ea	8.00		
G	Bracket DS-1602ZJ-Pole Vertical Pole Mount Bracket Aluminum Alloy & Steel Hikvision White	Ea	8.00		
H	iDS-2CD7A87G2/P-XZHSY(2.8-12mm)(O-STD) "Darkfighter2.0 Ultra-low light technology, Color:0.0005Lux/F1.0, Smart hybrid light BW:0.0001Lux/F1.0 1/1.8""CMOS, 8MP 50fps/60fps and 2MP 100fps/120fps H.265+/H.265/H.264+/H.264/MJPEG 140dB WDR 5 StNrms 1*Audio Out,1*Audio In, 2*Alarm In, 2*Alarm Out, RS485 , DC12V Output, CVBS Output, 1*Wiegand(-Y support) G-sensor: Vibration Detection, Power-sensor: Voltage Exception Alarm, Power Consumption Report, IP67/IK10/NEMA 4X(-Y), -40 °C to 60 °C (-40 °F to 140 °F) , Front Window HNrtter: Demist, EN50121-4, PVC Free TPM 2.0(FIPS 140-2 level 2 and CC NrL4+ certified), ONVIF Profile G/S/T/M Perimeter Detection ANPR Metadata:Perimeter, ANPR"	Ea	2.00		
I	Bracket ESP-L1500-X800-R125(TCG406) Stainless Steel	item	2.00		
J	9m High Galvanized Camera Mast with Ligtnng arrestor complete with base	Ea	6.00		

K	Outdoor CCTV Station Enclosure complete with base	Ea	6.00		
L	16ports Rugged PoE switch complete with SFPs and power supply	Ea	6.00		
M	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	8.00		
N	Reinforced Concrete Manholes 1m x 1m opening, 1.2M depth, Concrete Grade 40, Water proof	Ea	10.00		
P	6cores fiber patch panel, mounted in CCTV Outdoor Enclosure	Ea	6.00		
Q	Cable Ductile System from manhole to manhole C/w 1.2m depth Excavation, 2" HDPE pipping and Back filling	m	446.00		
R	Cable Ductile System from manhole to manhole C/w 1.2m depth Excavation, 4" Class D pipping and Back filling	m	446.00		
S	A PC with Intel® Core™ i7-9th Gen @ 4 GHz, 16 GB of RAM, GbE Network Interface Card, NVIDIA GeForce GTX 1070, SATA II Hard Drive or Better, 512 GB of SSD for OS and Control Client Application installed (Video management software), Microsoft® Windows 11 (64-bit), MS Office 2021, 27" LED Monitor complete with keyboard, mouse and headphones installed with Video Management software with lifetime license	Ea	6.00		
VIDEO DOOR PHONE SYSTEM	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from nearby patch room to the outlets wired in Cat 6A UTP cable as , Excel, Siemon or approved equivalent	Point	6.00		
B	10.1" All-in-one Indoor Station, 7-inch colorful touch screen with resolution 1024 × 600 Supports Android app installation, Video intercom & live view on mobile phone all-day, Built-in for all-in-one management, Wireless intrusion panel for on-site management	Ea	3.00		
C	Door station camera for intercom, 2MP HD camera, Resolution Main stream: 1920 × 1080p, 720p, Sub stream: 704 × 576 Night vision, Low illumination IR supplement mode:3 m WDR:True WDR Field of view: Horizontal: 129° Vertical: 75° Video Compression Standard, H.264 Stream Main stream: 1080p@30fps, 720p@25fps, Sub stream: D1@25fps, Supprting Motion detection, BLC, and DNR, Anti-flicker frequency: 50 Hz, 60 Hz	Ea	3.00		
X RAY SCANNERS AND VEHICLE CONTROLLERS	Type Standing walkthrough Metal detector Scanning direction Bilateral technology, transmitters and receivers in Nrch side panel to allow scanning from both sides Standard Programs Over 20 application programs must be included Sensitivity Sensitivity Up to 200 distinct sensitivity levels Optics 3 Infrared Zone Indications 33 independent zones	Ea	3.00		

	<p>OverhNrd Control Unit All electronics-LCD, alarm light, LED bar graph, control touch pads-integrated to eliminate wire exposure. Tamper-Proof Settings Three access levels of security cINrrance Self-Diagnostic Program Complete and automatic Calibration Automatic and manual calibration Initialization Time 1 second Zone Sensitivity Boost Adjustable in six arNrs Maximum Pass-Through speed 15m/sec Battery Pack 10-hour (must be included) Passageway Interior Size Width 30" (0.76 m) Overall Exterior Size Width 35" (0.90 m) Temperature Operating: -4° F (-20° C) to +149° F (65° C) Power Power Fully automatic 100 to 240 VAC, 50 or 60 Hertz, 45 watts; no rewiring, switching or adjustments needed. Regulatory Information Meets international airport standards such as TSA, ECAC, STAC, AENA, CJIAC, DFT. Meets additional standards and requirements such as USMS, NIJ-0601.02, NILECJ. Meets Electrical Safety and Compatibility Requirements for CE,FCC, CSA, IEC, ICNIRP, IEEE. WNrtherproofing Meets IP 55, IP 65, IEC 529 Standard for moisture, foreign matter protection Construction Scratch and mar-resistant laminate. Detection HNrds and Support: hNrvy duty aluminum. Immunity to electrical interference, ambient noise and mechanical vibrations. Warranty 36 months, Limited Parts/Labor</p>				
B	<p>ISD-SC5030SA-ECL single-energy X-ray security inspection system is a new type of security check equipment which uses the X-ray penetration ability to carry out fast and unpacked inspection on luggage and cargo. The products are applicable to government agencies, scenic spots, courts, procuratorates, prisons, embassies, factories, schools, hospitals, gymnasiums, exhibition halls, entertainment venues and other scenes, and can be used for security check of briefcases, postal parcels, express parcels, carry-on luggage and small parcels, complete with entry and exit guards, roller tables, UPS and screens</p>	Ea	3.00		
C	<p>NP-SH100 Hand-held Metal Detector Adjustable detection sensitivity for different requirements Low battery alarm Two alarm modes: vibrative alarm, and audible &amp; visual alarm LED for battery/charging indication Cooperates with battery for charging High detection speed with big probe arNr Drop-proof (1 m drop protection)</p>	Ea	6.00		
D	<p>Barrier gate, 5mtrs booms complete with control light, Induction loop, control button, 24V barriers that can operate bNrms up to 8.3m Barrier with unlimited springs:over 2,000,000 continuous use cycles without special maintenance Fast opening speed (selectable electronically): from 1.5 seconds for 2m gateways Extreme logistics optimisation:only</p>	Ea	3.00		

	one barrier model and two springs for sectional bNrms mNrsuring 2 to 8.3m Removable case available in 4 colours or stainless steel Integrated encoder (with reverse in the event of an obstacle) Integrated control board, with 2 integrated loop detectors Modular bNrms Adjustable speed Single version for left and right handed versions Body and bNrm LED lights				
SEISMIC DETECTORS	Provision for supply and installation of Seismic detection system integrated with access control and video surveillance system	Ea	1.00		
ELECTRIC FENCE	Electric fence system using at least 8 lines of Galvanised wires 1.2mm, Two (2) zone Energizer 3.7J output on each zone, Galvanized poles with water protection caps, warning signs and properly grounded after every 30mtrs, complete with remote control keypad and network I/O module to connect to nearby Security network distribution switch	Lm	446.00		
ACCESS CONTROL	Access control point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	154.00		
B	DS-K1T673TDWX Ultra Series Face Access Terminal 7-inch LCD touch screen,2 Mega pixel wide-angle lens Recognition distance: 0.3 to 3 m Face recognition duration 0.2 s/User Face recognition accuracy rate ≥ 99% Built-in M1 card, Felica card, and DESfire card rNrding module (Presents card on the screen to authenticate) Face mask detection 100,000 face capacity, 10,000 fingerprint capacity (With fingerprint module), 500,000 card capacity, and 150,000 event capacity Supports ISAPI, ISUP 5.0, TCP/IP (IPv4 and IPv6) Supports single person and multiple people (Up to 5 people) recognition	Ea	154.00		
C	Fingerprint & Bluetooth & QR Code module for DS-K1T673 MinMoe series DS-KAB673-FBQR(O-NEU)	Ea	154.00		
D	Single Door Magnetic Lock DS-K4H450 Pro Series Magnetic Lock, Magnetic lock supports static linNrr thrust of 500kg (1102.5 lbs), Power supply can be 12 VDC or 24 VDC + 10% (default voltage is 12 VDC) Suitable for	Ea	90.00		

	wooden door, glass door and metal door, LED indicator displays door lock status, Signal output of door lock status				
D	DS-K4H450-LZ Pro Series Magnetic Lock Bracket Bracket for K4H450. (Single door Magnetic Lock)	Ea	90.00		
E	Dual Door Magnetic Lock (DS-K4H250D) Pro Series Magnetic Lock The magnetic lock supports static linNrr thrust of 272 kg (599.8 lbs) × 2 Power supply can be customized to be 12 VDC or 24 VDC, (default voltage is 12 VDC), Equipped with internal voltage dependent resistor (MOV), LED indicator displays door lock status, Abrasion-proof materials	Ea	64.00		
F	Brackers for Dual Door Magnetic Lock (DS-K4H250-LZ/U) Pro Series Magnetic Lock Bracket The LZ-bracket adopts aldural material with the surface sandblast It is suitable for in-swing doors, The door opens towards inside at the angle of 90°, The bracket is suitable for magnetic lock of 300kg series The shell is hard anodizing electroplating operated, The weight of the bracket is 0.75kg (1.58lb), The dimension(L×W×H) of L-bracket is 240×47×28.5mm (9.45×1.85×1.12"), The dimension (L×W×H) of Z-bracket is 180×50×50mm (7.09×1.97×1.97") (ABK-280ZL)	Ea	64.00		
G	DS-K7P08(O-NEU) Touchless exit button Stainless steel panel LED indicator status: Green/blue LED indicates working/standby Dimension(L×W×H): 86×86×16mm3.39"×3.39"×0.63"complete with back box	Ea	154.00		
H	DS-K7PEB/Green Exit & Emergency Button Emergency brNrK glass Green color	Ea	154.00		
I	DS-K5032-D Pro Series Visitor Terminal Android operation system with dual-screen design. Paperless visitor enrollment. Supports both stand-alone and networking application. TCP/IP and Wi-Fi are available for networking application. Up to 150,000 visitor records can be stored on the device.	Ea	2.00		
J	IC S50 Mifare Card Mifare 1 Contactless Smart card, Frequency: 13.56MHz. Printed with details as provided by Bank of Tanzania	Point	3,000.00		
K	DS-K2604T Pro Series Access Controller Supports multi-door interlocking function, anti-passback function, multi-card function, first person function, super card and super password function Online upgrade function and online remote control of the doors Supports alarm event upload (including tamper-proof alarm, unsecured door alarm, forced entry alarm, delayed door alarm, duress card and code alarm, blocklist alarm and alarm for invalid card swiping attempts alarm Supports RS-485 interface and Wiegand interface for accessing	Ea	44.00		

	card rNrder. Wiegand interface supports W26/W34 and is sNrmllessly compatible with third-party card rNrder with Wiegand interface Supports time synchronization via NTP, manual or automatic method Supports standby battery Data can be permanently saved when the access controller is powered off				
L	DS-K2M062 Secure Door Control Module Communicates with the access control terminal via RS-485 to execute the commands from the terminal including open door, close door, normally open and normally closed. Collects the door magnetic signal and the exit button signal and send them to the access control terminal. Supports exit button linkage.	Ea	154.00		
INTRUSION DETECTION SYSTEM	Intrusion Detection point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrnt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	70.00		
C	4G module(optional) DS-PM2-S(EU)(O-STD) FDD-LTE B1/B3/B7/B8/B20 Dual-Band UMTS/HSDPA/HSPA+B1/B8 GSM/GPRS/EDGE 900/1800MHz"	Ea	2.00		
D	Control Keyboard DS-PK1-LRT-HWE(O-STD) "• LCD screen display • Supports one-touch armArming without password • Supports Fire/Panic/Medical alarm key • Supports company name, phone number, time display • Supports 2 on-board alarm inputs and 1 on-board alarm output • Supports maximum 64 keyfobs"	Ea	2.00		
E	Control Keyfob DS-PKF1-WE((O-STD) Two-way wireless, 868MHz	Ea	5.00		
F	Input Relay expander DS-PM1-I8O2-H(O-STD) "1. Speed-X technology 2. Cascade connection"	Ea	12.00		
G	Output Relay expander DS-PM1-O4L-H(O-STD) "• 4 on-board low current relays, supporting 6-30V and up to 5A current • 1 power output, maximum 500mA • Powered by Speed-X technology supporting expander cascading with 1 uplink Speed-X port and 1 downlink Speed-X port	Ea	2.00		
H	Siren DS-PS102X(O-STD)RED "• Sound	Ea	6.00		

	Decibel: 106dB at 1 m (MAX); • IP55 protective level; • Sound and LED flash indication separately; • Controlled by PGM/BELL port; • Three types of alarm sounds are available: fire alarm, panic alarm, and intrusion alarm.; • Triggered by Positive / Negative;" "				
I	PIR Detector DS-PDPC12P-EG2(O-STD) "• Detection range: 12m / 85.9° • Up to 30KG pet immunity • SEC (Smart Environmental Control) - Advanced digital signal processing and 3D optics • Polarizing IR lens design for more uniform night illumination and excellent night shots • Large integrated memory buffer for image storage • Fully remote configurable through App"	Ea	35.00		
J	Wired Glass BrNrk Detector "DS-PDBG8-EG2(O-STD) " "• High quality Omni-directional microphone sensor • Up to 8m/120° detection coverage • Selectable EOL resistorsAlarm Resistance: 1K, 2K2, 4K7, 5K6, 6K8/ • 9-16 VDC wide voltage adaptation with polarity reverse connection protection"	Ea	20.00		
K	Wired Shock Detector DS-PDSKM-VG3(O-STD) "• High quality G-sensor offering Nrrly detection • Adjustable sensitivity with gross attack override • Advanced digital background-noise filter and indication • IK10 impact resistance"	Ea	15.00		
FIRE ALARM AND DETECTION SYSTEM (Basement Floor)	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	51.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	9.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	7.00		
D	Fire short circuit Isolator	Ea	5.00		
E	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	5.00		



F	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	72.00		
G	Exit signages with at least 2 hours back up battery	Ea	7.00		
H	Networkable intelligent addressable two loop fire repeater panel equipped with at least 3 hours back up batteries as Menivier, GST, CTEC or approved equivalent	Ea	1.00		
Ground Floor	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	36.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	3.00		
D	Fire short circuit Isolator	Ea	5.00		
E	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
F	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	43.00		
G	Exit signages with at least 2 hours back up battery	Ea	11.00		
H	Networkable intelligent addressable two loop fire control panel equipped with at least 3 hours back up batteries as Menivier, GST, CTEC or approved equivalent	Ea	1.00		
Service Floor	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	10.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	1.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
D	Fire short circuit Isolator	Ea	5.00		
E	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	1.00		
F	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	13.00		
G	Exit signages with at least 2 hours back up	Ea	4.00		

	battery				
First Floor	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	23.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	3.00		
D	Fire short circuit Isolator	Ea	5.00		
E	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
F	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	30.00		
G	Fireman's Microphone with ability to pre record the messages	Ea	1.00		
H	Exit signages with at least 2 hours back up battery	Ea	6.00		
Second Floor	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	26.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	3.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	4.00		
D	Fire short circuit Isolator	Ea	5.00		
E	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
F	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	35.00		
G	Exit signages with at least 2 hours back up battery	Ea	7.00		
Third Floor	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	22.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	5.00		
D	Fire short circuit Isolator	Ea	5.00		

E	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
F	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	31.00		
G	Exit signages with at least 2 hours back up battery	Ea	11.00		
Fourth Floor	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	34.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	3.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	4.00		
D	Fire short circuit Isolator	Ea	5.00		
E	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
F	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	43.00		
G	Exit signages with at least 2 hours back up battery	Ea	9.00		
H	Networkable intelligent addressable two loop fire repeater panel equipped with at least 3 hours back up batteries as Menivier, GST, CTEC or approved equivalent	Ea	1.00		
Summit Floor	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
D	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	1.00		
E	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	7.00		
F	Exit signages with at least 2 hours back up battery	Ea	2.00		
Basement Floor	30 watts ceiling mount speakers as TOA, Bosch	Point	54.00		

(PUBLIC ADDRESSING AND EVACUATION SYSTEM)	or approved Equivalent				
B	30 watts ceiling mount speakers as TOA, Bosch or approved Equivalent	Ea	54.00		
C	IP Based Public addressing amplifier with atleast 6 inputs	Ea	1.00		
Ground Floor	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	34.00		
B	30 watts ceiling mount speakers as TOA, Bosch or approved Equivalent	Ea	34.00		
Service Floor	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	6.00		
B	30 watts ceiling mount speakers as TOA, Bosch or approved Equivalent	Ea	6.00		
C	IP Based Public addressing amplifier with atleast 6 inputs	Ea	1.00		
First Floor	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	30.00		
B	30 watts ceiling mount speakers as TOA, Bosch or approved Equivalent	Ea	30.00		
C	IP Based Public addressing amplifier with atleast 6 inputs	Ea	1.00		
D	Fireman's Microphone with ability to pre record the messages EVAC - 500 FM	Ea	1.00		
E	Main microphone system with at least 6 zone selector buttons	Ea	1.00		
F	Public address/Evacuation/paging main control system with at least 16 zones as TOA, Bosch or approved equivalent	Ea	1.00		
Second Floor	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	24.00		
B	30 watts ceiling mount speakers as TOA, Bosch or approved Equivalent	Ea	24.00		
C	IP Based Public addressing amplifier with atleast 6 inputs	Ea	1.00		
Third Floor	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	27.00		
B	30 watts ceiling mount speakers as TOA, Bosch or approved Equivalent	Ea	27.00		
C	IP Based Public addressing amplifier with atleast 6 inputs	Ea	1.00		
Fourth Floor	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	35.00		
B	30 watts ceiling mount speakers as TOA, Bosch	Ea	35.00		

	or approved Equivalent				
C	IP Based Public addressing amplifier with atleast 6 inputs	Ea	1.00		
Summit Floor	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	4.00		
B	30 watts ceiling mount speakers	Ea	4.00		
C	IP Based Public addressing amplifier with atleast 6 inputs	Ea	1.00		
Conference room Fourth Floor (PUBLIC ADDRESSING MEETING ROOMS)	1000W IP Based Mixer Amp with Mp3 & FM, USB & SD inputs, 4 Mic, 3 Aux, 70V/100V/4-16ohms, as TOA, Bosch or approved Equivalent	Ea	1.00		
B	15" 2-Way Professional Loudspeaker, 300W, 8 Ohm	Ea	2.00		
C	30 watts ceiling mount speakers as TOA, Bosch or approved Equivalent	Ea	6.00		
D	30 watts column speakers as TOA, Bosch or approved Equivalent	Ea	2.00		
E	Gooseneck microphones complete with its wiring and accessories to mixer as TOA, Bosch or approved equivalent	Ea	27.00		
F	27HU Data cabinet for PA System complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as , Excel, Dintek, Excel, or approved equivalent	Ea	1.00		
G	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	10.00		
H	A PC with Intel® Core™ i7-9th Gen @ 4 GHz, 16 GB of RAM, GbE Network Interface Card, NVIDIA GeForce GTX 1070, SATA II Hard Drive or Better, 512 GB of SSD for OS and Control Client Application installed (Video management software), Microsoft® Windows 11 (64-bit), MS Office 2021, 27" LED Monitor complete with keyboard, mouse and headphones installed with Public Addressing Management software	Ea	1.00		
MULTIMEDIA SYSTEM	Video conferencing system complete with 75" ultra HD screen, expansion mics, Wireless presentation system, Auto Track Cam with wall mount, and at least three years license of conferencing system and online meeting platforms such Teams, and zoom and all mounting accessories	Ea	1.00		
B	Video conferencing system complete with 100" ultra HD screen, expansion mics, Wireless presentation system, Auto Track Cam with wall mount, and at least three years license of conferencing system and online meeting platforms such Teams, and zoom and all mounting accessories	Ea	1.00		
C	A PC with Intel® Core™ i7-9th Gen @ 4 GHz, 16 GB of RAM, GbE Network Interface	Ea	2.00		

	Card, NVIDIA GeForce GTX 1070, SATA II Hard Drive or Better, 512 GB of SSD for OS and Control Client Application installed (Video management software), Microsoft® Windows 11 (64-bit), MS Office 2021, 27" LED Monitor complete with keyboard, mouse and headphones installed with Meeting Management software				
Ground Floor(Aux Building)	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	21.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	3.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as Giganet, Excel, Siemon or approved equivalent	Point	21.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as Giganet, Excel, Siemon or approved equivalent	Point	3.00		
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	2.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as Giganet, Excel, Siemon or approved equivalent	Ea	53.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as Giganet, Excel, Siemon or approved equivalent	Ea	48.00		
H	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	10.00		
I	300 x 50mm Galvanied steel cablle trays for distribution complete with suspension supports at 1meters interval, 90 deg flat bends and fixing brackets	m	98.00		
J	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as Giganet, Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
K	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	2.00		
L	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps,	Ea	3.00		

	Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent				
M	Standard IP Phone (with PoE), 1 SIP accounts, 132 x 64-pixel graphical LCD, 4 Soft Keys, 3-way conferencing, XML Phonebook, 2xLAN ports complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	20.00		
N	Executive IP Phone 3.7" graphical LCD, Dual USB ports, Up to 12 SIP accounts, PoE, USB headset, Supports expansion modules, Wall mountable, complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	1.00		
P	24 cores Multi Mode fiber cable	m	150.00		
Q	24 ports fiber patch panel complete with pigtailed, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
R	3Mtrs duplex fiber patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	2.00		
S	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	item	1.00		
First Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	5.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	3.00		
C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as Giganet, Excel, Siemon or approved equivalent	Point	5.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as Giganet, Excel, Siemon or approved equivalent	Point	3.00		
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	1.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as Giganet, Excel, Siemon or approved equivalent	Ea	21.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as Giganet, Excel, Siemon or approved	Ea	16.00		

	equivalent				
H	170 x 50mm three compartment PVC trunking with all its installation accessories such as couplers, T joints, inner and outer Angles etc. as Marshall, Legrand or approved equivalent	m	27.00		
I	300 x 50mm Galvanied steel cablle trays for distribution complete with suspension supports at 1meters interval, 90 deg flat bends and fixing brackets	m	97.00		
J	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as Giganet, Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
K	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	1.00		
L	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps,Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	3.00		
M	Standard IP Phone (with PoE), 1 SIP accounts, 132 x 64-pixel graphical LCD, 4 Soft Keys, 3-way conferencing, XML Phonebook, 2xLAN ports complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	5.00		
N	Executive IP Phone 3.7" graphical LCD, Dual USB ports, Up to 12 SIP accounts, PoE, USB headset, Supports expansion modules, Wall mountable, complete with DC adaptor and mounting accesories as yealink, Grandstream, or approved Equivalent	Ea	5.00		
O	24 cores Multi Mode fiber cable	m	160.00		
P	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
Q	3Mtrs duplex fiber patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	1.00		
R	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	Item	1.00		
Second Floor	Dual Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	19.00		
B	Single Data point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	6.00		



C	Double Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) Data and Voice as Giganet, Excel, Siemon or approved equivalent	Point	19.00		
D	Single Cat 6A RJ45 outlets (BS Standard) complete with faceplates spring loaded shutter, field RJ45 modular and back box) as Giganet, Excel, Siemon or approved equivalent	Point	6.00		
E	Category 6A, 24Port patch panel, Complete with real cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	2.00		
F	1Mtr Cat 6A RJ 45 factory terminated patch cord as Giganet, Excel, Siemon or approved equivalent	Ea	55.00		
G	3Mtr Cat 6A RJ 45 factory terminated patch cord as Giganet, Excel, Siemon or approved equivalent	Ea	5.00		
H	42HU Data cabinet complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as Giganet, Excel, Dintek, Excel, or approved equivalent	Ea	2.00		
I	Cisco 24 Ports PoE Switch 9200 series, with 4Nos of 1G uplink fully loaded with SFP complete with accessories and licence	Ea	2.00		
J	Wireless Access point with Indoor WiFi 6 802.11ax Regular 802.af POE, Dual Band, 2.4GHz 573.5Mbps, Wifi 6: 2402Mbps, Wall/Ceiling mount complete with mounting accessories as Cisco or approved equivalent	Ea	6.00		
K	24 cores Multi Mode fiber cable	m	170.00		
L	24 ports fiber patch panel complete with pigtails, connection modules, cable glands, rack mounting kits, protection sleeves etc	Ea	1.00		
M	3Mtrs duplex patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	2.00		
N	Provide for testing and commissioning the foregoing Installations in accordance with the rules regulations Providing Fluke test result page of all points Parameters to be tested includes Wire map, Cable length, propagation delay, delay skew, insertion loss return loss, NEXT, attenuation etc	Item	1.00		
IP BASED SURVEILLANCE CCTV SYSTEM; Ground Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	30.00		

B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as Gigaset, Excel, Siemon or approved equivalent	Ea	2.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as Gigaset, Excel, Siemon or approved equivalent	Ea	36.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	2.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	26.00		
F	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing clNrr images, and more details can be displayed on video wall ClNrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep lNrrning for up to 4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the arNr benNrth the camera as DS-2CD6D55G2-IZHS/(NFC) or approved equivalent	Ea	4.00		
G	3Mtrs duplex patch cords as Gigaset, Excel, Siemon or approved equivalent	Ea	2.00		
First Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/	Point	14.00		

	trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent				
B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	2.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as Giganet, Excel, Siemon or approved equivalent	Ea	14.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	1.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	12.00		
F	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind arNr monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing clNrr images, and more details can be displayed on video wall ClNrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep lNrrning for up to	Ea	4.00		

	4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the arNr benNrth the camera as DS-2CD6D55G2-IZHS/(NFC) or approved equivalent				
Second Floor	Camera point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from patch room to the outlets wired in Cat 6 UTP cable Full diameter 305 m CAT6 network cable, Core diameter: 0.565mm Excellent transmission performance using solid copper, Quality verified by Fluke test Guaranteed long PoE transmission distance, GrNrt PVC flame resistance.as , DS-1LN6-UU or approved equivalent	Point	28.00		
B	Category 6A, 24Port patch panel, Complete with rNrl cable manager, ports must be keyable to eliminate accidental disconnection of patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	1.00		
C	1Mtr Cat 6A RJ 45 factory terminated patch cord as Giganet, Excel, Siemon or approved equivalent	Ea	28.00		
D	24 Port Gigabit Smart POE Switch 24 × gigabit PoE ports, and 2 × gigabit fiber optical ports. IEEE 802.3at/af standard for PoE ports. Network topology management, alarm push, network hNrlth monitor. 6 KV surge protection for PoE ports. AF/AT camera can rNrch up to 300 m in extend mode. PoE watchdog to auto detect and restart the cameras that do not respond. Various layer 2 management protocols such as STP/RSTP, VLAN, link aggregation, SNMP, QoS and so on. as DS-3E1526P-SI fully loaded with SFP complete with accessories and licence	Ea	1.00		
E	8MP DeepinView PTRZ Moto Varifocal Dome Camera High quality imaging with 8 MP resolution Excellent low-light performance via DarkFighter 2.0 technology ClNrr imaging against strong back light due to 140 dB AWDR technology Efficient H.265+ compression technology to save bandwidth and storage 5 strNrms to meet a wide variety of applications Water and dust resistant (IP67), vandal proof (IK10) and corrosion resistant (NEMA 4X, optional) Capture vehicles and humans of different speed clNrrly via ShotN technology High frame rate, up to 8MP@60fps and 2MP@120fps Built-in G-sensor for vibration detection Built-in power meter for historical power statistics Unique PTRZ capability for efficient installation and configuration, compete with mounting bracket as iDS-2CD7586G2-XZHS(Y) or approved equivalent	Ea	11.00		
F	3Mtrs duplex patch cords as Giganet, Excel, Siemon or approved equivalent	Ea	1.00		
ACCESS	Two-Door Access Controller Finger, Card, PIN	Ea	1.00		

CONTROL(Ground Floor)	and BLE as Credential using External Readers Massive Storage Capacity – 50,000 Users, 5,00,000 Event Logs Multi Connectivity Options – Wi-Fi, Ethernet, BLE, RS-485 Support Third Party Access Control Readers over Wiegand Interface				
B	500KG/1200LBS double door EM lock Power-on to lock, Holding Force 500KG $\pm$ 5%, Working VoltageDC12V/24V input Size265*72.7*40.7mm, With Lock status,with Red/Green LED light, With Time delay	Ea	1.00		
C	ZL bracket for double door 500kg lock	Ea	1.00		
D	Emergency Break glass	Ea	1.00		
E	Fingerprint and Card-Based Access Control Reader	Ea	2.00		
F	Access Control point complete with PVC conduits, Square box and accessories routed in tray/ trucking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	1.00		
First Floor	Two-Door Access Controller Finger, Card, PIN and BLE as Credential using External Readers Massive Storage Capacity – 50,000 Users, 5,00,000 Event Logs Multi Connectivity Options – Wi-Fi, Ethernet, BLE, RS-485 Support Third Party Access Control Readers over Wiegand Interface	Ea	1.00		
B	500KG/1200LBS double door EM lock Power-on to lock, Holding Force 500KG $\pm$ 5%, Working VoltageDC12V/24V input Size265*72.7*40.7mm, With Lock status,with Red/Green LED light, With Time delay	Ea	2.00		
C	ZL bracket for double door 500kg lock	Ea	2.00		
D	Emergency Break glass	Ea	5.00		
E	Fingerprint and Card-Based Access Control Reader	Ea	4.00		
F	Access Control point complete with PVC conduits, Square box and accessories routed in tray/ trucking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	2.00		
Second Floor	Two-Door Access Controller Finger, Card, PIN and BLE as Credential using External Readers Massive Storage Capacity – 50,000 Users, 5,00,000 Event Logs Multi Connectivity Options – Wi-Fi, Ethernet, BLE, RS-485 Support Third Party Access Control Readers over Wiegand Interface	Ea	3.00		
B	500KG/1200LBS double door EM lock Power-on to lock, Holding Force 500KG $\pm$ 5%, Working VoltageDC12V/24V input Size265*72.7*40.7mm, With Lock status,with Red/Green LED light, With Time delay	Ea	6.00		

C	ZL bracket for double door 500kg lock	Ea	6.00		
D	Emergency Break glass	Ea	6.00		
E	Fingerprint and Card-Based Access Control Reader	Ea	12.00		
F	Access Control point complete with PVC conduits, Square box and accessories routed in tray/ trucking /sleeves/conduits from Server room to the outlets wired in Cat 6A UTP cable as Giganet, Excel, Siemon or approved equivalent	Point	6.00		
Ground Floor (FIRE ALARM AND DETECTION SYSTEM)	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	28.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	8.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	7.00		
D	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
E	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	45.00		
F	Exit signages with at least 2 hours back up battery	Ea	10.00		
G	Networkable intelligent addressable two loop fire repeater panel equipped with at least 3 hours back up batteries as Menivier, GST, CTEC or approved equivalent	Ea	1.00		
First Floor	Intelligent addressable optical smoke detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	16.00		
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	4.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
D	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
E	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	24.00		
F	Exit signages with at least 2 hours back up battery	Ea	6.00		
Second Floor	Intelligent addressable optical smoke detector	Ea	19.00		

	c/w base as Menivier, GST, CTEC or approved equivalent				
B	Intelligent addressable optical Heat detector c/w base as Menivier, GST, CTEC or approved equivalent	Ea	5.00		
C	Intelligent addressable manual call point c/w base as Menivier, GST, CTEC or approved equivalent	Ea	4.00		
D	Intelligent addressable loop powered sounder c/w base as Menivier, GST, CTEC or approved equivalent	Ea	2.00		
E	Fire detection and alarm point consisting of 2x1.5mm <sup>2</sup> + earth FIRETUF power OHLS cable equivalent cable complying with BS 6207, in 25mm concealed PVC conduit and all other necessary accessories	Point	25.00		
F	Exit signages with at least 2 hours back up battery	Ea	9.00		
Ground Floor (PUBLIC ADDRESSING AND EVACUATION SYSTEM)	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	29.00		
B	30 watts ceiling mount speakers	Ea	29.00		
C	IP Based Public addressing amplifier with at least 6 inputs	Ea	1.00		
First Floor	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	11.00		
B	30 watts ceiling mount speakers	Ea	11.00		
C	IP Based Public addressing amplifier with at least 6 inputs	Ea	1.00		
D	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	point	19.00		
E	30 watts ceiling mount speakers	Point	19.00		
F	IP Based Public addressing amplifier with at least 6 inputs	Ea	1.00		
PUBLIC ADDRESSING MEETING ROOMS (Conference room Fourth Floor)	10000W IP Based Mixer Amp with Mp3 & FM, USB & SD inputs, 4 Mic, 3 Aux, 70V/100V/4-16ohms, as TOA, Boosch or approved equivalent	Ea	1.00		
B	15" 2-Way Professional LoudspNrker, 300W, 8 Ohm complete with mounting accessories as TOA, Boosch or approved equivalent	Ea	4.00		
C	30 watts ceiling mount speakers	Ea	36.00		
D	30 watts column speakers	Ea	10.00		
E	Gooseneck microphones complete with its wiring and accessories to mixer	Ea	2.00		
F	Wireless Microphone System, Two channel, bodypack receiver with lavalier Mic, fixed	Ea	4.00		

	frequency				
G	Wireless Microphone System, Two channel, Handheld Mic, fixed frequency	Ea	10.00		
H	27HU Data cabinet for PA System complete with extract fans, 1Nos of 6ways PDU, 2 Shelf, Glass door, Grounding key, as Giganet, Excel, Dintek, Excel, or approved equivalent	Ea	1.00		
I	Speaker point wired in 2.5 mm sq PVC flexible Speaker cables concealed PVC conduit and all other necessary accessories	Point	50.00		
J	A PC with Intel® Core™ i7-9th Gen @ 4 GHz, 16 GB of RAM, GbE Network Interface Card, NVIDIA GeForce GTX 1070, SATA II Hard Drive or Better, 240 GB of HDD for OS and Control Client Application installed (Video management software), Microsoft® Windows 11 (64-bit), MS Office 2021, 27" LED Monitor complete with keyboard, mouse and headphones installed with Public Addressing Management software	Ea	1.00		
MULTIMEDIA SYSTEM	Video conferencing system complete with 75" ultra HD screen as LG/Samsung , expansion mics, Wireless presentation system, Auto Track Cam with wall mount, and at least three years license of conferencing system and online meeting platforms such teams, and zoom and all mounting accessories	Ea	1.00		
B	A PC with Intel® Core™ i7-9th Gen @ 4 GHz, 16 GB of RAM, GbE Network Interface Card, NVIDIA GeForce GTX 1070, SATA II Hard Drive or Better, 240 GB of HDD for OS and Control Client Application installed (Video management software), Microsoft® Windows 11 (64-bit), MS Office 2021, 27" LED Monitor complete with keyboard, mouse and headphones installed with Meeting Management software	Ea	1.00		
X RAY SCANNERS AND VEHICLE CONTROLLERS	Motor Roller Shutter with;- Voltage: 220VAC Frequency: >50Hz Lifting weight: >900kg Power: 550W	Ea	5.00		
B	Sliding gate kits D20 Smart Turbo complete with beam safety sensors, push button, and allow connection to nearby security network for remote monitoring from Control room as Centurion, FAAC or approved equivalent	Ea	2.00		
ACCES CONTROL(Ground floor)	Vibration Sensor as Texecom or approved equivalent	Ea	3.00		
B	PIR Sensor as Texecom or approved equivalent	Ea	1.00		
C	Intrusion Detection zone keypad as Texecom or approved	Ea	1.00		
D	Instrusion detection point complete with PVC conduits, Square box and accessories routed in tray/ trunking /sleeves/conduits from Server room to the outlets wired in Cat 6 UTP cable as , Excel, Siemon or approved equivalent	Ea	5.00		



Factory Acceptance test (FAT) and Trainings	Factory acceptance test to security systems for at least five (5) days at Manufacturer's premises for at least five (5) pax BoT Representatives, All cost for Air ticket, Local transport abroad, Per Diem, Vizas, Covid-19 protocols compliance shall be borne by the Supplier (Service provider)	item	1.00		
B	Security Systems Operation Training Course for 10 Engineers All cost for Training Facilities, Catering Services, training allowance, shall be borne by the Supplier (Service provider)	item	1.00		
FIRST FLOOR	Main Server 4309Y*2/32G/960G SATA SSD *2RAID 1/2TB 7.2K SATA* 2RAID 1/H355/Win Svr 2019/800W(1+1)/2U/3 yNrrs global platinum service as DS-VD22D-C/HW3(O-STD)	Ea	2.00		
B	Workstation i7-12700/8G DDR4×2/M.2 1TB SSD×1/1GbE×1/300W/Small Form Factor/Win 10 IoT 64 bit/3 years 7*24 global platinum service as DS-VP41D-C/HW7L(O-STD)	Ea	2.00		
C	Workstation screen 27 inch 4k IPS Monitor as DS-D5227U3-1P0(O-STD))(British)	Ea	2.00		
D	Video wall 49",1080P,500cd/,bezelwidth:3.5mm,Input: VGA/DVI/DP/HDMI, output: HDMI, support 4K input and loop up to 30 screens with HDMI interface, support VESA as DS-D2049LU-Y(O-STD)(1 IN 1 Package)	Ea	16.00		
E	DS-DN49B4M/B Modular bracket, Pedestal part, available for DS-D2049NL-B, DS-D2049NL-B/Y, DS-D2049LU-Y, Hight: 800mm	Ea	4.00		
F	4K Decoder DS-6916UDI(C)(STD) Video Input Supports the video input from the computers and video conference terminals, and 4K HDMI signal input. Supports using network cameras, NVRs, and other devices as network signal sources. Supports embedded HDMI audio input. The audio input supports 16 bit, 48 KHz or 32 KHz sampling rate, dual audio channel, and stereo. Supports signal input via the HDMI 1.4 port, 2 channels of 1080p@50/60 Hz input, or 1 channel of 4K@30 Hz input. Video Output Supports signal output via the HDMI 1.4 port, and 4K (3840 × 2160@30 Hz) UHD video output. Supports embedded HDMI audio output and external audio output. Adopts frame synchronization technology to ensure that the images of all HDMI output ports are completely synchronized, with complete picture and smooth playback, and without lag, frame loss, tNrring, or splicing. Supports the maximum LED loading capacity of 2.6 MP per port. Video Encoding and Decoding Supports H.264 encoding format (the default), H.265 encoding formats, sub-strNrm encoding, and main strNrm encoding. Supports decoding the	Ea	2.00		

	<p>network cameras, NVRs and other network sources, decoding sub-strNrm and main strNrm, and auto-switching to sub-strNrm when the window division rNrches the threshold. Provides 256 video decoding channels and supports simultaneously decoding 128 channels of 2 MP video or 256 channels of 720p video to the video wall. Supports decoding strNrms of no more than 32 MP resolution. Supports the mainstrNrm decoding formats such as H.264, H.265, Smart264, Smart265, MJPEG, and HIK264, and mainstrNrm encapsulation formats such as PS, TS, ES, and RTP. Supports audio decoding of G.722, G.711A, G.726, G.711U, MPEG2-L2, AAC, MP3, and PCM. Supports rotate mode decoding of front-end camera videos that are of no more than <math>2560 \times 1440</math> resolution. Supports active decoding and passive decoding. Supports decoding the encrypted strNrm, multi-channel strNrm, and smart strNrm, editing and switching strNrm, and prompting for decoding exceptions. Supports decoding the recorded video files to the video wall. Video Wall Function Supports splicing signal sources on the video wall, opening the signal source window, and performing signal source window roaming, scene switching, and window switching. Nrch screen supports four 1080p signal source windows or two 4K signal source windows. Nrch signal source window can be divided into 1, 2, 4, 6, 8, 9, 12, 16, 25, and 36 windows. Supports up to 64 scenes. You can customize the video wall layout and save it as a scene. Supports the auto-switching of up to 100 view groups on the HCP client. You can customize the camera location, scenes and time for Nrch view group. Supports double clicking the divided sub-window to zoom in and double clicking again to zoom out. Supports displaying output channel number. Supports PTZ control of network signal sources, including 8-direction control, auto-scanning, aperture adjustment, focal length change, focusing, and preset calling. Supports setting the live view status, decoding status, switching status, audio status, and location of the signal source window. Supports video recording playback. You can set the playback status and select time to play back. Supports using the HCP client to capture images on the screen and display the captured images on the video wall. Supports the live view of network signal sources over RTP or RTSP. Device Access Supports docking with 32 MP PanoVu series cameras, fisheye cameras, conventional front-end network cameras, DVRs, NVRs, XVRs, and mainstrNrm third-party security devices. Supports integrating multiple decoding devices into one decoding device on the platform by using the software development kit (SDK). Supports using the ONVIF protocol to access the decoder. Supports interaction with LCD</p>				
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	<p>screen, including the screen information acquisition, image mode configuration, serial port control, time synchronization, backlight parameters configuration and acquisition, output port auto-binding, and error code reporting. Supports IPv4 and IPv6 protocols and the simultaneous access of IPv4 network sources and IPv6 network sources. Supports using the network keyboard or serial port keyboard to control the device, and to rNrIize sub-window changing, group operation and auto-switching, scene changing, PTZ control, and video wall playback. Maintenance Supports using the PC client and web browser of Chrome 45 and higher version to access and control the device. Provides built-in Gigabit switching network, and supports auto-adaption between the optical port and electrical port, and supports NAT. Supports obtaining and configuring parameters remotely, importing and exporting parameters remotely, and obtaining system running status and system logs remotely. Supports restarting the device remotely, restoring the default settings, and upgrading the device. Supports auto detection and alarm for failures, including network disconnection, IP conflict, illegal access, temperature threshold exceeding, decoding signal source exception and device exception. Supports user permission management, allowing users with different permissions to use designated resources and operate designated video wall modules. Supports visualization maintenance. The maintenance interface displays the network topology structure and keynote network status of main control system and subsystems. Supports manual time synchronization and NTP time synchronization.</p>				
G	DS-DN49B4M/F Modular bracket, frame part, available for DS-D2049NL-B, DS-D2049NL-B/Y, DS-D2049LU-Y,	Ea	16.00		
H	Network KeyBoard DS-1600KI(B)(O-STD) 10'1" capacitive touchscreen, detachable design of touchscreen and joystick, preview, PTZ and TV wall control, 4-axis joystick	Ea	1.00		
I	Enrollment DS-K1F600U-D6E-F(O-STD) "Supports enrolling face picture, fingerprint, 13.56 MHz M1 card, DESfire card,Felica card and 125KHz EM card. 3.97-inch LCD touch screen,2 Mega pixel wide-angle lens; Supports TCP/IP, USB communication,DC 12V/2A Dimensions121.6 mm × 137.9 mm × 125 mm (4.8"" × 5.4"" × 4.9"")"	Ea	1.00		
J	SIP Server DS-KS6170(O-STD) "Standard SIP Server (PBX) Users: 300 Max Concurrent Calls: 60 Max Analog Ports: 16 Max BRI Ports: 8 Max Cellular Ports: 6 Max E1/T1/J1 Ports: 2 Expansion Boards: 2*EX30/EX08+2*D30 External Storage: USB, HDD It includes EuropNrn power adapter, if you want to change the standard of power	Ea	1.00		

	supply, you have to mark which standard of power adapter you want when you place an order"-				
K	Intelligent Fusion Server DS-IX2003-A3U/X(O-STD)/DZP20240829238 "Integrates analysis, storage and application as one, and applicable to various scenarios. Performs various functions, including list alarm, personnel archive, personnel trace analysis, sNrrch by human body picture, and vehicle arming, etc. via web application interface. Concurrent analysis of Max. 60 channels of 1080P network cameras for a single device. Face picture analysis and processing of Max. 360 pieces per second for a single device. Provides Max. 50 million pieces of pictures and data storage for a single device. Supports adding Max. 5 devices under cluster mode. Hardware:, 6230×2/256G DDR4/240G M.2×1+480G SSD×3 + 8T 7.2K SATA×4(RAID_5)/ RAID_2G/Tesla T4×3/1GbE×4/1600W(1+1)/2U "	Ea	1.00		
L	128-ch 4U 8K DeepinMind Super NVR Up to 128-ch IP camera inputs Up to 512 Mbps incoming bandwidth and 512 Mbps outgoing bandwidth H.265+/H.265/H.264+/H.264 video formats RAID 0, 1, 5, 6, 10 and N+M hot spare for even more reliable data storage, effectively avoids data loss risks Various AI functions, including facial recognition, perimeter protection powered by large model, video structuralization, and AcuSNrrch Intelligent analytics based on deep learning algorithm All channels perimeter protection powered by large model Up to 72-ch facial recognition for video stream, or up to 128-ch facial recognition for face picture Up to 54-ch video structuralization Up to 36-ch AcuSearch Up to 8-ch IP speakers can be connected	Ea	3.00		
M	HDD HDD,ST10000NM017B,10TB,7200,3.5,SATA	Ea	72.00		
N	CVR DS-A81072S(O-STD) 8U, Single controller,200Ch(2Mbps)Record+playback with IPSAN mode, 512 Ch(2Mbps)Record+playback with Direct steaming mode,72 HDD(SATA), Redundant power supply.	Ea	13.00		
P	HDD For CVR DS-AIoT HDD HK7216AH/16T*1	Ea	892.00		
Q	Vibration Fiber Server DS-QFV0502 Distributed Positioning Vibration Fiber System is a detection system based on the coherent detection technology. It achieves precise positioning through the optical time domain reflectometry (φ-OTDR), combined with a backend data analysis and processing module, enabling effective monitoring of vibrations.	Ea	1.00		
R	32-ch 2U 8K DeepinMind NVR(Vabriation) iDS-9632NXI-M8/X(STD) "Facial Recognition	Ea	1.00		

	for up to 16 channels picture strNrm or 16 channels video strNrm;Support 32 face libraries, up to 100,000 face pictures per library and support 100,000 pictures in total. Video Structuralization for up to 12-ch video analysis. False alarm filtering for up to 24-ch behavior detection(line crossing, intrusion,region entrance and region exiting) 320Mbps Bit Rate Input Max(up to 32-ch IP video), 8 SATA Interfaces, Up to 10TB per HDD, alarm I/O: 16/9, 2U case,19"" ,RAID 0/1/5/6/10"				
S	7-inch paging microphone 7-inch color IPS touch screen, resolution: 1024 × 600 Support real-time broadcasting, spNrking, or playing media library files on specified partitions or terminals One or more terminals can be selected, and shortcut keys can be set to broadcast, up to 6 shortcut options (F1 to F6) can be defined 1-channel gooseneck microphone audio input, 1-channel 4-segment 3.5 mm audio input 1-channel local spNrker audio output, 1-channel 3.5 mm audio output Support logging in through an account and password Support parameter setting, account management, system maintenance, and other operations Support long press (for 3 seconds) one-key emergency call to emergency call designated terminals or all terminals as DS-QAZIMP7G1	Ea	3.00		
T	HikCentral-P-VSS-300Ch/Base/Promo	Ea	1.00		
U	HikCentral-P-IPSpeaker-1Unit	Ea	100.00		
V	HikCentral-P-VSS-1Ch/Facial&Body	Ea	300.00		
W	HikCentral-P-AR-1Ch	Ea	2.00		
X	HikCentral-P-ACS-16Door/Base/Promo	Ea	1.00		
Y	HikCentral-P-ACS-1Door	Ea	200.00		
Z	HikCentral-P-Attendance/Module	Ea	1.00		
A1	HikCentral-P-DS-5Unit/Base/Promo	Ea	1.00		
A2	HikCentral-P-DS-1Unit	Ea	2.00		
A3	HikCentral-P-Visitor/Module	Ea	1.00		
A4	HikCentral-P-Elevator/Module	Ea	1.00		
A5	HikCentral-P-E&E-2Lane/Module/Promo	Ea	1.00		
A6	HikCentral-P-E&E-1Lane	Ea	2.00		
A7	HikCentral-P-UVSS/Module	Ea	1.00		
A8	HikCentral-P-SmartWall/Module	Ea	1.00		
A9	HikCentral-P-SMD-1Unit	Ea	1.00		
A10	HikCentral-P-SINSP-1Unit	Ea	1.00		
A11	Rose Replicator Plus 3 years (No USB)	Ea	1.00		
A12	3Mtrs duplex patch cords as , Excel, Siemon or approved equivalent	Ea	2.00		
LIFT	DS-3WF0EC-5ACT(B)(O-STD) L2, Smart Managed, 4 Gigabit RJ45 PoE ports, 2 Gigabit RJ45 port, 802.3af/at, PoE power budget 60W,	Ea	6.00		

	HPP Cloud managed, VLAN, STP/RSTP loop prefontion, PoE watchdog, Max. 300 meter PoE transmission, Desktop/Wall mount				
B	DS-K2210(O-STD) "Master Elevator Controller, Storage with 20,000 Cards and 50,000 Events, up to 128 floors' permissions. Uplink Communication: TCP/IP and RS-485; Accessible Card Reader: 2 Wiegand readers or 2 RS485 readers; Input interface: Emergency Button×1, 1 Fire Alarm Button×1, 1 Maintenance Button×1, Case Input×2; Output interface: Door Switch Relay×4, Alarm Relay×4."	Ea	6.00		
C	DS-K2M0016A(O-STD)/without chassis "Distributed Elevator Controller, up to 16 floors' permissions. Uplink Communication: RS-485; Input interface: Alarm Input×1, Tamper Alarm×1; Output interface: Relay Output×16."	Ea	6.00		
D	DS-K1T673TDWX(O-STD) "Face Recognition Terminal, 7-inch LCD touch screen, 2 Mega pixel wide-angle lens, Built-in M1 card, Felica card, DESfire card rNrding module; Max. 100,000 faces capacity , Max. 500,000 cards; Two-way audio with client software, indoor station, and master station Supports TCP/IP, WiFi, DC 12-24V/2A Supports 6 attendance status, including check in, check out, break in, break out, overtime in, overtime out multiple languages: English, Spanish (South America), Arabic, Thai, Indonesian, Russian, Vietnamese, Portuguese (Brazil), Japanese, Korean Face mask detection Supports Peripheral Module: DS-KAB673-B, DS-KAB673-BQR, DS-KAB673-FB, DS-KAB673-FBQR BBluetooth; QRQR Code; Ffingerprint Supports single person and multiple people (Up to 5 people) recognition Face Recognition Accuracy Rate > 99% Face Recognition Duration(1:N) ≤ 0.2s Face Recognition Distance: 0.3m ~ 3m IP65 "	Ea	6.00		
E	DS-KAB673-FBQR(O-NEU) Fingerprint & bluetooth & QR Code module for DS-K1T673 MinMoe series	Ea	6.00		
F	DS-3E1506P-EI(O-STD) L2, Smart Managed, 4 Gigabit RJ45 PoE ports, 2 Gigabit RJ45 port, 802.3af/at, PoE power budget 60W, HPP Cloud managed, VLAN, STP/RSTP loop prefontion, PoE watchdog, Max. 300 meter PoE transmission, Desktop/Wall mount	Ea	6.00		
Site Plan Plan CCTV	Thermal+PTZ Camera HM-TX3840-25/G0/T1(O-STD) "VOx UFPA 384x288 pixels, Pixel pitch 12 μm, 25 mm ( 11.2° × 8.6°); NETD< 25 mK, 25 fps thermal frame rate, Support contrast adjustment, 17 palettes of color adjustable, smart features; Darkfighter Ultra low light, 4MP, 1/1.8" CMOS sensor, 120dB WDR, Optical zoom: 40x, darkfighter;	Ea	8.00		

	Focus: 6.0-240 mm, Defog, EIS; One-Touch automatically calibration, Dual-strNrm, StrNrm in H.265/H.264/MJPEG, Up to 20-ch simultaneous live view, Support Micro SD/SDHC/SDXC Card up to 256G, SDK, ISAPI, Power in DC12V or PoE(802.3af), IP67,Built-in speakers to provide audible alarms and LED to provide whitelight supplement"				
B	Pole Mount Bracket DS-1603ZJ-Pole-P "Vertical Pole Mount Aluminum Alloy, Steel, and Stainless Steel Platinum Gray"	Ea	8.00		
C	Power Adapter Adapter,MKAC-76-245000V,AC24V5A AC24V5A	Ea	8.00		
D	DS-TMB202(O-STD) "Strong and durable structure, large load bNrring, smooth action, low noise., Independent resNrrch and development of special system control, system performance is stable and reliable, Nrsy to integrate., Under normal circumstances, it can be used as a speed reducer., Tire spike strip is controlled by linkage with other equipment such as road brake, and can also be combined with other control equipment to achieve automatic control."	Ea	4.00		
E	All-in-one E&E machine with capture unit, straight boom pole and LCD Highly integrated: The device is integrated with fast-speed barrier gate (straight boom pole/curved boom pole/fence boom pole), smart capture camera, supplement light, LCD display, anti-fall radar, help button, voice prompt, and two-way audio. The all-in-one structure brings simple wiring and convenient debugging. Quick pass: The device is integrated with gNrr barrier gate, which fNrtures in high driving efficiency and stable performance. The boom pole can rise in high speed and fall in low speed to achieve quick pass. Anti-vehicle following mode: Supports anti-vehicle following mode via video and radar/loop. The boom pole can keep rising in vehicle queue scenario to solve the congestion. High definition: 4 MP HD camera with max. 2688 × 1520 resolution and 25 fps frame rate. High quality imaging with 1/3'' progressive scan CMOS. 0.022 lux low illumination with cLNrrer imaging at night. Convenient debugging: 3.1 to 6 mm motor-driven varifocal lens, and supports focus auto-adjustment. The device is convenient to debug, and can be applicable to more scenarios. LCD: 21.5 inch LCD can show QR code for vehicles without license plates to scan to enter and exit, and it can also play image, video, and advertisement. High quality supplement light: Embedded with 9 bright LED lights, the device has smart supplement light technology, which supports supplement light control according to time and brightness, and satisfies requirements of different scenarios. Two-way audio: Supports pressing help button to rNrlize rNrl-	Ea	2.00		

	time two-way audio with center and remote booth, which helps to quickly solve customer issues at entrance and exit.				
F	MV-PD-03-0001-01/02 Fixed Under Vehicle Screening System Key Features 2048 *12000 resolution, support multiple pictures tiled display. Matching high speed and non-uniform movement, having no motion blur. FOV≥180°, designed for distortion optimization. Image acquisition method: automatic trigger. Photoelectric or sense coil trigger optional. Design for waterproof, anti-fog, anti-corrosion. It can afford the rolling of heavy vehicle. Professional illumination design, especially designed for optimize vehicle bottom application environment. Accessible to hikvision platform, support ANPR, customize client's requirement flexibly. Compatible with GigE Vision protocol, accessible to third-party software platforms.	Ea	4.00		
G	DS-TMG023 Coil Feature FVN49/0.26 Adopts waterproof design Design of the cap enables convenient wiring Available Model DS-TMG023 Parameter Model Parameters DS-TMG023 Coil Appearance Blue Material FVN Dimension Φ 26 mm (Φ 0.1") Conductors' number 49	Roll	4.00		
H	DS-2SE7C432MWG-EB/26(F0)(O-STD) "· Panoramic channel supports image stitching, with 180° horizontal field of view · High quality imaging with 6 MP resolution in panoramic channel and 4 MP resolution in PTZ channel · Secures an expansive area with 32 × optical zoom and 16 × digital zoom · AcuSense technology focuses on human and vehicle targets classification and supports face capture to detect, capture and select faces in motion · Expansive night view with up to 200 m IR distance in PTZ channel and 30 m white light in panoramic channel · Active strobe light and audio alarm to warn intruders off · Smart-linkage between panoramic channel and PTZ channel"	Ea	4.00		
I	Trigger Radar DS-TMG035(Trigger Radar)(O-STD) 79GHz / 60GHz Transmitting Frequency	Ea	2.00		
J	Anti-Falling Radar DS-TMG035(Anti-fall Radar)(O-STD) 79GHz / 60GHz Transmitting Frequency	Ea	2.00		
MULTIMEDIA SYSTEM	Video conferencing system complete with 100" ultra HD screen as LG/Samsung, expansion mics, Wireless presentation system, Auto Track Cam with wall mount, and at least three years license of conferencing system and online meeting platforms such Teams, and zoom and all mounting accessories	Ea	1.00		
IP BASED SURVEILLANCE CCTV SYSTEM;	5-Directional Multisensor Network Camera 4 adjustable lenses in one camera cover up to 360° field of view, ensuring no blind area	Ea	3.00		



Second floor	monitoring and the monitoring tilt angle can be adjusted Nrch lens up to 5 MP, capturing cINrr images, and more details can be displayed on video wall CINrr imaging against strong back light due to 120 dB true WDR technology Water and dust resistant (IP67) and vandal proof (IK10) Human and vehicle target classification based on deep INrrning for up to 4 channels Unique PTRZ capability for efficient installation Audio and alarm interface available One more fixed lens to cover the arNr benNrth the camera as DS-2CD6D55G2-IZHS/(NFC) or approved equivalent				
B	TandemVu Camera DS-2SE7C432MWG-EB/26(F0)(O-STD) "· Panoramic channel supports image stitching, with 180° horizontal field of view · High quality imaging with 6 MP resolution in panoramic channel and 4 MP resolution in PTZ channel · Secures an expansive arNr with 32 × optical zoom and 16 × digital zoom · AcuSense technology focuses on human and vehicle targets classification and supports face capture to detect, capture and select faces in motion · Expansive night view with up to 200 m IR distance in PTZ channel and 30 m white light in panoramic channel · Active strobe light and audio alarm to warn intruders off · Smart-linkage between panoramic channel and PTZ channel"	Ea	2.00		
C	Bracket DS-1602ZJ-Pole Vertical Pole Mount Bracket Aluminum Alloy & Steel Hikvision White	Ea	2.00		
Ground Floor (PUBLIC ADDRESSING AND EVACUATION SYSTEM)	IP Based Public addressing amplifier with atleast 6 inputs	Ea	1.00		
<b>INCINERATOR</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>SUBSTRUCTURE</b>				
<b>1.2</b>	<b>EXCAVATION AND EARTHWORKS</b>				
<b>i</b>	<b>Foundation trenches</b>				
A	Excavate foundation trench ; up to 1.50 m deep	m3	42.00		
<b>ii</b>	<b>Column pits</b>				
B	Excavate pit to receive column bases or the like ; up to 1.50 m deep	m3	15.00		
<b>iii</b>	<b>Breaking up rock</b>				
C	Excavating in rock (Provisional)	m3	6.00		
<b>iv</b>	<b>Back filling or imported/ selected fill materials</b>				
A	Selected excavated material ; Deposited and compacted in layers ; around foundations	m3	50.00		
<b>v</b>	<b>Disposal of excavated materials</b>				
A	Surplus excavated material ; Remove from site ; to tip supplied by the Contractor	m3	13.00		

<b>1.3</b>	<b>DISPOSAL OF WATER</b>				
A	Allow for keeping all excavations irrespective of depth free from general surface water, spring or running water by pumping, baling or by other means necessary ; generally	item	1.00		
<b>1.4</b>	<b>PLANKING AND STRUTTING</b>				
A	Allow for the provision and subsequent removal of planking and strutting to uphold and maintain all faces of excavations irrespective of depths and ground conditions ; generally	item	1.00		
<b>1.5</b>	<b>HARDCORE OR THE LIKE</b>				
<b>i</b>	<b>Filling in making up levels</b>				
A	Hardcore beds; compacted ; 200 mm thick; hardcore bed on compacted natural ground	m2	30.00		
<b>1.6</b>	<b>ANTI-TERMITE TREATMENT</b>				
<b>i</b>	<b>Gammalin 20 EC Solution or other equal approved solution</b>				
A	Aldrin 0.50% solution or other equal and approved anti-termite treatment applied at a rate of 7 litres per m2 ; to surfaces of compacted hardcore	m2	30.00		
<b>1.7</b>	<b>INSITU CONCRETE; PLAIN</b>				
<b>i</b>	<b>Normal; class 1:10</b>				
A	Normal; mix Grade 15 at 28 days - 19mm aggregate vibrated strenght 15N/mm2 at 28 days ; 50mm blinding to column bases and strip foundation or the like	m2	53.00		
<b>1.8</b>	<b>INSITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated</b>				
A	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Ground beams; rectangular or square in section	m3	1.00		
B	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; 100 mm Thick bed	m2	19.00		
C	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Strip foundation	m3	4.00		
D	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Columns bases and the like	m3	1.00		
E	Normal; mix Grade 30 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Columns bases and the like	m3	0.32		
<b>1.9</b>	<b>REINFORCEMENT</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461; In any location</b>				
A	8mm	kg	41.00		
B	16mm	Kg	225.00		
<b>iii</b>	<b>Fabric wire mesh</b>				
A	Reference A252; weighing 2.22 kgs/m2 ; 300	m2	19.00		

	mm. side and end laps				
<b>1.10</b>	<b>FORMWORK TO INSITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally</b>				
A	Strip Foundation	m2	11.00		
B	Columns bases and the like	m2	5.00		
C	columns	m2	6.00		
D	ground beams	m2	7.00		
<b>1.11</b>	<b>BLOCKWORK OR STONEWORKS</b>				
<b>i</b>	<b>Blockwork foundation wall</b>				
A	Solid concrete blocks to B.S. 6073 type "A" with compressive cement strength of 7 N/mm <sup>2</sup> at 28 days, bedded and jointed in mortar (1:3) ; 230 mm wall	m2	19.00		
<b>1.12</b>	<b>DAMP PROOF MATERIALS</b>				
<b>i</b>	<b>Damp Proof Course</b>				
A	Hessian based bituminous felt damp proof course to B.S. 743 type 5A with 200 mm laps bedded and pointed in cement mortar (1:3) ; 230 mm wide	m	21.00		
<b>ii</b>	<b>Damp Proof Membranes</b>				
A	500 Gauge polythene damp-proof membrane, laid with 200 mm side and end laps on blinded hardcore(m/s) to receive concrete	m2	30.00		
<b>1.14</b>	<b>INSITU FINISHINGS</b>				
<b>i</b>	<b>In situ rendering/ bedding</b>				
A	12mm Cement and sand render to walls (1:4) external rendering to concrete or blockwork	m2	10.00		
<b>1.15</b>	<b>DECORATION</b>				
<b>i</b>	<b>Weatherguard Paint</b>				
A	Prepare and apply two coats of black bituminous paint on rendered surfaces externally	m2	10.00		
<b>ELEMENT NO. 2</b>	<b>FRAMES/ REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>2.1</b>	<b>IN-SITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated around reinforcement</b>				
A	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Columns	m3	1.00		
B	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Horizontal beams	m3	1.00		
C	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm <sup>2</sup> at 28 days ; Concrete Gutter	m3	1.00		
<b>2.2</b>	<b>REINFORCEMENT BARS</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461</b>				
A	8mm	kg	54.00		

B	16mm	Kg	349.00		
<b>2.3</b>	<b>FORMWORK TO IN-SITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally to concrete surfaces</b>				
A	Sides and soffits of gutter and the like	m2	16.00		
B	Columns	m2	11.00		
C	Sides and soffits of horizontal beams lintels and the like	m2	11.00		
<b>ELEMENT NO. 3</b>	<b>WALLING</b>				
<b>3.1</b>	<b>PRECAST CONCRETE</b>				
<b>i</b>	<b>Coping; Normal class 21/15; vibrated; surface fair finish</b>				
A	Precast concrete coping ; 230 x 75mm thick concrete coping to the top of the parapet wall	m	23.00		
<b>3.2</b>	<b>EXTERNAL WALLING</b>				
<b>I</b>	<b>BLOCKWORK</b>				
A	Solid Concrete Hollow Blocks to Architect Approval blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement mortar (1:4) ; 150mm Wall	m2	67.00		
B	Parapet wall ; Solid Concrete blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement mortar (1:4) ; 150mm Wall	m2	23.00		
<b>ELEMENT NO. 4</b>	<b>ROOFING</b>				
<b>4.1</b>	<b>ROOF COVERING</b>				
<b>I</b>	<b>CORRUGATED OR TROUGHED SHEET ROOFING</b>				
A	6 Deg 26G IT 5 Galvanized corrugated roof sheets; on and including 50x25mm treated sawn cypress battens @ 260mm center ; Coverings ; sloping not exceeding 45 degrees from horizontal and fixed with appropriate accessories	m2	35.57		
<b>4.2</b>	<b>ROOF STRUCTURE</b>				
<b>I</b>	<b>STRUCTURAL TIMBER</b>				
<b>i</b>	<b>Mpodo, mtambara, cypress or cedar; seasoned with moisture content below 18%; pressure impregnated; treated with insecticide</b>				
A	Pitch pine structural grade 1 ; treated, bolts with different size is to be deemed included ; 150 x 75 mm Wall plates ; spiked to masonry	m	27.00		
B	Ditto ; 100 x 50 mm rafter and bearers in trusses	m	26.00		
C	Ditto ; 100 x 50 mm bottom chord	m	26.00		
D	Ditto ; 100 x 50 mm struts	m	35.00		
E	Ditto ; 50 x 50 mm. purlins	m	46.00		
F	Hardwood selected ; 25 x 300mm thick fascia boarding ; butt joints	m	5.00		
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>6.1</b>	<b>HARDWOOD DOORS</b>				

<b>II</b>	<b>GENERAL JOINERY; APPROVED LOCAL HARDWOOD</b>				
A	Fabricated steel door grill, powder coated black, with a horizontal bar pattern and equally distributed bar spacing, to fit a door of size 2,400mm x 1,200mm including all necessary fixings and hardware; Door Size 1200 x 2400 mm overall D11	Nr	1.00		
<b>III</b>	<b>DOOR ELEMENT MEMBERS</b>				
A	Supply and fix 10mm x 150mm thick Powder coated Steel frame fixed to concrete column structure using screws/ welding.	m	5.40		
<b>IV</b>	<b>IRONMONGERY</b>				
	<b>Supply and fixing ironmongery as specified in the door schedule or other equal approved; To softwood; hardwood or the like; fixing with screws</b>				
A	Galvanized High Security Grade 1 Single-Cylinder Deadbolts Complete Set as per H'A'FELE or Equal Approved.	Nr	1.00		
B	Galvanized Steel Strike Plate, Galvanized Steel 4 Pair 75 x 50 x 3mm Ball Bearing Hinges	prs	4.00		
<b>6.7</b>	<b>PAINTING AND/OR VANISH</b>				
A	Prepare and apply one coat of red oxide paint followed by finishing coats as per Arch approval ; Grill door	m2	5.00		
<b>ELEMENT NO. 7</b>	<b>FINISHING AND DECORATION</b>				
<b>7.1</b>	<b>EXTERNAL FLOOR FINISHING</b>				
<b>I</b>	<b>TILE, SLAB OR BLOCK FINISHINGS</b>				
A	600x300mm Matt Porcelain Tiles ; To floor	m2	28.00		
B	Skirting ; Full body Matt Porcelain tiles ; 150mm high skirting (Match with floor tiles )	m	31.00		
C	Surface Finish; Concrete screed finish to floor to Arch approval	m2	15.00		
<b>III</b>	<b>BEDS AND BACKINGS</b>				
A	BEDS OR BACKINGS ; Mortar; cement and sand (1:4) ; 30mm to floors	m2	28.00		
<b>7.2</b>	<b>EXTERNAL WALL FINISHING AND DECORATION</b>				
<b>II</b>	<b>IN-SITU FINISHINGS</b>				
A	External cement and sand (1:4) rendering with approved plasticizer in two coats, steel trowelled to a smooth finish ; 15mm To walls	m2	90.00		
B	External cement and sand (1:4) rendering with approved plasticizer in two coats, steel trowelled to a smooth finish ; 15mm To coping	m2	23.00		
C	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Hollow Block walls	m2	67.00		
D	Prepare and apply one primer coat and two finishing coats of as of PLASCON or equal and approved brand weather guard paint or other equal and approved to Rendered wall	m2	67.00		

<b>III</b>	<b>DECORATIONS</b>				
A	Prepare and apply one primer coat and two finishing coats of GALAXY weather guard paint or other equal and approved to Rendered wall	m2	90.00		
B	Prepare and apply one primer coat and two finishing coats of GALAXY weather guard paint or other equal and approved to Rendered coping	m2	23.00		
C	OBJECTS OF ART ; 3D signage letters as denoted by Arch design, color and font to approval	item	1.00		
D	Metal works ; Providing and fixing 50mm, 7.00m high stainless steel flag post as per Str Eng drawing and Arch approval including all necessary components necessary cost of laser cutting and fitting installing in position.	item	1.00		
<b>7.3</b>	<b>EXTERNAL CEILING FINISHING AND DECORATION</b>				
<b>III</b>	<b>PLAIN SHEET FINISHINGS</b>				
A	12mm Thick gypsum ceiling as per Arch drawings and approval including all necessary support grid system	m2	27.00		
<b>7.5</b>	<b>INTERNAL WALL FINISHING AND DECORATION</b>				
<b>II</b>	<b>PAINTING AND DECORATION</b>				
A	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled ; 15mm two coat work; to concrete or block work base; generally to Hollow Block walls	m2	67.00		
B	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; Block walls	m2	67.00		
<b>SANITARY FITTINGS</b>					
<b>BILL NO. 4</b>	<b>BUILDING SERVICES INSTALLATIONS</b>				
<b>ELEMENT NO. 1</b>	<b>SANITARY AND PLUMBING INSTALLATIONS</b>				
	<b>GATE HOUSE</b>				
	<b>Pipes; fixing with holders to backgrounds requiring plugging</b>				
	<b>Supplying and fixing sanitary fittings; Ex-RAK, Armitage Shanks, Ideal Standard or other equal approved</b>				
BASEMENT FLOOR	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JICA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	17.00		
B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control	Nr	17.00		

	Plate				
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	17.00		
D	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	21.00		
E	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	9.00		
F	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	9.00		
G	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	3.00		
H	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	17.00		
I	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	17.00		
J	Supply, install, test and commission Soap holder;	Nr	21.00		
K	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	21.00		
L	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	31.00		
M	900x900mm shower tray in white vitreous china to BS 3402 to be embedded to the floor complete with all accessories for fixing to position	Nr	14.00		
N	Supply, install, test and commission a complete shower set comprising: shower mixer with flow rate- 4litres/min., 1.5m metal flexible hose pipe, hand shower spray, sliding bar and soap holder	Nr	14.00		
GROUND FLOOR - MAIN BUILDING	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JIKA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	6.00		

B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	6.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	6.00		
D	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	6.00		
E	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	2.00		
F	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	3.00		
G	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	1.00		
H	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	6.00		
I	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	6.00		
J	Supply, install, test and commission Soap holder;	Nr	6.00		
K	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	6.00		
L	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	6.00		
FIRST FLOOR - MAIN BUILDING	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JICA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	8.00		
B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	8.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	8.00		



D	Supply, install, test and commission Special Care Unit (Disable toilet); "armitage shanks" doc-m-plus pack delivered complete in one box including WC, HWB, grab rails, hinged arm support, mixer tap, toilet roll holder etc	Set	1.00		
E	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	11.00		
F	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	14.00		
G	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	3.00		
H	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	2.00		
I	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	8.00		
K	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	8.00		
L	Supply, install, test and commission Soap holder;	Nr	11.00		
M	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	11.00		
L	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	9.00		
SECOND FLOOR - MAIN BUILDING	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JICA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	5.00		
B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	5.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	5.00		
D	Supply, install, test and commission Special	Nr	3.00		

	Care Unit (Disable toilet); "armitage shanks" doc-m-plus pack delivered complete in one box including WC, HWB, grab rails, hinged arm support, mixer tap, toilet roll holder etc				
E	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	7.00		
F	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	3.00		
G	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	3.00		
H	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	1.00		
I	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	5.00		
J	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	5.00		
K	Supply, install, test and commission Soap holder;	Nr	7.00		
L	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	7.00		
M	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	6.00		
THIRD FLOOR - MAIN BUILDING	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JIKA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	6.00		
B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	6.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	6.00		
D	Supply, install, test and commission Special Care Unit (Disable toilet); "armitage shanks"	Set	1.00		

	doc-m-plus pack delivered complete in one box including WC, HWB, grab rails, hinged arm support, mixer tap, toilet roll holder etc				
E	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	8.00		
F	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	3.00		
G	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	3.00		
H	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	1.00		
I	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	6.00		
J	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	6.00		
K	Supply, install, test and commission Soap holder;	Nr	8.00		
L	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	8.00		
M	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	7.00		
N	900x900mm shower tray in white vitreous china to BS 3402 to be embedded to the floor complete with all accessories for fixing to position	Nr	1.00		
O	Supply, install, test and commission a complete shower set comprising: shower mixer with flow rate- 4litres/min., 1.5m metal flexible hose pipe, hand shower spray, sliding bar and soap holder	Nr	1.00		
FOURTH FLOOR - MAIN BUILDING	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JICA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	9.00		

B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	9.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	9.00		
D	Supply, install, test and commission Special Care Unit (Disable toilet); "armitage shanks" doc-m-plus pack delivered complete in one box including WC, HWB, grab rails, hinged arm support, mixer tap, toilet roll holder etc	Set	1.00		
E	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	11.00		
F	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	3.00		
G	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	3.00		
H	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	1.00		
I	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	9.00		
J	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	9.00		
K	Supply, install, test and commission Soap holder;	Nr	11.00		
L	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	11.00		
M	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	10.00		
N	900x900mm shower tray in white vitreous china to BS 3402 to be embedded to the floor complete with all accessories for fixing to position	Nr	4.00		
P	Supply, install, test and commission a complete shower set comprising: shower mixer with flow rate- 4litres/min., 1.5m metal flexible hose pipe, hand shower spray, sliding bar and soap holder.	Nr	4.00		

GROUND FLOOR - AUXILIARY BUILDING	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JIKA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted ; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	8.00		
B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	8.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	8.00		
D	Supply, install, test and commission Special Care Unit (Disable toilet); "armitage shanks" doc-m-plus pack delivered complete in one box including WC, HWB, grab rails, hinged arm support, mixer tap, toilet roll holder etc	Set	1.00		
E	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	16.00		
F	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	5.00		
G	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	2.00		
H	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	2.00		
H	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	9.00		
I	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	9.00		
J	Supply, install, test and commission Soap holder;	Nr	16.00		
K	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	16.00		
L	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	15.00		
M	900x900mm shower tray in white vitreous	Nr	8.00		

	china to BS 3402 to be embedded to the floor complete with all accessories for fixing to position				
N	Supply, install, test and commission a complete shower set comprising: shower mixer with flow rate- 4litres/min., 1.5m metal flexible hose pipe, hand shower spray, sliding bar and soap holder	Nr	8.00		
FIRST FLOOR - AUXILIARY BUILDING	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JIKA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted ; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	6.00		
B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	6.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	6.00		
D	Supply, install, test and commission Special Care Unit (Disable toilet); "armitage shanks" doc-m-plus pack delivered complete in one box including WC, HWB, grab rails, hinged arm support, mixer tap, toilet roll holder etc	Set	1.00		
E	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	11.00		
F	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	3.00		
G	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	3.00		
H	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	1.00		
I	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	7.00		
J	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	7.00		

K	Supply, install, test and commission Soap holder;	Nr	11.00		
L	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	11.00		
M	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	6.00		
SECOND FLOOR - AUXILIARY BUILDING	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JIKA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	6.00		
B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	6.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	6.00		
D	Supply, install, test and commission Special Care Unit (Disable toilet); "armitage shanks" doc-m-plus pack delivered complete in one box including WC, HWB, grab rails, hinged arm support, mixer tap, toilet roll holder etc	Set	1.00		
E	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	6.00		
F	Supply, install, test and commission urinal bowl in white vitreous china, complete with top inlet press flushing valve - flow rate 0.5 litres/min. per flush and associated accessories, fixing with brass screws to backgrounds plugging	Nr	3.00		
G	Allow for Supply, install, test and commission vitreous china division with screw and hanger for above urinal installation	Nr	3.00		
H	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	1.00		
I	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	7.00		
J	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	7.00		
K	Supply, install, test and commission Soap	Nr	6.00		

	holder;				
L	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	6.00		
M	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	6.00		
ASKARI HURTS (7NOS.)	Sanitary Appliance as per specifications and schedule of sanitary fitting, (JIKA, RAK, ROCA, DURAVIT, VITRA, GEBERIT BRAND) However units of other manufacturers approved equal will be accepted; Supply, install, test and commission Wall Hung Water Closet, Back Inlet, Size 570 x 350 x 330 mm "P" Trap 180 mm, with Soft Closing Polypropylene Seat Cover	Nr	8.00		
B	Supply, install, test and commission Slim Concealed Cistern With Floor Mounting Frame & Installation Kitbut Without Flush Control Plate	Nr	8.00		
C	Supply, install, test and commission Flush Control Plate Smarty all Chrome (Mia)	Nr	8.00		
D	Supply, install, test and commission White vitreous china Hand wash basin; Countertop type - 480mm diameter; complete with tap mixer capable to discharge water at a flow rate of 2litres/min. or less. Fixing with screws to backgrounds requiring plugging	Nr	8.00		
E	Supply, install, test and commission Stainless steel Kitchen sink; 1200 x 600mm; complete with kitchen sink mixer with discharge flow rate of 4litres/min. complete with connecting accessories, fixing with screws to backgrounds requiring plugging	Nr	1.00		
F	Supply, install, test and commission Shataff;ABS chrome with supreme Hose and wall holder, fixing with brass screws to backgrounds plugging	Nr	8.00		
G	Supply, install, test and commission Toilet paper holder; chrome plated fixing with brass screws to backgrounds plugging	Nr	8.00		
H	Supply, install, test and commission Soap holder;	Nr	8.00		
I	Supply and install Mirrors; overall size 600 x 450mm high, fixed to wall with CP screw and caps	Nr	8.00		
J	Supply, install, test and commission Floor drain, 50mm diameter outlet, uPVC	Nr	8.00		
Factory Acceptance Test (FAT)	Allow for Factory Acceptance Test on major equipments of sanitaryware ie. Concealed cisterns, toilet bow, WHB etc.	item	1.00		
<b>STORM WATER</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>SUBSTRUCTURE</b>				
<b>1.2</b>	<b>EXCAVATION AND EARTHWORKS</b>				



<b>i</b>	<b>Foundation trenches</b>				
A	General excavation from stripped ground level ; Excavate for drains to Engineer's drawing details	m3	418.00		
B	Trim sides and bottom of trench	m2	870.00		
<b>1.8</b>	<b>INSITU CONCRETE; REINFORCED</b>				
<b>i</b>	<b>Normal; class 25/20; vibrated</b>				
A	Normal; mix Grade 25 at 28 days - 19mm aggregate vibrated strength 25N/mm2 at 28 days ; Drainage lining concrete	m3	131.00		
<b>1.9</b>	<b>REINFORCEMENT</b>				
<b>ii</b>	<b>Bars; high yield steel; cold worked; B.S. 4461; In any location</b>				
A	Steel Grating Cover ; Supply and fix heavy duty hinged cast iron grating including all other necessary accessories	m	95.00		
<b>iii</b>	<b>Fabric wire mesh</b>				
A	Reference A143; weighing 2.22 kgs/m2 ; 300 mm. side and end laps	m2	870.00		
<b>1.10</b>	<b>FORMWORK TO INSITU CONCRETE</b>				
<b>i</b>	<b>Formwork generally</b>				
A	Sides; vertical or battering; foundations or the like	m2	870.00		
<b>1.11</b>	<b>BLOCKWORK OR STONEWORKS</b>				
<b>ii</b>	<b>Stone foundation wall</b>				
A	'STONE PITCHING; Prepare sides of drains to slopes not exceeding 45degrees and line drains with dressed stone pitching laid in cement sand mortar	m2	135.00		
<b>LIFT INSTALLATION</b>					
<b>BILL NO. 4</b>	<b>BUILDING SERVICES INSTALLATIONS</b>				
<b>ELEMENT NO. 5</b>	<b>LIFTS AND ELEVATORS INSTALLATIONS</b>				
<b>I</b>	<b>LIFT INSTALLATIONS</b>				
<b>a</b>	<b>Supply, install, test and commission complete passenger lift with all incidentals necessary for the works; As specified herein and as per specification and drawings</b>				
A	Supply and install a passenger lift with capacity of 16 passengers - 1250kg, as per below specifications. As manufactured by FUJI, Schindler, Mitsubishi, Otis from Europe or equivalent approved; SPECIFICATIONS: Type of lift: Electric Passenger lift, Machine room-less Drive system: (VVVF) with sleep mode option Number of car: One(1) Capacity of car: 1250kg - 16 people Stop designation: Ground floor Number of stops/Openings: 6 (G,M,1ST-4TH) Speed: 1.5m/s Openings: Front openings Travelling distance: 24m approximate Shaft size (HW x HD): 2500 x 2100mm Lift pit: 1500mm Inside Car dimensions (CWxCD): 1900 x 1450mm Overhead Height: 4500mm Door opening: Two pannels, Center-open Door net size, 1100mm x 2100mm (WxH) Operation	Nr	2.00		

	<p>system: Full Collective operation Main power supply: 400Volts <math>\pm</math> 5% of normal, 50Hz Three phase Car lighting power supply: 220Volts, Single phase Function Machine location: Machine room-less inside the hoist way at the top; Function; Automatic Evacuation Emergency Car Lighting (ECL) Interphone(IT) Attendant Service Key Switch (AS) Multi-Beam Door Sensor (MBS) Fireman's Emergency Operation Overload Control Voltage Stabilizer Emergency Landing Device</p>				
B	<p>Supply and install a Cargo/Service lift with capacity of 2000kg, as per below specifications. From Europe or equivalent approved; SPECIFICATIONS "Type of lift: Electric Cargo/Service lift, Machine room-less Drive system: (VVVF) with sleep mode option Number of car: One(1) Capacity of car: 2000kg Stop designation: Ground floor Number of stops/Openings: 6 (G,M,1ST-4TH) Speed: 1.5m/s Openings: Front openings Travelling distance: 24m approximate Shaft size (HW x HD): 2900 x 2160mm Lift pit: 1500mm Overhead Height: 4500mm Door opening: Two pannels, Center-open Door net size, 1100mm x 2100mm (WxH) Operation system: Full Collective operation Main power supply: 400Volts <math>\pm</math> 5% of normal, 50Hz Three phase Car lighting power supply: 220Volts, Single phase Machine location: Machine room-less inside the hoist way at the top" Functions "Automatic Evacuation Emergency Car Lighting (ECL) Interphone(IT) Attendant Service Key Switch (AS) Multi-Beam Door Sensor (MBS) Fireman's Emergency Operation Overload Control Voltage Stabilizer Emergency Landing Device" Functions "Automatic Evacuation Emergency Car Lighting (ECL) Interphone(IT) Attendant Service Key Switch (AS) Multi-Beam Door Sensor (MBS) Fireman's Emergency Operation Overload Control Voltage Stabilizer Emergency Landing Device" Functions "Automatic Evacuation Emergency Car Lighting (ECL) Interphone(IT) Attendant Service Key Switch (AS) Multi-Beam Door Sensor (MBS) Fireman's Emergency Operation Overload Control Voltage Stabilizer Emergency Landing Device"</p>	Nr	1.00		
C	<p>Supply and install a Cargo/Service lift with capacity of 2000kg, as per below specifications. From Europe or equivalent approved; SPECIFICATIONS "Number of car: One(1) Capacity of car: 2000kg Number of stops/Openings: 3 (G,1ST and 2ND) Speed: 1m/s Travelling distance: 8m approximate Shaft size (HW x HD): 2900 x 2160mm Lift pit: 1500mm Overhead Height: 4500mm Door opening: Two pannels, Center-open Door net size, 1100mm x 2100mm (WxH) Operation system: Full Collective operation Main power supply: 400Volts <math>\pm</math> 5% of normal, 50Hz Three</p>	Nr	1.00		

	phase Car lighting power supply: 220Volts, Single phase Machine location: Machine room-less inside the hoist way at the top" Functions "Automatic Evacuation Emergency Car Lighting (ECL) Interphone(IT) Attendant Service Key Switch (AS) Multi-Beam Door Sensor (MBS) Fireman's Emergency Operation Overload Control Voltage Stabilizer Emergency Landing Device"				
D	Supply and install a Currency Cargo/Service lift with capacity of 2000kg, as per below specifications. From Europe or equivalent approved SPECIFICATIONS "Number of Car: One(1) Capacity of car: 2000kg Number of stops/Openings: 2 (Basement and Ground) Speed: 1m/s Travelling distance: 6m approximate Shaft size (HW x HD): 2900 x 2160mm Lift pit: 1500mm Overhead Height: 4500mm Door opening: Two pannels, Center-open Door net size, 1100mm x 2100mm (WxH) Operation system: Full Collective operation Main power supply: 400Volts $\pm$ 5% of normal, 50Hz Three phase Car lighting power supply: 220Volts, Single phase Machine location: Machine room-less inside the hoist way at the top Considering other features like security, heavy-duty construction, secure operation and power backup " Functions "Automatic Evacuation Emergency Car Lighting (ECL) Interphone(IT) Attendant Service Key Switch (AS) Multi-Beam Door Sensor (MBS) Fireman's Emergency Operation Overload Control Voltage Stabilizer Emergency Landing Device"	Nr	1.00		
E	Supply and install a passanger lift with capacity of 18 passangers - 1350kg, as per below specifications. As manufactured by FUJI, Schindler, Mitsubishi, Otis from Europe or equivalent approved; SPECIFICATIONS "Type of lift: Electric Passenger lift, Machine room-less Drive system: (VVVF) with sleep mode option Number of car: One(1) Capacity of car: 1350kg - 18 people Stop designation: Ground floor Number of stops: 3 (G,1ST&2ND) Speed: 1.0m/s Openings: Front openings in (G and 1st) while Both rear and front opening in 2nd Floor Travelling distance: 8m approximate Shaft size (HW x HD): 3000 x 2000mm Lift pit: 1500mm Inside Car dimensions (CWxCD): 1900 x 1550mm Overhead Height: 4500mm Door opening: Two pannels, Center-open Door net size, 1100mm x 2100mm (WxH) Operation system: Full Collective operation Main power supply: 400Volts $\pm$ 5% of normal, 50Hz Three phase Car lighting power supply: 220Volts, Single phase Machine location: Machine room-less inside the hoist way at the top" Function "Automatic Evacuation Emergency Car Lighting (ECL) Interphone(IT) Attendant Service Key Switch (AS) Multi-Beam Door Sensor (MBS) Fireman's Emergency Operation	Nr	1.00		

	Overload Control Voltage Stabilizer Emergency Landing Device"				
F	Allow for supply and install lift shaft lighting including cabling in mini-trunking and light fittings on the shaft wall, running from top of the shaft to the bottom, with intermediate fitting every approximately 3.5 meters.	Nr	6.00		
G	Allow for testing and commissioning of the entire Installation	item	6.00		
H	Allow for preparation of four copies of "Working Drawings"	item	3.00		
I	Allow preparation of four copies of as built Drawings, operating and maintenance manuals	item	3.00		
J	Factory Acceptance Test (FAT) ; Allow for Factory Acceptance Test on major equipments of Electric cargo and passenger lifts ; for at least five (5) days at Manufacturer's premises for at least Five (5) pax BoT Representatives, All cost for Air ticket, Local transport abroad, Per Diem, Vizas, COVID-19 protocols compliance shall be borne by the Supplier (Service provider)	Item	1.00		
<b>LANDSCAPING</b>					
<b>BILL NO. 4</b>	<b>EXTERNAL WORKS</b>				
<b>ELEMENT NO. 4</b>	<b>LANDSCAPE</b>				
<b>4.2</b>	<b>SHRUBS</b>				
<b>II</b>	<b>Supply and store on site in approved condition and maintain; plant the following shrubs; excavating pits 500 x 500 x 500mm deep for each shrub; remove all excavated material and backfill in layers mix with cow manure and imported black top soil (1:5); 250gm DAP/rock phosphate mix with top soil under the root; ball compacting lightly every 300mm</b>				
A	Imported vegetable soil spread and levelled oversite average 200mm thick	m2	3,350.00		
B	Rake vegetable soil bring oit to a fine tilth including spreading manure at the rate of 2kg/m2	m2	3,350.00		
C	Seed with grass seed to Arhitect approval at the rate of 0.06kg/mm2 including raking and light rolling	m2	3,350.00		
D	Excavate pit size 400mm diametr and 100mm deep, fill with red soil mixed with manure, plant approved semi matured tree/shrubs including watering and maintain until well established	Nr	40.00		
E	Filling with planter to the required ;evel and provide plant medium with manure to all planters	item	1.00		
<b>4.3</b>	<b>FLOWERS AND BULBS</b>				
<b>III</b>	<b>Supply and store on site in approved and maintain; Plant the following flowers; including tilling the ground with cow manure and leveling.</b>				
A	Concrete Pot Planters; Provide concrete planters complete with desired plant/flower, type and size to Arch approval, maintain until well established	Nr	20.00		

<b>BASEMENT</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 1</b>	<b>SUBSTRUCTURE</b>				
<b>II</b>	<b>SITE PREPARATION</b>				
A	Clear site of bushes, shrubs, undergrowth, small trees and the like including grubbing up their roots	m2	5,744.00		
B	Excavate to remove vegetable soil 150mm average depth including conveying and depositing in spoil heaps away from the excavations	m2	1,500.00		
<b>VI</b>	<b>DISPOSAL OF WATER</b>				
<b>b</b>	<b>General water</b>				
A	Allow for keeping excavations free from water (except spring or running water) by pumping, baling or other means necessary	item	1.00		
<b>X</b>	<b>WATER, MOISTURE AND DAMP PROOFING MEMBRANE</b>				
<b>d</b>	<b>Basement walls</b>				
A	Thoroughly clean concrete surface to remove all types of dirt; fill all visible cracks, honeycombs and holes as per Krystol specifications No. 1: sand surfaces to smooth level, prepare and apply full coat of krystol T1, and wait for three hours to harden then apply finishing coat of Krystol T2, protect and cure propely as per manufacturer's direction and Krystol specification: to surfaces of concrete bed(raft foundation)	m2	5,513.00		
B	Ditto: to vertical sides of wall	m2	2,295.00		
<b>XVIII</b>	<b>OTHER ACCESSORIES AND SUNDRIES</b>				
<b>b</b>	<b>Metal works; gratings to basement floor entrance; to cover drainage channel</b>				
<b>c</b>	<b>Metal works to basement opening windows</b>				
A	ROLLER SHUTTER DOOR ; Supply, installation, testing and commissioning of SERRANDA: roller shutter, ALU PUNCH Perforated weatherproof Aluminium buttom T-Bar with weather seal, overall size stated ; Series 2000 solid steel 1mm slats @1400mm high & fenestre punched steel slats @1600mm high powered coated electrical black powder coatedsteel roller sgutter door with end locked slats, complete with motor (HL 800 380V 3PH 50Hz) and Electrical operator with HI-Security key switches, motor cover & manual override ; Size 6000 x 5800 mm	Nr	5.00		
B	ROLLER SHUTTER DOOR ; Supply, installation, testing and commissioning of SERRANDA: roller shutter, ALU PUNCH Perforated weatherproof Aluminium buttom T-Bar with weather seal, overall size stated ; Series 2000 solid steel 1mm slats @1400mm high & fenestre punched steel slats @1600mm high powered coated electrical black powder coatedsteel roller sgutter door with end locked	Nr	1.00		

	slats, complete with motor (HL 800 380V 3PH 50Hz) and Electrical operator with HI-Security key switches, motor cover & manual override ; Size 3615 x 4900 mm				
<b>VII</b>	<b>PLANKING AND STRUTTING</b>				
1	Allow for the provision and subsequent removal of planking and strutting to uphold and maintain all faces of excavations	item	1.00		
<b>IX</b>	<b>ANTI-TERMITE TREATMENT</b>				
	<b>Gammalin 20 EC solution or other equal environmentally friend and approved</b>				
A	Aldrin 0.50% solution applied at a rate of 7 litres per square metre to hardcore bed	m3	5,744.00		
B	Ditto applied at rate of 8 litres per linear metre per 300mm depth per 235mm width to backfilling to one side of wall foundations	m	301.00		
<b>XV</b>	<b>BLOCKWORK</b>				
	<b>Blockwork; concrete blocks, BS 6073 type A, solid, dense aggregate, average compressive strength 5-7N/mm<sup>2</sup> ; in cement mortar (1:3)</b>				
A	100mm Wall	m2	77.00		
B	150mm Wall	m2	983.00		
C	230mm Wall	M2	2,158.00		
D	Dry Partition ; 18mm High pressure laminated partition including a 100mm (floor clearance) complete with door and all necessary ironmongery and fittings	M2	110.00		
<b>IV</b>	<b>EXCAVATION AND EARTHWORK</b>				
<b>c</b>	<b>Basement excavations</b>				
A	Excavate and support the basement walls and foundation commencing at formation level (surface level) covering area of 5345 Square Meter; to Maximum depth of 10.5m deep). The site is covered by soil to average depth of 4.5m, from 4.5m to 10.5m the site of covered by weathered rock	m3	8,615.00		
B	over 1.50m but n.e 3.00m deep	M3	8,615.00		
C	over 3.0m but n.e 4.50m deep	M3	8,615.00		
D	over 4.50m but n.e 6.00m deep	M3	8,615.00		
E	over 6.0m but n.e 7.50m deep	M3	8,615.00		
F	over 7.50m but n.e 9.00m deep	M3	8,587.00		
G	over 9.00m but n.e 10.50m deep	M3	287.00		
H	Excavate extra over to receive lift pit commencing at stripped level and not exceeding 1.50 metres deep	M3	86.00		
I	Extra over any kind of excavation and breaking hard rock and like (provisional)	M3	19,500.00		
<b>f</b>	<b>Backfilling and Disposal of Materials</b>				
A	Granular backfilling, well rammed and consolidated around foundation in 200mm layers to attain 95% maximum dry density	m3	8,000.00		

B	Load up surplus excavated material and remove from site	M3	52,500.00		
C	Selected excavated material, deposit, well compacted and consolidated to make up levels under floor;	M3	3,000.00		
D	Cut to required ground level	M3	2,700.00		
E	Filling to make up levels under floor	M3	680.00		
F	500mm Bed levelled Hardcore, compacted to 95% MDD and blinded to receive polythene membrane (measured separately)	M2	5,744.00		
<b>ELEMENT NO. 3</b>	<b>REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>I</b>	<b>FRAMES, STAIRCASES AND RAMPS</b>				
<b>b</b>	<b>Normal; class M25 (C20/25); vibrated around reinforcements</b>				
A	Plain insitu concrete grade "20" granite or basalt aggregates; 75mm Blinding	m2	5,744.00		
B	Reinforced insitu concrete grade "25" granite or basalt aggregates including vibrating around reinforcement; Ground beam	M3	243.00		
C	Reinforced insitu concrete grade "25" granite or basalt aggregates including vibrating around reinforcement; Horizontal rib beam	M3	806.00		
D	Reinforced insitu concrete grade "25" granite or basalt aggregates including vibrating around reinforcement; 150mm Thick slab	M2	5,755.00		
E	Reinforced insitu concrete grade "30" granite or basalt aggregates including vibrating around reinforcement; Raft foundation	M3	8,269.00		
F	Reinforced insitu concrete grade "30" granite or basalt aggregates including vibrating around reinforcement: Column	M3	333.00		
G	Reinforced insitu concrete grade "30" granite or basalt aggregates including vibrating around reinforcement : 300mm Thick Lift shaft and the like	M2	78.00		
H	Reinforced insitu concrete grade "30" granite or basalt aggregates including vibrating around reinforcement ; Retaining wall and the like	M3	3,773.00		
I	Reinforced concrete grade "25" including vibrating around reinforcement: for Staircases	M3	37.00		
J	Reinforced concrete grade "25" including vibrating around reinforcement: for 150mm thick Suspended Landing	M3	38.00		
<b>III</b>	<b>FORMWORK TO CONCRETE SURFACE</b>				
<b>a</b>	<b>Formwork generally; wrot/wrought or sawn (delete that is not applicable)</b>				
A	Vertical sides of raft foundation	m2	449.00		
B	Columns	m2	1,913.00		
C	Sides and soffits of horizontal rib beams	m2	9,360.00		
D	Lift shaft wall and the like	m2	1,271.00		
E	Retaining wall	m2	14,496.00		
F	Soffits of suspended slab	m2	5,755.00		

G	Sawn formwork to Vertical riser of stairs	m2	324.00		
H	Sloping soffit of staircase of Stairs	m2	98.00		
I	Soffit of suspended Landing of stairs	m2	38.00		
J	Vertical side of open raking string 300mm (extreme) high including cutting profile of treads and risers	m	33.00		
<b>II</b>	<b>REINFORCEMENTS</b>				
<b>a</b>	<b>Bars; high yield steel; cold worked; B.S. 4466; In any location</b>				
A	8mm diameter bars	Kg	26,251.00		
B	10mm diameter bars	Kg	6,286.00		
C	12mm diameter bars	Kg	57,683.00		
D	16mm diameter bars	Kg	40,873.00		
E	20mm diameter bars	Kg	334,894.00		
F	25mm diameter bars	Kg	851,409.00		
H	10mm diameter bars: For stairs	Kg	739.00		
I	12mm diameter bars: For stairs	Kg	4,261.00		
J	CHUBB Spiral Reinforcement : Supply and fix one row of CHUBB made spiral reinforcement plus diamond core drill resistant tubes 130mm overall diameter x12mm diameter and 130mm pitch	M2	4,443.00		
<b>IV</b>	<b>THE CONCRETE WORK SUNDRIES</b>				
<b>a</b>	<b>Expansion joints in concrete or blockwork</b>				
A	Sundries associated with in-situ works; Expansion Joints, 12mm thick x 175mm wide construction joint filled with polysulphide sealant.	m	381.00		
B	Isolation Joints; 25mm wide, 50mm deep groove, filled with sealant rubber flex.	m	381.00		
C	Isolation Joints; 100mm wide, aluminium cover on expansion joint	m2	381.00		
D	Water bar ; 225mm water bar "POLYSTOP"	m	689.00		
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>II</b>	<b>PURPOSE MADE UNITS</b>				
	<b>Strong room door (to be supplied by Client)</b>				
A	Supply and fix chubb strong room vault doors grade 10 complete with escape hatch door size 600x500mm high including all necessary iron mongery: including emergency door and grill doors as per architectural dwgs. Main vault doors 985x1405x2137mm high complete with grille gates, 2no combination lock, 2nos key lock including time lock and alarm signal cable.(To be supplied by contractor)	Nr	6.00		
B	Bullion vault doors supply and fix CHUBB bullion vault doors grade 6 with size 985x1405x2137mm high complete with grille gates, 2no combination lock, 2nos key lock including time lock and alarm signal cable	Nr	2.00		



C	Ground floor transit vault supply and fix transit vault chubb door grade 10 with size 985x1405x2137mm high complete with grille gates, 2no combination lock, 2nos key lock including time lock and alarm signal cable	Nr	1.00		
<b>III</b>	<b>HARDWOOD DOOR; LOCAL SPECIES; MNINGA OR MKONGO</b>				
A	Doors; solid hardwood 'Mkongo/Mninga" ; fixing : 50mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid Hardwood(Mkongo)door, Solvent based fire retardant chemical treatment equipped with high-security locks with access control panel in addition of SS push and pull handle; Size Door Size 1500 x 2400 mm overall D1'.	Nr	3.00		
B	50mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid Hardwood(Mkongo)door equipped with high-security locks with access control panel in addition of SS push and pull handle : Door Size 1500 x 2400 mm overall D1	Nr	7.00		
C	40mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid hardwood(Mkongo)door equipped with high-security locks with access control panel in addition of SS push and pull handle: Door Size 1500 x 2400 mm overall D2	Nr	9.00		
D	40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails solid Hardwood(Mkongo)door : Door Size 900 x 2400 mm overall D3	Nr	33.00		
E	40mm thick single leaf veneered and polished solid door comprising of 20 x 50mm louvers "Z" shape. FIRE RATED DOOR: Door Size 600 x 2100 mm overall D10	Nr	3.00		
F	40mm thick single leaf veneered and polished solid door comprising of 20 x 50mm louvers "Z" shape: Door Size 1200 x 2100 mm overall D5'.	Nr	4.00		
<b>IV</b>	<b>FRAMES AND THE LIKE</b>				
A	Supply and fix Frames: comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging : Size 45 x 210mm. rebated ; screwed and pelleted.(Mkongo/Mninga or similar approved hardwood;)	m	132.00		
B	Ditto on frame : 45 x 290mm. rebated ; screwed and pelleted	m	112.00		
C	Ditto on frame : 45 x 360mm. rebated ; screwed and pelleted	m	47.00		
D	Ditto on frame : 45 x 560mm. rebated ; screwed and pelleted	m	18.00		
E	Supply and fix Frames: comprising of comprising of solvent-based fire retardant primer with approved finishing paint i.e. two coats of teak oil or equal and approved for	m	15.00		

	frame thickness; Size 45 x 210mm. rebated ; screwed and pelleted				
F	Supply and fix Frames: comprising of comprising of solvent-based fire retardant primer with approved finishing paint i.e. two coats of teak oil or equal and approved for frame thickness ; Size 45 x 360mm. rebated ; screwed and pelleted	m	13.00		
G	Supply and fix Frames: comprising of comprising of solvent-based fire retardant primer with approved finishing paint i.e. two coats of teak oil or equal and approved for frame thickness: Size 45 x 560mm. rebated ; screwed and pelleted	m	13.00		
H	Supply and fix Frames: comprising of comprising of solvent-based fire retardant primer with approved finishing paint i.e. two coats of teak oil or equal and approved for frame thickness; Size 30 x 290mm. rebated ; screwed and pelleted.	m	10.00		
I	Supply and fix Architraves; comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. mould; Size 45 x 50mm Architrave	m	334.00		
J	Supply and fix Architraves; comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. mould; 45 x 75mm Architrave	m	26.00		
<b>V</b>	<b>IRONMONGERY</b>				
<b>a</b>	<b>Supplying and fixing ironmongery; as per design and approved to the Project Manager's approval; to hardwood, softwood or the like; fixing with screws</b>				
A	Supply and fix Ball Bearing Hinges with 9 pair of 75(length) x 6(diameter) mm Lag screws or equal approved; As per HAFELLE or equal and approved manufacturer to or timber with suitable screws provided	Prs	63.00		
B	Supply and fix SS Rebate Strike Plate with SS 9 Pair of 75(width) x 50(depth) x 6mm(thick); As per HAFELLE or equal and approved manufacturer to or timber with suitable screws provided	Nr	27.00		
C	Supply and fix SS Strike Plate,SS 4Pair 75 x50mm ball bearing hinges; As per HAFELLE or equal and approved manufacturer to or timber with suitable screws provided	prs	192.00		
D	Supply and fix Door handle Stainless steel brass coloured Cat No. 903.06.038 600mm x 400mm x 25mm for 8-80mm door thickness. As per HAFELLE or equal approved.	Nr	58.00		
E	Supply and fix Hydraulic and fire door closers or equal Approved door closer.	Nr	3.00		
E	Supply and fix Smoke seals and panic bars.	Nr	3.00		
F	Supply and fix Medium Duty Door closer	Nr	45.00		
G	Supply and fix Fire Door closer	Nr	3.00		

H	Supply and fix High security and 60minutes fire rated multi lock as per HAFELE or an equivalent approved brand.	Nr	3.00		
I	Supply and fix 60minutes fire rated mortise lock complete set as per HAFELE or an equivalent approved brand.	Nr	3.00		
J	Supply and fix Cylinder Lock Mortice Lock and handle Complete Set as per HAFELE or EqualApproved	Nr	45.00		
K	Supply and fix Door Signage/Door Name Plates	Nr	58.00		
<b>VII</b>	<b>PAINTING AND/OR VANISH TO HARDWOOD</b>				
<b>a</b>	<b>Apply One coat approved stain; two finish coats polyurethane</b>				
A	Prepare and apply one coat of sand sealer, one coat of dark stain and two coats of clear eggshell polyurethane varnish. on wood surfaces before fixing; Frames and the like over 100 but not exceeding 200mm girth	m	360.00		
B	General surface	m2	310.00		
<b>ELEMENT NO. 10</b>	<b>FITTINGS AND FIXTURES</b>				
	<b>TELLER CUBICLES</b>				
	<b>PANTRY</b>				
	<b>The following fitting in pantry areas:</b>				
	<b>Joinery; prime quality 'mninga' or other equal and approved hardwood</b>				
A	Kitchen cabinet: Supply and fix prime quality 'mkongo'/'mninga' or other equal and approved hardwood pre-fabricated/factory made kitchen cabinets ;size Lower cabinet unit; overall 600 wide x 800 high; overall, each shutter shall be fixed to the framework using soft close auto hinges and stainless steel cabinet door handle of HAFELE or approved equivalent to Architect's approval; including making holes for pipes and Kitchen Sinks: Including drawers, 20mm thick 600mm wide granite work top (m/s) to Architect's design and approval;	m	19.00		
B	Ditto on Kitchen cabinet: Upper cabinet unit; overall 400 wide x 600 high; overall.	m2	19.00		
C	Granite Vanity Work tops: Supply and fix selected pre-polished high quality granite vanity top including necessary fittings to hold top in place: 20mm Thick purpose made top granite (kitchen, pantry)	m2	12.00		
D	Ditto Granite Vanity Work tops: : 20mm Thick purpose made top granite (wc)	m2	7.00		
	<b>Metal work; supply and fix the following steel square section</b>				
A	Supply and install 600x600x35mm Laminated steel raised floor system with HPL/PVC finish complete with all necessary floors, brackets, and beams to support the finished system to Arch approval: To Floor	m2	254.00		
<b>ELEMENT NO. 9</b>	<b>FINISHINGS, PAINTING AND DECORATIONS</b>				

<b>I</b>	<b>EXTERNAL FLOOR FINISHINGS</b>				
<b>b</b>	<b>IN-SITU FINISHINGS</b>				
	<b>Screed Flooring</b>				
A	Power floated reinforced concrete surface bed with steel float: To Floor	m2	1,554.00		
B	Supply and lay Epoxy-based 1 Coat epilac clear primer 2K and 2 coats Epilac floor paints.to Floor	m2	1,554.00		
C	Brushed finish concrete screed with surface hardener and treated with tremco /vulken polyurethanewater proofing coating system & traffic electromestic deck coating vulken : To driveway	m2	1,400.00		
<b>c</b>	<b>FLOOR TILES</b>				
A	Supply and install Minimum Thickness 14mmmm COTTO D'ESTE (Claire De'lune) 600x600 full body Matt Porcelain Tiles; To Floor	m2	352.00		
B	Supply and install 14mm Minimum thickness COTTO D'ESTE (Avorystone- Satinata) 300x600Full body Non-slip Porcelain Tiles: To wet areas (pantry, cleaner's room and wc)	m2	202.00		
C	Supply and install 14mm Minimum Thickness COTTO D'ESTE (Claire De'lune) full body Matt Porcelain Tiles; 300mm wide Tread	M	175.00		
D	Supply and install 14mm Minimum COTTO D'ESTE (Claire De'lune) full body Matt Porcelain Tiles	M	187.00		
E	150mm high skirting (to match existing floor tiles)	M	540.00		
E	20mm Thick Hardwood timber Skirting: 100mm high skirting	M	96.00		
<b>ii</b>	<b>Beds and backings</b>				
A	30 mm one coat beds; mortar; cement and sand (1:3)screed; to receive porcelain tiles; to concrete or blockwork base; generally to floors; level	m2	635.00		
<b>II</b>	<b>EXTERNAL WALL FINISHINGS</b>				
<b>a</b>	<b>In-situ Finishings</b>				
<b>b</b>	<b>Painting</b>				
<b>c</b>	<b>Wall tiles</b>				
A	COTTO D'ESTE (Lucidana) 300x600x14mm Porcelain Wall ; To walls	m2	629.00		
<b>d</b>	<b>Beds or Backings</b>				
A	Mortar; cement and sand (1:3);12 mm one coat backings; screeded; to receive wall tiles; to concrete or blockwork base	m2	629.00		
<b>V</b>	<b>INTERNAL WALLING FINISHINGS</b>				
<b>II</b>	<b>IN-SITU FINISHING</b>				
<b>a</b>	<b>Plaster to Blockwork/ Partitions</b>				

A	Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming; steel trowelle: 15mm two coat work; to concrete or block work base; generally to Block walls.	m2	13,462.00		
B	Ditto plaster: Soffit of Landing	m2	32.00		
C	Ditto plaster: sloping soffits of staircase	m2	59.00		
D	Ditto plaster: Isolated Columns	m2	480.00		
<b>II</b>	<b>PAINTING</b>				
	<b>Prepare and apply two undercoats and two full coats of vinly wash and wear paint as per Architect's approval</b>				
A	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand: to Block walls	m2	13,462.00		
B	Ditto paint: Sloping sides/waist of stairs 300mm wide	m2	33.00		
C	Ditto paint: Soffit of Landing	m2	32.00		
D	Ditto paint : sloping soffits of staircase	m2	59.00		
F	Ditto plaster: Isolated Columns	m2	480.00		
	<b>EXTERNAL CEILING FINISHINGS</b>				
	<b>PLAIN SHEET FINISHINGS</b>				
	<b>PATENT SUSPENDED ACOUSTIC CEILING SYSTEM</b>				
	<b>Armstrong; "Cirrus prima" suspended ceiling system or other equal approved; 15 x 600 x 600 mm 100% relative humidity resistance installed in Trulok F24 suspension system main runners at 1200mm centres and cross members at 600mm centers for exposed grid ; wire hangers not exceeding 1000mm long shot-fired to concrete soffit; Trulok matching angle edge trim ; plugging and screwing surfaces requiring plugging at perimeter;</b>				
<b>VII</b>	<b>STAIRCASE AND RAMP FINISHINGS</b>				
<b>I</b>	<b>BALUSTRADES</b>				
<b>IC</b>	<b>ROLLED PLATES; BARS; SECTION OR TUBES</b>				
	<b>Stainless steel; grade 316; B.S.3100</b>				
A	Provide 316 stainless steel with 63mm dia Polished stainless steel handrail welded to 30mm dia stainless steel pipe balusters, corrosion resistant, heat resistance, high performance to support a continous load to approval: 900mm High	M	33.00		
<b>VI</b>	<b>INTERNAL CEILING FINISHINGS</b>				
	<b>PLAIN SHEET FINISHING</b>				
	<b>Gypsum boards ceiling; to approval of the Project Manager; fixing with screws to manufacturer's recommendations</b>				
<b>ELEMENT NO. 7</b>	<b>WINDOWS</b>				
<b>III</b>	<b>GRILLE WORK</b>				
<b>a</b>	<b>Mild steel; B.S. 4360 Grilles; consisting of angle frames; mild steel bars or the like; ends welded and angles cut; mitred and welded; all welding ground to smooth finish; painted</b>				
A	Fabricate and fix mild steel grill window, paint with 1 coat of epoxy zinc coated prime:	Nr	6.00		

	Window size 1500 x 1500 mm overall W2.Including all necessary ironmongeries.				
<b>II</b>	<b>PURPOSE MADE UNITS (ALUMINIUM WINDOWS)</b>				
A	Bronze Anodized Aluminum Window Frames 100 mm x 40 mm with 6mm Clear Glass fixed to Block work or Concrete work; Including all necessary ironmongeries; Supply and fix Window size 1500 x 1800 mm overall W1	Nr	10.00		
<b>ELECTRICAL INSTALLATION MAIN BUILDING</b>					
<b>BILL NO. 4</b>	<b>BUILDING SERVICES INSTALLATIONS</b>				
<b>ELEMENT NO. 2</b>	<b>ELECTRICAL INSTALLATIONS</b>				
	<b>4. SUNDRIES AND GENERAL MATTERS</b>				
1	Allow for preparation of "Shop Drawings" (A2 paper) as specified in the General specifications	item	1.00		
2	Allow for preparation of "As Built Drawings" (A2 paper) as specified in the General specifications	item	1.00		
3	Allow sum for producing operational and maintenance manuals as specified	item	1.00		
4	Allow sum for Training of the Employer personnel of the installed system	item	1.00		
5	Allow sum for maintenance during defect liability period	item	1.00		
6	Builders work for trench excavation and construction for electrical works	item	1.00		
7	Supply from 33kV HT pole to Ring main unit in HV power room ; Supply and fix 3core x 185mm <sup>2</sup> CU/XLPE/SWA/PVC cable	m	70.00		
8	Supply from Ring main unit to 1000kVA Transformer; Supply and install ; 3core x 95mm <sup>2</sup> CU/XLPE/SWA/PVC 33kV grade cable to Transformer 1 in HV power room	m	60.00		
9	Supply and install ; 33kV termination kit, lighting arestor, metering unit, drop fuses and all accessories for HT connection	item	1.00		
10	Supply and install ;3runs x 4 x 1core x 185mm <sup>2</sup> CU/ XLPE/SWA/PVC cable	m	150.00		
11	Supply and install ; 2runs x 4 x 1core x 185mm <sup>2</sup> CU/ XLPE/SWA/PVC cable (Supply from 635kVA Generator-1 to Automatic changeover)	m	40.00		
12	3runs x 4 x 1core x 185mm <sup>2</sup> CU/ XLPE/SWA/PVC cable (Supply from Automatic changeover to LV Main Panel Board (MPB)	m	225.00		
13	Supply and install ; 3c X 2.5mm <sup>2</sup> CU/XLPE/SWA/PVC cable (Control cable from 2nos. of 700kVA generators to automatic interlocking device)	m	30.00		
14	2run x 4core x 120mm <sup>2</sup> CU/ XLPE/SWA/PVC cable (Supply from MPB to Sub-Main LV Panel To AC Panel 1 at the roof)	m	120.00		

14	2run x 4core x 150mm <sup>2</sup> CU/ XLPE/SWA/PVC cable (To AC Panel 2 at the bridge)	m	120.00		
15	Supply and install; 4C x 25mm <sup>2</sup> CU/XLPE/SWA/PVC cable (To Lift A and Lift B Distribution Board)	m	200.00		
16	4C x 50mm <sup>2</sup> CU/XLPE/SWA/PVC cable (To Pump Distribution Board)	m	120.00		
17	4C x 70mm <sup>2</sup> CU/XLPE/SWA/PVC cable (To Clean power (UPS) Distribution Board)	m	80.00		
18	Supply and install; 4C x 25mm <sup>2</sup> CU/XLPE/SWA/PVC cable basement(To Distribution Board in each floor)	m	40.00		
19	Supply and install ; 4C x 16mm <sup>2</sup> CU/XLPE/SWA/PVC cable first, second, third, fourth, summit(To Distribution Board in each floor)	m	400.00		
20	Supply and install ; 4C x 95mm <sup>2</sup> CU/XLPE/SWA/PVC cable (To Auxiliary Distribution Board)	m	150.00		
21	Supply and install ; 4core x 10mm <sup>2</sup> CU/XLPE/SWA/PVC cable (Cables From the Distribution Boards)	m	60.00		
22	Supply and install; 3core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC cable (Cables From the Distribution Boards)	m	10.00		
23	Supply and install 33kV, 16kA (1s) Ring Main Unit, 36kV 630A, 16kA, 50Hz Air insulated Busbar system, with one incomer and two 33kV outgoers, earthing switch with mechanical key lock and door lock opening coil 220Vac, two metering and protection current transformers ON-OFF circuit breaker, auxiliary contacts, DC battery tripping unit and all necessary installation accessories by Schneider or ABB	Nr	1.00		
24	Supply and install 1000kVA, 33/0.4kV, 50Hz, DYN11, Delta-star Transformer with transformation ratio adjustment +/- 2x2.5%; outdoor type, Oil conservator tank,oil indicator,temperature indicator.Floor mounted complete with all necessary installation accessories and earthing system with not more than 1ohm.	Nr	1.00		
25	Supply and install 635kVA, 400V, 50Hz prime diesel Generator complete with battery and battery charger,starter,acoustic canopy, all necessary installation accessories manufactured by CATERPILLAR from UK, PERKINS from UK or Scania from Sweden	Nr	2.00		
26	Supply and install 6000 litres diesel fuel tank, fuel level gauge, calibration including all accessories complete with mounting foundation elevated at minimum 1.2m AFFL for gravitational supply to the two generators	item	1.00		
27	Supply and install 3ph 415V 50Hz 1600A ACB type automatic change over switch with 4pole	Nr	1.00		

	interlocks.				
28	Supply and install; Load management unit: 3ph 400V 50Hz Automatic Synchronization panel 1600A LV Synchronization panel for the two generators with all required installation materials	Nr	1.00		
29	1000 kVA Voltage Stabilizer with 1600A TPN input automatic circuit breaker, 1600A TPN bypass switch via an interlocked automatic circuit breaker, 1600A TPN output interlocked motorized automatic circuit breaker and intergrated automatic power factor correction system as Ortea Sirius Advance or approved equivalent complete with all required installation materials	Nr	1.00		
30	Uninterrupted power supply for clean power with; main control and indicator panels print-out facility ; 1 hour full load standby with 150kVA, 3 phases and 230/400V with all accessories to enable it to work(Clean power supply)	Nr	2.00		
31	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar approved by Engineer with sheet steel case; fully shrouded;MCCB and 415V,surge arrestors ; Supply and install 18 ways 1600A TP&N, IEC 439-1, BS 5486, 'Blockset type' type tested Assembly main Panel Board with incoming device 1600A Air Circuit breaker (programable) and outgoing devices three phase MCCBs intergral with 65kA surge arrestor; 900kVAr automatic power factor correction, and PLC to monitor power from Transformer, link with the generators when power is cut.	Nr	1.00		
32	Supply and fix ; 6 ways TPN weather proof Distribution panel; 800 Amps rating with outgoing device 3P MCCB standard IEC 439-1, BS 5486, type tested assembly c/w 30kA surge arrestor for AC Panel at roof top	Nr	1.00		
33	Supply and install; 8 ways TPN weather proof Distribution panel; 630 Amps rating with outgoing device 3P MCCB standard IEC 439-1, BS 5486, type tested assembly c/w 30kA surge arrestor for AC panel at the bridge	Nr	1.00		
34	Supply and install ; 8 ways TPN weather proof Distribution panel; 200 Amps rating with outgoing device 3P MCCB standard IEC 439-1, BS 5486, type tested assembly c/w 25kA surge arrestor for Pump DB, AC	Nr	2.00		
35	Supply and install; 10 ways TPN weather proof Distribution panel; 200 Amps rating with outgoing device 3P MCCB standard IEC 439-1, BS 5486, type tested assembly c/w 25kA surge arrestor for Clean power DB, AC	Nr	2.00		
36	Supply and install ; 12 ways TPN weather	Nr	3.00		



	proof Distribution panel; 250 Amps rating with outgoing device 3P MCCB standard IEC 439-1, BS 5486, type tested assembly c/w 25kA surge arrestor for AC				
37	Supply and install; 8 ways TPN weather proof Distribution panel; 250 Amps rating with outgoing device 3P MCCB standard IEC 439-1, BS 5486, type tested assembly c/w 25kA surge arrestor for AC	Nr	1.00		
38	Supply and install ; 12 ways TPN weather proof Distribution panel; 160 Amps rating with outgoing device 3P MCCB standard IEC 439-1, BS 5486, type tested assembly c/w 25kA surge arrestor for AC	Nr	1.00		
39	Supply and install ; 8 ways TPN weather proof Distribution panel; 100 Amps rating with outgoing device 3P RCCB standard IEC 439-1, BS 5486, type tested assembly c/w 25kA surge arrestor for AC, Basement	Nr	2.00		
40	Supply and install ; 4 ways TPN weather proof Distribution panel; 100 Amps rating with outgoing device 3P RCCB standard IEC 439-1, BS 5486, type tested assembly c/w 25kA surge arrestor for Lift.	Nr	2.00		
41	Supply and install ; 4core x 25mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Distribution board DBBA (Cables From the sub main panel to basement distribution board at Basement)	m	80.00		
42	Supply and install ; 4core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Clean power, water supply pumps, storm water, sewerage(Cables From the sub main panel to basement distribution board)	m	180.00		
43	Supply and install ; 4core x 10mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to fire pump set (Cables From the sub main panel to basement distribution board)	m	60.00		
44	Supply and install ; 5core x 10mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Lifts(Cables From the sub main panel to basement distribution board)	m	320.00		
45	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors , 12 ways ; TPN 100 Amp rating Distribution Board; intergral with 100/0.3A RCCB switch coming with intergral MCB'S, type tested assembly c/w 25kA surge arrestor	Nr	1.00		
46	Supply and install ; 4 ways ; TPN 40 Amp rating Distribution Board; intergral with 63/0.3A RCCB switch switch coming with intergral MCB'S, type tested assembly c/w 15kA surge arrestor.	Nr	1.00		

47	Supply and install ; Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories , Size 400X75mm under the slab.	m	100.00		
48	Supply and install ; Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories , Size 300X75mm under the slab.	m	100.00		
49	3x1cx1.5sqmm PVC copper cable. Supplied in three colors ,Brown,Blue,Green. Manufacturer EURO	m	5,610.00		
50	Supply and fix Galvanized single metal boxes	Nr	80.00		
51	Supply and fix Galvanized twin metal boxes	Nr	118.00		
52	Supply and install fix ; 20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	1,870.00		
54	Supply and install ; 3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	4,479.00		
55	25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	1,493.00		
56	Supply and install ; 3 x 1c x 4mm <sup>2</sup> core copper cable and upvc conduit ; bends etc;Water supply pump circuits points ;in 2Nr	m	2.00		
57	Supply and install ; 3 x 1c x 4mm <sup>2</sup> core copper cable and upvc conduit ; bends etc, Fire hose reel pump circuits points; in 2Nr	m	25.00		
58	Supply and install ; 3 x 1c x 4mm <sup>2</sup> core copper cable and upvc conduit ; bends etc, Extract fan circuits points; in 9Nr	m	184.00		
58	Supply and install switches ;Brand; Legrand, Eton, ABB or Schneider ;10 amp : one gang ; one way	Nr	20.00		
59	Supply and install switches ;Brand; Legrand, Eton, ABB or Schneider ;10 amp : two gang ; one way	Nr	20.00		
60	Supply and install switches ;Brand; Legrand, Eton, ABB or Schneider ;10 amp : one gang ; two ways	Nr	20.00		
61	Supply and install switches ;Brand; Legrand, Eton, ABB or Schneider ;10 amp : intermediate switch	Nr	20.00		
62	supply and install switches ;Brand; Legrand, Eton, ABB or Schneider;10 amp : three gang ; one ways	Nr	20.00		
63	Supply and install switches ;Brand; Legrand, Eton, ABB or Schneider; 20 amp : two gang ; two ways	Nr	20.00		
64	Supply and install ; Switch sockets outlets; Legrand, Jaquar or ABB or Schneider ;Twin 13A weather proof switch socket outlets	Nr	8.00		
65	Supply and install ; Switch sockets outlets; Legrand, Eton or ABB or Schneider; Twin 13A	Nr	70.00		

	switch socket outlets				
65	Supply and install ; Switch sockets outlets; Legrand ,ABB or Schneider ;Twin 13A switch socket outlets	Nr	30.00		
66	Supply and install ; Double pole switches; Legrand, ABB or Schneider;20 amp; marked AC, Extract fans.	Nr	29.00		
67	Supply and install ; Isolator, three-phase;32 amp isolator - Extract fans, water supply, hose reels	Nr	9.00		
68	Supply and install ; Isolator, three-phase; 63 amp isolator -for the fire pumps	Nr	2.00		
69	Supply and install ; Isolator, three-phase; 63 amp isolator - Lift units	Nr	5.00		
70	Supply and install; 40 amp isolator	Nr	2.00		
71	Supply and fix IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms , Type He ; Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Phillips, SG, thorn uk or equal approved by Engineer ;	Nr	30.00		
72	Supply and fix IP65, 34 Watt, dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms, Type H and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Phillips, SG, thorn uk or equal approved by Engineer;	Nr	340.00		
73	Supply and fix Recessed 7W LED Spot light with 25° tilting angle for perfect scene setting ; and Luminaires ; complete with control gear, lamps tubes or bulbs and all accessories as Phillips, SG, thorn uk or equal approved by Engineer;	Nr	40.00		
74	Supply and Fix: Voyager Blade EXIT light, 5W Ultra slim, LED exit sign with 3 hour, maintained	Nr	20.00		
75	Supply and Fix: LED COB Downlight EcoMax V Rc-ESV R75-12W-3000-WH-NV 630lm	Nr	2.00		
76(GROUND FLOOR)	, Supply and install 4core x 16mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Distribution board DBGA (Cables From the MDB/busbar tap off unit to the submains)	m	40.00		
77	Supply and install; 4core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Clean power(Cables From the MDB/busbar tap off unit to the submains)	m	50.00		
78	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, LEGRAND, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors; 10 ways ; TPN 63 Amp rating Distribution Board; integral with 63/0.3A RCCB switch coming with intergral MCB'S, type tested assembly c/w	Nr	1.00		

	25kA surge arrestor.				
79	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, LEGRAND, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors; 10 ways 4 ways ; TPN 40 Amp rating Distribution Board; intergral with 63/0.3A RCCB switch coming with intergral MCB'S, type tested assembly c/w 15kA surge arrestor.	Nr	1.00		
80	Trunking and fitting; fixing with accessories. Make Marshall Tuflex UK; Supply and fix 170x50mm 3 compartment trunking complete with all necessary fitting,bends,covers,	m	120.00		
81	Supply and install 200X75mm in the ceiling void Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as approved by engineer.	M	100.00		
82	Supply and install 300X75mm in the ceiling void Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as approved by engineer.	m	100.00		
83	Supply to accessories and equipment ; 20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	710.00		
84	Supply to accessories and equipment ; 3x1cx1.5sqmm PVC copper cable. Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	2,130.00		
85	Supply to accessories and equipment ; Galvanized single metal boxes	Nr	120.00		
86	Supply to accessories and equipment; 25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	1,627.00		
87	Supply to accessories and equipment ; 3x1cx2.5sqmm PVC copper cable. Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	4,881.00		
87	Supply to accessories and equipment ; Galvanized twin metal boxes	Nr	90.00		
88	Supply to accessories and equipment ; 3x1cx6sqmm PVC copper cable. Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	210.00		
89	Supply and install switches ;10 amp : one gang ; one way ; As Legrand, Eton, ABB or Schneider	Nr	10.00		
90	Supply and install switches ; 10 amp : two gang ; one way ; As Legrand, Jaguar, ABB or Schneider	Nr	15.00		
91	Supply and install switches ; 10 amp : one gang ; two ways ; As Eton, Jaguar, ABB or Schneider	Nr	7.00		
92	Supply and install switches ; 10 amp :	Nr	1.00		

	intermediate switch ; As Legrand, Eton, ABB or Schneider				
93	Supply and install switches ; 10 amp : three gang ; one ways; As Legrand, Eton, ABB or Schneider	Nr	2.00		
94	Supply and install switches ; 20 amp : two gang ; two ways; As Legrand, Eton, ABB or Schneider	Nr	4.00		
95	Supply and install switches ; 20 amp : three gang ; two ways; As Legrand, Jaguar, ABB or Schneider	Nr	2.00		
96	Supply and install switches ; 20 amp : three gang ; two ways dimmer switch; As Legrand, Eton, ABB or Schneider	Nr	4.00		
97	Supply and install Switch sockets outlets; Twin 13A switch socket outlets As Legrand, Eton, ABB or Schneider	Nr	60.00		
98	Switch sockets outlets; Twin 13A switch socket outlets , RED Clean power; As Legrand, Eton, ABB or Schneider	Nr	30.00		
99	Supply and install TV/SAT/FM co-axial single socket outlet;	Nr	4.00		
100	Supply and install 300X300mm IEC60670-23 2X13A socket outlet whi&red, 2xRJ45 data-voice 3compartment floor box	Nr	4.00		
101	Pop Up Tower socket, Switch socket Outlet, RJ45 CATA utp, 1 USB-A, 1 USB-C outlets	Nr	10.00		
102	Supply and install Double pole switches; 20 amp ; for Hand Drier, Extract fan; As Legrand, Eton, ABB or Schneider	Nr	12.00		
103	Supply and install Double pole switches; 20 amp ; for AC; As Legrand, Eton, ABB or Schneider	Nr	20.00		
104	Supply and install Double pole switches; 32 amp ; for kitchen hood; As Legrand, Eton, ABB or Schneider	Nr	2.00		
105	Supply and install Double pole cooker control unit ; 45 amp ; switch socket outlet (1,1) ; As Legrand, Eton, ABB or Schneider	Nr	2.00		
106	Supply and install Contactors controls and time clocks; Masterseal 10 amp photo electric switch	Nr	2.00		
107	Supply and install Contactors controls and time clocks;30 amp ; four pole ; twin module Contactor	Nr	2.00		
108	Supply and install Contactors controls and time clocks; EBDSM Compact, flush mounted, ceiling PIR presence/absence detectors Infrared programmable by Legrand or Equal approved	Nr	15.00		
109	Supply and install Contactors controls and time clocks; MWS6SM Motion sensor for corridor Compact, surface mounted, ceiling, microwave presence detectors	Nr	8.00		
110	Supply and fix the lighting equipment's and	Nr	20.00		

	Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; IP 30, 3500 lumen, LED slim circular wall or ceiling luminaire in white finish.				
111	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Jaguar, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK emergency version, Type He	Nr	4.00		
112	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms	Nr	14.00		
113	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; Recessed LED Spot light with 25° tilting angle for perfect scene setting.	Nr	20.00		
114	Voyager Blade EXIT light, 5W Ultra slim, LED exit sign with 3 hour, maintained	Nr	20.00		
115	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; Recessed LED Spot light with 25° tilting angle for perfect scene setting	Nr	10.00		
116	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; 32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire.	Nr	90.00		
117	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; 32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire.	Nr	20.00		
118	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; DENOTES LED day light, Dimensions: 440 x	Nr	2.00		

	371 x 65 mm, Luminaire luminous flux: 20000 lm, Luminaire efficacy: 125 lm/W or equal approved size.				
119	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; LED Downlight 12W	Nr	12.00		
120 (SERVICE FLOOR)	Cables From the MDB/busbar tap off unit to the submains ; 3core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC cable	m	60.00		
121	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors ; 12 ways ; SPN 40 Amp rating Distribution Board; intergral with 40/0.3A RCCB switch , switch coming with intergral MCB'S, type tested assembly c/w 15kA surge arrestor.	Nr	1.00		
122	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer ; 200X75mm in the ceiling void	m	100.00		
123	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer ; 300X75mm in the ceiling void	m	100.00		
124	Supply to accessories and equipment ; 20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	336.00		
125	3x1cx1.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	1,008.00		
126	Galvanized single metal boxes	Nr	30.00		
127	Supply to accessories and equipment ; 3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	324.00		
128	Supply to accessories and equipment ; 25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	108.00		
129	Galvanized twin metal boxes	Nr	12.00		
130	Supply and install Switches; 10 amp : one gang ; one way; As Legrand ,ABB or Schneider.	Nr	10.00		
131	Supply and install Switches; 10 amp : two gang ; one way; As Legrand ,ABB or Schneider.	Nr	15.00		
132	Supply and install Switches; 10 amp : one gang ; two ways ; As Legrand ,ABB or Schneider.	Nr	7.00		
133	Supply and install Switches; 10 amp : intermediate switch; ; As Legrand ,ABB or Schneider.	Nr	1.00		

134	Supply and install Switches; 10 amp : three gang ; one ways ; As Legrand ,ABB or Schneider.	Nr	2.00		
135	Supply and install Switch sockets outlets; Twin 13A switch socket outlets As Legrand, Eton, ABB or Schneider	Nr	10.00		
136	Supply and install Switch sockets outlets; Twin 13A switch socket outlets As Legrand, Eton, ABB or Schneider	Nr	2.00		
137	Supply and install Double pole switches; 20 amp ; for Hand Drier, Extract fan; As Legrand, Eton, ABB or Schneider	Nr	2.00		
138	Supply and install Double pole switches; 20 amp ; for Ac; As Legrand, Eton, ABB or Schneider	Nr	4.00		
139	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Jaguar, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; IP 30, 3500 lumen, LED slim circular wall or ceiling luminaire in white finish	Nr	10.00		
140	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Jaguar, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK emergency version, Type He	Nr	4.00		
141	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Jaguar, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK, Type H	Nr	14.00		
142	Voyager Blade EXIT light, 5W Ultra slim, LED exit sign with 3 hour, maintained	Nr	6.00		
143	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Jaguar, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs; DENOTES LED day light, Dimensions: 440 x 371 x 65 mm, Luminaire luminous flux: 20000 lm, Luminaire efficacy: 125 lm/W or equal approved.	Nr	12.00		
144(FIRST FLOOR)	Cables From the MDB/busbar tap off unit to the submains ; 4core x 16mm <sup>2</sup> CU/XLPE/SWA/PVC cable to Distribution board DBFA	m	60.00		
145	Cables From the MDB/busbar tap off unit to the submains; 4core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC cable to Clean power	m	60.00		



146	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors ; 10 ways ; TPN 63 Amp rating Distribution Board; intergral with 63/0.3A RCCB switch coming with intergral MCB'S, type tested assembly c/w 25kA surge arrestor	Nr	1.00		
147	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors ; 4 ways ; TPN 40 Amp rating Distribution Board; intergral with 40/0.3A RCCB switch , switch coming with intergral MCB'S, type tested assembly c/w 15kA surge arrestor.	Nr	1.00		
148	Trunking and fitting; fixing with accessories. Make Marshall Tuflex UK ; 170x50mm 3-compartment trunking complete with all necessary fitting eg.	m	120.00		
149	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer ; 200X75mm in the ceiling void	m	100.00		
150	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer ; 300X75mm in the ceiling void	m	100.00		
151	Supply to accessories and equipment ; 20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	710.00		
152	Supply to accessories and equipment ; 3x1cx1.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	2,130.00		
153	Galvanized single metal boxes	Nr	120.00		
154	Supply to accessories and equipment ; 25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	627.00		
156	Supply to accessories and equipment ; 3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	4,881.00		
157	Galvanized twin metal boxes	m	90.00		
158	Supply and fix 3x1cx6sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	210.00		
159	Supply and install Switches; 10 amp : one gang ; one way As Legrand, Eton, ABB or Schneider	Nr	10.00		
160	Supply and install Switches; 10 amp : two gang ; one way As Legrand, Eton, ABB or Schneider	Nr	15.00		

161	Supply and install Switches; 10 amp : one gang ; two ways As Legrand, Eton, ABB or Schneider	Nr	7.00		
162	Supply and install Switches; 10 amp : intermediate switch; As Legrand, Eton, ABB or Schneider	Nr	1.00		
163	Supply and install Switches; 10 amp : three gang ; one ways ; As Legrand, Eton, ABB or Schneider	Nr	2.00		
164	Supply and install Switches; 20 amp : two gang ; two ways ; As Legrand, Eton, ABB or Schneider	Nr	4.00		
167	Supply and install Switches; 20 amp : three gang ; two ways; As Legrand, Eton, ABB or Schneider	Nr	2.00		
168	Supply and install Switches; 20 amp : three gang ; two ways dimmer switch; As Legrand, Eton, ABB or Schneider	Nr	4.00		
169	Supply and install Switch sockets outlets; Twin 13A switch socket outlets As Legrand, Eton, ABB or Schneider	Nr	60.00		
170	Supply and install Switch sockets outlets; Twin 13A switch socket outlets As Legrand, Eton, ABB or Schneider	Nr	30.00		
171	TV/SAT/FM co-axial single socket outlet	Nr	4.00		
172	300X300mm IEC60670-23 2X13A socket outlet whi&red, 2xRJ45 data-voice 3compartment floor box	Nr	18.00		
173	Pop Up Tower socket, Switch socket Outlet, RJ45 CATA utp, 1 USB-A, 1 USB-C outlets	Nr	8.00		
174	Supply and install Double pole switches; 20 amp ; for Hand Drier, Extract fan; As Legrand, Eton, ABB or Schneider	Nr	12.00		
175	Supply and install Double pole switches; 20 amp for AC; As Legrand, Eton, ABB or Schneider	Nr	20.00		
178	Supply and install Double pole cooker control unit; 45 amp; switch socket outlet (1,1); As Legrand, Eton, ABB or Schneider	Nr	1.00		
179	EBDSM Compact, flush mounted, ceiling PIR presence/absence detectors Infrared programmable by Legrand	Nr	15.00		
180	MWS6SM Motion sensor for corridor Compact, surface mounted, ceiling, microwave presence detectors	Nr	8.00		
181	Supply and fix the following lighting equipments and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Eton, Phillips, SG, thorn uk or equal approved by Engineer ; Round luminaire surface mounted LED 12W surface mounted. Type N	Nr	10.00		
182	Supply and fix the lighting equipment's and Luminaires ; complete with control gear, lamps	Nr	4.00		

	tubes or bulbs and all accessories as Eton, Phillips, SG, thorn uk or equal approved by Engineer ; IP65, 34 Watt, dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK emergency version, Type He				
183	Supply and fix the lighting equipment's and Luminaires ; complete with control gear, lamps tubes or bulbs and all accessories as Jaguar, Eton, SG, thorn uk or equal approved by Engineer ; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK, Type H	Nr	14.00		
184	Supply and fix the lighting equipment's and Luminaires ; complete with control gear, lamps tubes or bulbs and all accessories as Jaguar, Eton, SG, thorn uk or equal approved by Engineer ; Recessed LED Spot light with 25° tilting angle for perfect scene setting as Spot Ava G2 LEDSpotRA-Ava-E2 7W-Dim-2700-30D-BL code 541003538400.Type N	Nr	36.00		
185	Voyager Blade EXIT light, 5W Ultra slim, LED exit sign with 3 hour, maintained	Nr	20.00		
186	Recessed LED Spot light with 25° tilting angle for perfect scene setting as Spot Ava G2 LEDSpotRA-Ava-E2 7W-Dim-2700-30D-BL code 541003538400.Type R	Nr	10.00		
187	32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. As Thorn Omega LED. Type M	Nr	160.00		
188	32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. As Thorn Omega LED emergency type as in Thorn UK lighting. Type Me	Nr	20.00		
189	DENOTES LED day light, Dimensions: 440 x 371 x 65 mm, Luminaire luminous flux: 20000 lm, Luminaire efficacy: 125 lm/W, as opple LEDFlood-P e440-160W-4000-AS-BL.	Nr	2.00		
190	LED Downlight HG 12W IP44 CODE:140057167 downlight performer HG,Type D.	Nr	12.00		
SECOND FLOOR	Cables From the MDB/busbar tap off unit to the submains ; 4core x 16mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Distribution board DBSA	m	80.00		
192	Cables From the MDB/busbar tap off unit to the submains ; 4core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Clean power	Nr	1.00		
193	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors 10 ways ; TPN 63 Amp rating Distribution Board; intergral	Nr	1.00		

	with 63/0.3A RCCB switch coming with intergral MCB'S, type tested assembly c/w 25kA surge arrestor				
194	TRUNKING, CABLE LADDERS AND TRAYS ; Trunking and fitting; fixing with accessories. Make Marshall Tuflex UK ; 170x50mm 3-compartment trunking complete with all necessary fitting eg.	m	120.00		
195	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer ; 200X75mm in the ceiling void	m	100.00		
196	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer ; ;300X75mm in the ceiling void	m	100.00		
197	Supply to accessories and equipment ; 20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	710.00		
198	Supply to accessories and equipment ;3x1cx1.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	2,130.00		
199	Galvanized single metal boxes	Nr	90.00		
200	3x1cx6sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	210.00		
201	Supply and install Switches; 10 amp : one gang ; one way ; As Legrand, Eton, ABB or Schneider	Nr	10.00		
202	Supply and install Switches; 10 amp : two gang ; one way ; As Legrand, Eton, ABB or Schneider	Nr	15.00		
203	Supply and install Switches; 10 amp : one gang ; two ways; As Legrand, Eton, ABB or Schneider	Nr	7.00		
204	Supply and install Switches; 10 amp : intermediate switch; As Legrand, Eton, ABB or Schneider	Nr	1.00		
205	Supply and install Switches; 10 amp : three gang ; one ways ; As Legrand, Eton, ABB or Schneider	Nr	2.00		
206	Supply and install Switches; 20 amp : two gang ; two ways ; As Legrand, Eton, ABB or Schneider	Nr	4.00		
207	Supply and install Switches; 20 amp : three gang ; two ways ; As Legrand, Eton, ABB or Schneider	Nr	2.00		
208	Supply and install Switches; 20 amp : three gang ; two ways dimmer switch ; As Legrand, Eton, ABB or Schneider	Nr	4.00		
209	Supply and install Switch sockets outlets ; Twin 13A switch socket outlets	Nr	60.00		
210	Supply and install Switch sockets outlets ;	Nr	30.00		

	Twin 13A switch socket outlets				
211	TV/SAT/FM co-axial single socket outlet	Nr	4.00		
212	300X300mm IEC60670-23 2X13A socket outlet whi&red, 2xRJ45 data-voice 3compartment floor box	Nr	30.00		
213	Pop Up Tower socket, Switch socket Outlet, RJ45 CATA utp, 1 USB-A, 1 USB-C outlets	Nr	10.00		
214	Supply and install Double pole switches; 20 amp ; for Hand Drier, Extract fan; As Legrand, Eton, ABB or Schneider	Nr	12.00		
215	Supply and install Double pole switches; 20 amp ; for Ac ; As Legrand, Eton, ABB or Schneider	Nr	20.00		
216	Supply and install Double pole cooker control unit;45 amp ; switch socket outlet (1,1)	Nr	1.00		
217	EBDSM Compact, flush mounted, ceiling PIR presence/absence detectors Infrared programmable by Legrand	Nr	15.00		
218	MWS6SM Motion sensor for corridor Compact, surface mounted, ceiling, microwave presence detectors	Nr	8.00		
219	Supply and fix the lighting equipment's and Luminaires ; complete with control gear, lamps tubes or bulbs and all accessories as Jaguar, Eton, SG, thorn uk or equal approved by Engineer ; Round luminaire surface mounted LED 12W surface mounted. Type N	Nr	10.00		
220	Supply and fix the lighting equipment's and Luminaires ; complete with control gear, lamps tubes or bulbs and all accessories as Jaguar, Eton, SG, thorn uk or equal approved by Engineer ; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK emergency version, Type He	Nr	4.00		
221	Supply and fix the lighting equipment's and Luminaires ; complete with control gear, lamps tubes or bulbs and all accessories as Jaguar, Eton, SG, thorn uk or equal approved by Engineer ; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK, Type H	Nr	14.00		
222	Supply and fix the lighting equipment's and Luminaires ; complete with control gear, lamps tubes or bulbs and all accessories as Jaguar, Eton, SG, thorn uk or equal approved by Engineer ; Recessed LED Spot light with 25° tilting angle for perfect scene setting as Spot Ava G2 LEDSpotRA-Ava-E2 7W-Dim-2700-30D-BL code 541003538400.Type N	Nr	36.00		
223	Voyager Blade EXIT light, 5W Ultra slim, LED exit sign with 3 hour, maintained	Nr	20.00		
224	Recessed LED Spot light with 25° tilting angle for perfect scene setting as Spot Ava G2	Nr	10.00		

	LEDSpotRA-Ava-E2 7W-Dim-2700-30D-BL code 541003538400.Type R				
225	32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. As Thorn Omega LED. Type M	Nr	158.00		
226	32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. As Thorn Omega LED emergency type as in Thorn UK lighting. Type Me	Nr	10.00		
227	DENOTES LED day light, Dimensions: 440 x 371 x 65 mm, Luminaire luminous flux: 20000 lm, Luminaire efficacy: 125 lm/W, as opple LED Flood-P e440-160W-4000-AS-BL.	null	2.00		
228	LED Downlight HG 12W IP44 CODE:140057167 downlight performer HG,Type D.	Nr	12.00		
229(THIRD FLOOR)	Cables From the MDB/busbar tap off unit to the submains; 4core x 16mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Distribution board DBTA	m	100.00		
230	Cables From the MDB/busbar tap off unit to the submains;4core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC LSZH cable to Clean power	m	60.00		
231	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors ; 10 ways ; TPN 63 Amp rating Distribution Board; integral with 63/0.3A RCCB switch coming with integral MCB'S, type tested assembly c/w 25kA surge arrestor	Nr	1.00		
232	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors ; 4 ways ; TPN 40 Amp rating Distribution Board; integral with 40/0.3A RCCB switch ;switch coming with integral MCB'S, type tested assembly c/w 15kA surge arrestor.	Nr	1.00		
233	TRUNKING, CABLE LADDERS AND TRAYS ; Trunking and fitting; fixing with accessories. Make Marshall Tuflex UK; 170x50mm 3 compartment trunking complete with all necessary fitting eg.	m	120.00		
234	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer ; 200X75mm in the ceiling void	m	100.00		
235	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer ; 300X75mm in the ceiling void	m	100.00		

236	Supply to accessories and equipment ; 20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	710.00		
236	Supply to accessories and equipment ; 3x1cx1.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	2,130.00		
237	Galvanized single metal boxes	Nr	120.00		
238	Supply to accessories and equipment ; 25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	1,627.00		
239	Supply to accessories and equipment ; 3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	Nr	4,881.00		
240	Galvanized twin metal boxes	Nr	90.00		
241	3x1cx6sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	210.00		
242	Supply and install Switches; 10 amp : one gang ; one way ; As Legrand, Eton, ABB or Schneider	Nr	10.00		
243	Supply and install Switches; 10 amp : two gang ; one way ; As Legrand, Eton, ABB or Schneider	Nr	15.00		
244	Supply and install Switches; 10 amp : one gang ; two ways ; As Legrand, Eton, ABB or Schneider	Nr	7.00		
245	Supply and install Switches; 10 amp : intermediate switch ; As Legrand, Eton, ABB or Schneider	Nr	1.00		
246	Supply and install Switches; 10 amp : three gang ; one ways ; As Legrand, Eton, ABB or Schneider	Nr	2.00		
247	Supply and install Switches; 20 amp : two gang ; two ways; As Legrand, Eton, ABB or Schneider	Nr	4.00		
248	Supply and install Switches; 20 amp : three gang ; two ways; As Legrand, Eton, ABB or Schneider	Nr	2.00		
249	Supply and install Switches; 20 amp : three gang ; two ways dimmer switch; As Legrand, Eton, ABB or Schneider	Nr	4.00		
250	Supply and install Switch sockets outlets ; Twin 13A switch socket outlets	Nr	58.00		
251	Supply and install Switch sockets outlets ; Twin 13A switch socket outlets;Clean power	Nr	32.00		
252	TV/SAT/FM co-axial single socket outlet	Nr	4.00		
253	300X300 3 COMPARTMENT Floor box	Nr	28.00		
254	Supply and install Double pole switches; 20 amp ; for Hand Drier, Extract fan; As Legrand, Eton, ABB or Schneider	Nr	12.00		

255	Supply and install Double pole switches; 20 amp ; for Ac; As Legrand, Eton, ABB or Schneider	Nr	20.00		
256	Supply and install Double pole cooker control unit; 45 amp ; switch socket outlet (1,1)	Nr	1.00		
257	EBDSM Compact, flush mounted, ceiling PIR presence/absence detectors Infrared programmable by Legrand	Nr	15.00		
258	MWS6SM Motion sensor for corridor Compact, surface mounted, ceiling, microwave presence detectors	Nr	8.00		
258	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Jaguar, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ;Round luminaire surface mounted LED 12W surface mounted. Type N	Nr	10.00		
259	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Jaguar, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK emergency version, Type He	Nr	4.00		
260	Supply and fix the lighting equipment's and Luminaires ; complete with control gear,lamps tubes or bulbs and all accessories as Jaguar, Phillips, SG, Thorn uk or equal approved by Engineer with LEDs, lamps tubes or bulbs ; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms as Thork UK, Type H	Nr	14.00		
261	Recessed LED Spot light with 25° tilting angle for perfect scene setting as Spot Ava G2 LEDSpotRA-Ava-E2 7W-Dim-2700-30D-BL code 541003538400.Type N	Nr	36.00		
262	Voyager Blade EXIT light, 5W Ultra slim, LED exit sign with 3 hour, maintained	Nr	20.00		
263	Recessed LED Spot light with 25° tilting angle for perfect scene setting as Spot Ava G2 LEDSpotRA-Ava-E2 7W-Dim-2700-30D-BL code 541003538400.Type R	Nr	10.00		
264	32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. As Thorn Omega LED. Type M	Nr	158.00		
265	32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. As Thorn Omega LED emergency type as in Thorn UK lighting. Type Me	Nr	10.00		
266	DENOTES LED day light, Dimensions: 440 x 371 x 65 mm, Luminaire luminous flux: 20000 lm, Luminaire efficacy: 125 lm/W, as opple LEDFlood-P e440-160W-4000-AS-BL.	Nr	2.00		



267	LED Downlight HG 12W IP44 CODE:140057167 downlight performer HG, Type D.	Nr	12.00		
FOURTH FLOOR	Cables From the MDB/busbar tap off unit to the submains ; 4core x 16mm <sup>2</sup> CU/XLPE/SWA/PVC cable to Distribution board DBFA	m	100.00		
269	Cables From the MDB/busbar tap off unit to the submains ; 4core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC cable to Clean power	m	80.00		
270	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors ; 10 ways ; TPN 63 Amp rating Distribution Board; intergral with 63/0.3A RCCB switch coming with intergral MCB'S, type tested assembly c/w 25kA surge arrestor	Nr	1.00		
271	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors ; 4 ways ; TPN 40 Amp rating Distribution Board; intergral with 40/0.3A RCCB switch switch coming with intergral MCB'S, type tested assembly c/w 15kA surge arrestor.	Nr	1.00		
272	TRUNKING, CABLE LADDERS AND TRAYS ; Trunking and fitting; fixing with accessories. Make Marshall Tuflex UK; 170x50mm 3 compartment trunking complete with all necessary fitting eg. corners, covers etc	m	120.00		
273	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer; 200X75mm in the ceiling void	m	100.00		
274	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer; 300X75mm in the ceiling void	m	100.00		
275	Supply to accessories and equipment ; 20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	710.00		
276	Supply to accessories and equipment ; 3x1cx1.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	2,130.00		
277	Supply to accessories and equipment ;Galvanized single metal boxes	Nr	120.00		
278	Supply to accessories and equipment ;25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	1,627.00		
279	Supply to accessories and equipment ;	m	4,881.00		

	3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO				
280	Supply to accessories and equipment ; Galvanized twin metal boxes	Nr	90.00		
281	3x1cx6sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	210.00		
282	Supply and install Switches; 10 amp : one gang ; one way ; As Legrand ,ABB or Schneider.	Nr	10.00		
283	Supply and install Switches; 10 amp : two gang ; one way ; As Legrand ,ABB or Schneider.	Nr	15.00		
284	Supply and install Switches; 10 amp : one gang ; two ways ; As Legrand ,ABB or Schneider.	Nr	7.00		
285	Supply and install Switches; 10 amp : intermediate switch ; As Legrand ,ABB or Schneider.	Nr	1.00		
286	Supply and install Switches; 10 amp : three gang ; one ways ; As Legrand ,ABB or Schneider.	Nr	2.00		
287	Supply and install Switches; 20 amp : two gang ; two ways ; As Legrand ,ABB or Schneider.	Nr	4.00		
289	Supply and install Switches; 20 amp : three gang ; two ways ; As Legrand ,ABB or Schneider.	Nr	2.00		
290	Supply and install Switches; 20 amp : three gang ; two ways dimmer switch ; As Legrand ,ABB or Schneider.	Nr	4.00		
291	Supply and install Switch sockets outlets; Twin 13A switch socket outlets ;As Legrand ,ABB or Schneider.	Nr	58.00		
292	Supply and install Switch sockets outlets; Twin 13A switch socket outlets RED Clean power; As Legrand ,ABB or Schneider.	Nr	32.00		
293	TV/SAT/FM co-axial single socket outlet;	Nr	4.00		
294	300X300mm IEC60670-23 2X13A socket outlet whi&red, 2xRJ45 data-voice 3compartment floor box	Nr	22.00		
295	Supply and install Double pole switches ; 20 amp ; marked Hand Drier, Extract fan ; As Legrand ,ABB or Schneider	Nr	12.00		
296	Supply and install Double pole switches ; Double pole switches; 20 amp ; marked AC ; As Legrand ,ABB or Schneider	Nr	20.00		
297	Double pole cooker control unit.Make ABB,Schneider,Legrand ; 45 amp ; switch socket outlet	Nr	1.00		
298	EBDSM Compact, flush mounted, ceiling PIR presence/absence detectors Infrared programmable by Legrand	Nr	15.00		
299	MWS6SM Motion sensor for corridor Compact, surface mounted, ceiling, microwave presence detectors	Nr	8.00		

300	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom; Round luminaire surface mounted LED 12W surface mounted. Type N	Nr	10.00		
301	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms emergency version, Type He	Nr	4.00		
302	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms , Type H	Nr	14.00		
303	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom; Recessed LED Spot light with 25° tilting angle for perfect scene setting as Spot Ava G2 LEDSpotRA-Ava-E2 7W-Dim-2700-30D-BL code 541003538400.Type N	Nr	36.00		
304	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom; Voyager Blade EXIT light, 5W Ultra slim, LED exit sign with 3 hour, maintained	Nr	20.00		
305	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom;Recessed LED Spot light with 25° tilting angle for perfect scene setting as Spot Ava G2 LEDSpotRA-Ava-E2 7W-Dim-2700-30D-BL code 541003538400.Type R	Nr	10.00		
306	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom; 32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. . Type M	Nr	158.00		
307	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom; 32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. emergency type . Type Me	Nr	10.00		
308	EQUIPMENT;Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories. as Thorn United Kingdom;	Nr	12.00		

	LED Downlight HG 12W IP44 CODE:140057167. downlight performer HG, Type D.				
SUMMIT FLOOR	Cables From the MDB/busbar tap off unit to the submains.Euro cables; 3core x 6mm <sup>2</sup> CU/XLPE/SWA/PVC cable to DB	m	60.00		
310	Cables From the MDB/busbar tap off unit to the submains.Euro cables ; Cables From the MDB/busbar tap off unit to the submains.Euro cables	m	60.00		
311	Cables From the MDB/busbar tap off unit to the submains.Euro cables ; 4core x 10mm <sup>2</sup> CU/XLPE/SWA/PVC cable to isolators	m	200.00		
312	Supply and fix the following Low Voltage Panel and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors; 12 ways ; SPN 40 Amp rating Distribution Board; intergral with 40/0.3A RCCB switch coming with integral MCB'S, type tested assembly c/w 15kA surge arrestor.	Nr	1.00		
313	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer; 200X75mm in the ceiling void	m	100.00		
314	Cable trays Hot dipped galvanized carbon steel perforated type installation c/w all accessories as MK Matrix or equivalent approved by engineer; 300X75mm in the ceiling void	m	100.00		
315	Supply to accessories and equipment ;20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	140.00		
316	Supply and install ; 3x1cx1.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	420.00		
317	Galvanized single metal boxes	Nr	4.00		
318	Supply to accessories and equipment ;25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	140.00		
319	Supply to accessories and equipment; 3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	420.00		
320	Galvanized twin metal boxes	Nr	12.00		
321	Supply and install Switches; 10 amp : one gang ; one way ; As Legrand ,ABB or Schneider.	Nr	10.00		
322	Supply and install Switches; 10 amp : two gang ; one way ; As Legrand ,ABB or Schneider.	Nr	15.00		
323	Supply and install Switches;] 10 amp : one gang ; two ways ; As Legrand ,ABB or Schneider.	Nr	7.00		
324	Supply and install Switches; 10 amp :	Nr	1.00		

	intermediate switch; ; As Legrand ,ABB or Schneider.				
324	Supply and install Switches; 10 amp : three gang ; one ways ; As Legrand ,ABB or Schneider.	Nr	2.00		
325	Supply and install Switch sockets outlets; Twin 13A switch socket outlets ;As Legrand ,ABB or Schneider.	Nr	10.00		
326	Supply and install Switch sockets outlets; Twin 13A switch socket outlets RED Clean power ;As Legrand ,ABB or Schneider.	Nr	2.00		
327	Supply and install Double pole switches ; 20 amp ; marked Hand Drier, Extract fan; As Legrand, ABB or Schneider	Nr	2.00		
328	Supply and install Double pole switches ; 20 amp ; marked AC; As Legrand, ABB or Schneider	Nr	4.00		
329	Supply and install Isolator, three phase; 40 amp isolator - Extract fans, AC ; As Legrand ,ABB or Schneider.	Nr	9.00		
330	Supply and install Isolator, 63 amp isolator - AC ; As Legrand ,ABB or Schneider.	Nr	9.00		
331	EQUIPMENT; Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom; Round luminaire surface mounted LED 12W surface mounted. Type N	Nr	10.00		
332	EQUIPMENT; Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms emergency version, Type He	Nr	4.00		
333	EQUIPMENT; Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms , Type H	Nr	26.00		
334	EQUIPMENT; Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom; Voyager Blade EXIT light, 5W Ultra slim, LED exit sign with 3 hour, maintained	Nr	6.00		
335	EQUIPMENT; Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom; LED day light, Dimensions: 440 x 371 x 65 mm, Luminaire luminous flux: 20000 lm, Luminaire efficacy: 125 lm/W, LED Flood-P e440-160W-4000-AS-BL.	Nr	10.00		

ASKARI HUTS, GUARD HOUSE AND EXTERNAL WORKS	To Askari hut/ Guard house Distribution Boards ; 3core x 10mm <sup>2</sup> CU/XLPE/SWA/PVC cable	m	360.00		
337	Supply and fix the following Distribution board and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors; 6 ways ; TPN 63 Amp rating Distribution Board; intergral with 63/0.3A RCCB switch coming with intergral MCB'S, type tested assembly c/w 25kA surge arrestor- DBE External	Nr	2.00		
338	Supply and fix the following distribution board and accessories to surface and backgrounds requiring plugging; ABB, SCHNEIDER, SIEMENS, EATON or similar with sheet steel case; fully shrouded; RCCB and 415V, 25kA surge arrestors; 6 ways SPN weather proof Distribution panel; 63/0.3 Amps rating with outgoing device 1P RCCB standard IEC 439-1, BS 5486, type tested assembly c/w 15kA surge arrestor for Askari huts/Guard hse	Nr	8.00		
339	Supply to accessories and equipment ; 20mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	425.00		
340	Supply to accessories and equipment ;3x1cx1.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	1,275.00		
341	Galvanized single metal boxes	Nr	50.00		
342	Supply to accessories and equipment ;25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	308.00		
343	Supply to accessories and equipment; 3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	925.00		
344	Galvanized twin metal boxes	Nr	50.00		
345	Supply and install Switches; 10 amp : one gang ; one way ; As Legrand ,ABB or Schneider.	Nr	10.00		
346	Supply and install Switches; 10 amp : two gang ; one way ; As Legrand ,ABB or Schneider.	Nr	16.00		
347	Supply and install Switches; 10 amp : one gang ; two ways ; As Legrand ,ABB or Schneider.	Nr	4.00		
348	Supply and install Switches; 10 amp : intermediate switch; ; As Legrand ,ABB or Schneider.	Nr	4.00		
349	Supply and install Switches; 10 amp : three gang ; one ways ; As Legrand ,ABB or Schneider.	Nr	4.00		
350	Supply and install Switch sockets outlets; Twin 13A switch socket outlets ;As Legrand ,ABB or Schneider.	Nr	40.00		

351	Supply and install Switch sockets outlets; Weatherproof Twin 13A switch socket outlets ;As Legrand ,ABB or Schneider	Nr	10.00		
352	Supply and install Double pole switches ; As ABB or Schneider 20 amp ; marked Hand Drier, Extract fan	Nr	10.00		
353	Supply and install Double pole switches ; As ABB or Schneider 20 amp ; marked AC	Nr	2.00		
353	Supply and install Isolator, three phase. Make Schneider ,ABB; 40 amp 3ph 4pole isolator	Nr	2.00		
354	Supply and install Isolator, three phase. Make Schneider ,ABB; 63 amp 3ph 4pole isolator	Nr	2.00		
355	Supply and install Isolator, three phase. Make Schneider ,ABB ;100 amp 3ph 4pole isolator	Nr	2.00		
356	Supply and fix the following lighting equipments and Luminares ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom ; Round luminaire surface mounted LED 12W surface mounted. Type N	Nr	60.00		
357	Supply and fix the following lighting equipments and Luminares ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom ; IP65, 34 Watt,dust and moisture resistant LED luminaire. Diffuser: polycarbonate with linear prisms. Type H	Nr	53.00		
358	Supply and fix the following lighting equipments and Luminares ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom ; 32 watt LED 600mmx600mm panel light, recessed energy efficient luminaire. Type M	Nr	10.00		
359	Supply and fix the following lighting equipments and Luminares ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom ;Artes Graphite 360lm 4000K Ra>80 Trailing edge dimming 8W LED IK10 IP65 Outdoor wall mounted light fixture	Nr	20.00		
360	Supply and fix the following lighting equipments and Luminares ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom ; 41 Watts IP66 LED,Class I electrical, IP66, IK08. Street light 6 meter pole.Base,anchcor bolts,concrete plinth and arms: die-cast aluminium (LM6),Canopy: spun aluminium, all powder coated dark sandy grey 900 (close to RAL7043). Type E	Nr	40.00		
361	Supply and fix the following lighting equipments and Luminares ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom ; Integrated solar street light 90W LED complete with solar panel, Lithium battery and 8m galvanized pole.	Nr	10.00		

362	Supply and fix the following lighting equipments and Luminaires ; complete with control gear,LED lamps tubes or bulbs and all accessories as Thorn United Kingdom ; LED Downlight HG 12W IP44 CODE:140057167 downlight performer HG,Type D.	Nr	20.00		
EARTHING	Earth protection system: Provide all necessary earthing high voltage conductivity electrodes with drive head assemblies and earthing clamps with link to earth rods/earth pit and 2x1cx185mm <sup>2</sup> Copper cable PVC Yellow/Green; cables run in parallel for the MPB and all other distribution board for the entire electrical installation system	item	1.00		
364	Provide all necessary earthing high voltage conductivity electrodes with drive head assemblies and earthing clamps with link to earth rods/earth pit and 2x1cx185mm <sup>2</sup> Copper cable PVC Yellow/Green; cables run in parallel for the transformers	item	1.00		
365	Provide all necessary earthing high voltage conductivity electrodes with drive head assemblies and earthing clamps with link to earth rods/earth pit and 1cx185mm <sup>2</sup> Copper cable PVC Yellow/Green; cables run in parallel for the generators	item	1.00		
LIGHTNING PROTECTION	Lightning protection system; Provide 1000x1000x1500mm Earth pit with rods,connectors, soil treatment	Nr	4.00		
367	Lightning protection system; Provide 600x600x1500mm inspection chamber	Nr	4.00		
367	Lightning protection system; Provide 25mmx3mm copper tap annealed copper tape of minimum 99.98% copper purity,complete with clamps saddles, screws and all accessories from roof top to ground.Standard IEC62561. On roof surface and down to earth pit	m	200.00		
368	Lightning protection system; Provide 1000mm height Air terminal - single head	Nr	10.00		
CABLE ROUTE	600x600x1000mm concrete manhole with a heavy duty water tight cover	Nr	50.00		
370	Cable trench 300mm width x 600mm depth made of concrete with a heavy duty cover	Nr	200.00		
371	Cable duct with 4Nos of 150mm dia uPVC pipe	Nr	200.00		
EXTENSION OF 33KV LINE	Construction of 33kV overhead line to site including poles, cables, ACSR conductors, Insulators and all other accessories, complete with all required civil works to enable it to work	Km	5.00		
373	Medium-Voltage Switchgear Circuit-Breaker 36 kV, 31.5 kA, Air-Insulated.complete with all controls, complete protection system, relays, energy measurements for the feeder, measurements of electrical quantities, and all accessories.Make Siemens Germany	Nr	1.00		



PROTECTION	Allow for protecting the work in this Element	item	1.00		
375	Obstruction light to the requirement of aviation with their control board	Nr	5.00		
376 (TESTING AND COMMISSIONING)	Provide sum for testing and commissioning the foregoing and requirements described in the Specifications	item	1.00		
377(FACTORY INSPECTION/VISIT)	Allow cost for factory acceptance test visit to panels, generator, light fixtures, and other equipments manufacturer factory for the Employer representatives comprise of 5 persons for at least five (5) days at Manufacturer's premises, This will include visit coordination, cost for Visa, air tickets, meals and accommodation, local transport and all allowance to the team.	item	1.00		
378(AUXILIARY BUILDING)	LOW VOLTAGE MAIN CIRCUIT INSTALLATION; 250A TP&N, IEC 439-1, BS 5486, type tested Assembly Main panel 4 Ways TPN complete with automatic changeover switch, One incomer and 4 outgoers TPN MCCBs, 3x100ATPN,3x63A TPN ,2x40A TPN status indicator lamps, voltmeter, ammeter and all necessary installation accessories,e.g. surge arrestor, earthing, etc.Free standing panel.	Nr	1.00		
379	Supply and install 4C x 95sq.mm XLPE Armoured Cu cable XLPE/SWA/PVC/Cu cable from generator room to auxiliary building main panel.Manufacturer EURO.	m	35.00		
380	Supply and install 4C x 25sq.mm XLPE Armoured Cu cable XLPE/SWA/PVC/Cu cable fromLV panel to raw power distribution boards.Manufacturer EURO.	m	45.00		
381	Supply and install 4C x 16sq.mm XLPE Armoured Cu cable Cu/XLPE/SWA/PVC from main panel to UPS.Manufacturer EURO.	m	30.00		
382	Supply and install 4C x 10sq.mm XLPE Armoured Cu cable Cu/XLPE/SWA/PVC from LV panel to lifts.Manufacturer EURO.	m	60.00		
383	Supply and install 4C x 10sq.mm XLPE Armoured Cu cable Cu/XLPE/SWA/PVC from clean power panel to clean power distribution board.Manufacturer EURO.	m	60.00		
384	Supply and install 8 ways 100A TP&N distribution board integral with 100/0.3A TPN RCCB and surge protection devise complete with all MCBs, wiring, termination, earthing and accessories.	Nr	3.00		
385	Supply and install 4 ways 63A TP&N distribution board integral with 63/0.3A TPN RCCB and surge protection devise complete with all MCBs and accessories.	Nr	3.00		
386	Cable tray 300X75mm complete with angles, bends, joints, and mounting accessories, including expansion bolts, suspension rods.	m	120.00		
387 ( LIGHTING	20mm diameter heavy gauge PVC conduit	m	2,700.00		

CIRCUITS,FITTINGS AND ACCESSORIES)	including coupling,round boxes and accessories.				
388	Single core 3x1cx1.5sqmm PVC copper cable in three colours ,Brown,Blue,Green.Manufacturer EURO.	m	8,100.00		
389	Galvanized single metal boxes	Nr	75.00		
390	1gang 1way switch 10A.Manufacturer ABB,Schneider or Legrand.	Nr	20.00		
391	1gang 2way switch 10A.Manufacturer ABB,Schneider or Legrand.	Nr	10.00		
392	2gang 1way switch 10A.Manufacturer ABB,Schneider or Legrand.	Nr	10.00		
393	2gang 2way switch 10A.Manufacturer ABB,Schneider or Legrand.	Nr	10.00		
394	Intermediate switch 10A.Manufacturer ABB,Schneider or Legrand.	Nr	6.00		
395	Single metal boxes	Nr	75.00		
396	LIGHT FITTINGS; Light type M: 32 watt LED 600mmx600mm panel light,recessed energy efficient luminaire. As Thorn 96241575 Omega LED 3250-830 HF Q597[STD]	Nr	23.00		
397	Light type EM: 32 watt LED 600mmx600mm panel light,recessed energy efficient luminaire. As Thorn Omega LED with emergency	Nr	9.00		
398	Light type N:IP 30, 3500 lumen, LED slim circular wall or ceiling luminaire in white finish. As thorn novaline SAP code 96642702	Nr	76.00		
390	Light type H: IP65, 34 Watt,dust and moisture resistant LED luminaire.Diffuser: polycarbonate with linear prisms.	Nr	279.00		
391	EBDSM Compact, flush mounted, ceiling PIR presence/absence detectors Infrared programmable by Legrand	Nr	24.00		
392	Light type R: 16 Watt,LED spot light RS141B 1XLED12-32 840 fitting colour in white finish recessed.	Nr	378.00		
393	Photocell dusk till dawn sensor, 180V-250V 50Hz 25A, IP66, waterproof,complete with cable gland	Nr	2.00		
394	25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	1,200.00		
395	3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	3,600.00		
396	Galvanized twin metal boxes	Nr	120.00		
397	DP switches.Manufacturer ABB,Schneider or Legrand.	Nr	25.00		
398	Twin switch socket 13A raw power.Manufacturer ABB,Schneider or Legrand.	Nr	100.00		
399	45A Cooker Control Unit Switch socket,	Nr	1.00		

	complete with all necessary accessories				
400	63A 4 Poles Isolator for lift	Nr	2.00		
401(CLEAN POWER POINTS CIRCUITS AND ACCESSORIES)	25mm diameter pvc conduit with bends,coupling,round boxes and accessories	m	300.00		
402	3x1cx2.5sqmm PVC copper cable.Supplied in three colours ,Brown,Blue,Green.Manufacturer EURO	m	900.00		
403	Galvanized twin metal boxes	Nr	45.00		
404	Smart UPS 10kVA three phase 50Hz,complete with all accessories	Nr	1.00		
405	Twin switch socket 13A clean power.Manufacturer ABB,Schneider or Legrand.	Nr	45.00		
406	LIGHTNING PROTECTION Supply and install; 25mmx3mm copper tap annealed copper tape of minimum 99.98% copper purity,complete with clamps saddles, screws and all accessories from roof top to ground.Standard IEC62561	m	214.00		
407	Copper air terminal 500mm complete with base and all mounting accessories	Nr	4.00		
408	Earth pits with rods,connectors,soil treatment 1000mmx1000mmx1500mm	Nr	4.00		
409	Earth inspection chamber 600mmX600mmx1000mm	Nr	4.00		
HIGH VOLTAGE (HV) SUPPLY AND DISTRIBUTION	Supply from 33kV HT pole to Ring main unit in HV power room; Medium voltage Auto recloser for 33kV line. Outdoor vacuum reclosure 50Hz, 630A, 16kA complete with all control accessories. As ABB make or approved equivalent	Nr	1.00		
<b>WATER SUPPLY INSTALLATION</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 10</b>	<b>MECHANICAL, ELECTRICAL AND PLUMBING INSTALLATIONS</b>				
<b>10.3</b>	<b>PLUMBING INSTALLATIONS</b>				
<b>II</b>	<b>COLD WATER INSTALLATIONS</b>				
BASEMENT FLOOR	Cold and hot water Pipework ; Supply, install, test and commission PPR pipe (DiZAYN GROUP/LESSO/ERA) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture; joints to BS 143 and 126 of approved manufacture ; Pipes ; 20mm diameter	m	50.00		
B	Ditto pipe: 25mm diameter	m	80.00		
C	Ditto pipe ; 32mm diameter	m	50.00		
D	Ditto pipe : 40mm diameter	m	30.00		
E	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		

F	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	2.00		
G	Ditto Gate valve ; 32mm	Nr	3.00		
H	Ditto Gate valve ; 40mm	Nr	2.00		
I	15mm diameter chrome angle valve	Nr	70.00		
J	Supply, install, test and commission 15mm diameter flexible pipe connectors to wash hand basin (WHB), water closet (WCs), etc	Nr	70.00		
K	Supply and fix Water heater, 10litres ; ARISTON or equal approved.	Nr	3.00		
GROUND FLOOR-MAIN BUILDING	Cold and hot water Pipework ; Supply, install, test and commission PPR pipe (DiZAYN GROUP) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture ; joints to BS 143 and 126 of approved manufacture; Pipes ; 20mm diameter	m	10.00		
B	Ditto pipe ; 25mm diameter	m	35.00		
C	Ditto pipe ; 32mm diameter	m	58.00		
D	Ditto pipe ; 40mm diameter	m	12.00		
E	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		
F	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	2.00		
G	Ditto Gate Valve ; 32mm	Nr	2.00		
H	15mm diameter chrome angle valve	Nr	25.00		
I	Supply and fix Water heater, 10litres ; ARISTON or equal approved.	Nr	1.00		
FIRST FLOOR-MAIN BUILDING	Cold and hot water Pipework; Supply, install, test and commission PPR pipe (DiZAYN GROUP/LESSO/ERA) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture; joints to BS 143 and 126 of approved manufacture; 20mm diameter	m	25.00		
B	Ditto pipe ; 25mm diameter	m	45.00		
C	Ditto pipe ; 32mm diameter	m	30.00		
D	Ditto pipe ; 50mm diameter	m	6.00		
E	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		
F	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	2.00		
G	Ditto Gate Valve ; 32mm	Nr	2.00		
H	15mm diameter chrome angle valve	Nr	40.00		
I	Supply, install, test and commission 15mm diameter flexible pipe connectors to wash hand	Nr	40.00		

	basin (WHB), water closet (WCs), etc.				
J	Supply and fix Water heater, 10litres ; ARISTON or equal approved.	Nr	1.00		
SECOND FLOOR-MAIN BUILDING	Cold and hot water Pipework; Supply, install, test and commission PPR pipe (DiZAYN GROUP/ LESSO/ ERA) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture; joints to BS 143 and 126 of approved manufacture ; Pipes ; 20mm diameter	m	20.00		
B	Ditto pipe ; 25mm diameter	m	35.00		
C	Ditto pipe ; 32mm diameter	m	30.00		
D	Ditto pipe ; 50mm diameter	m	6.00		
E	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		
F	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	1.00		
G	Ditto Gate Valve; 32mm	Nr	2.00		
H	15mm diameter chrome angle valve	Nr	24.00		
I	Supply, install, test and commission 15mm diameter flexible pipe connectors to wash hand basin (WHB), water closet (WCs), etc.	Nr	24.00		
J	Supply and fix Water heater, 10litres ; ARISTON or equal approved.	Nr	1.00		
THIRD FLOOR-MAIN BUILDING	Cold and hot water Pipework; Supply, install, test and commission PPR pipe (DiZAYN GROUP/ LESSO/ERA) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture; joints to BS 143 and 126 of approved manufacture ; Pipes ; 20mm diameter	m	24.00		
B	Ditto pipe ; 25mm diameter	m	52.00		
C	Ditto pipe : 32mm diameter	m	30.00		
D	Ditto pipe : 50mm diameter	m	6.00		
E	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		
F	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	2.00		
G	Ditto Gate Valve ; 20mm	Nr	2.00		
H	15mm diameter chrome angle valve	Nr	32.00		
I	Supply, install, test and commission 15mm diameter flexible pipe connectors to wash hand basin (WHB), water closet (WCs), etc.	Nr	32.00		
J	Supply and fix Water heater, 10litres ; ARISTON or equal approved.	Nr	2.00		
FOURTH FLOOR AND ROOF	Cold and hot water Pipework; Supply, install, test and commission PPR pipe (DiZAYN	m	40.00		

	GROUP/LESSO/ERA) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture; joints to BS 143 and 126 of approved manufacture; Pipes ; 20mm diameter				
B	Ditto pipe ; 25mm diameter	m	150.00		
C	Ditto pipe ; 32mm diameter	m	42.00		
D	Ditto pipe ; 40mm diameter	m	6.00		
E	Ditto pipe ; 50mm diameter	m	85.00		
F	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		
G	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	5.00		
H	Ditto Gate Valve; 32mm	Nr	2.00		
I	Ditto Gate Valve ; 50mm	Nr	2.00		
J	15mm diameter chrome angle valve	Nr	60.00		
K	Supply, install, test and commission 15mm diameter flexible pipe connectors to wash hand basin (WHB), water closet (WCs), etc.	Nr	60.00		
K	Supply and fix Water heater, 10litres ; ARISTON or equal approved.	Nr	2.00		
L	Supply and fix Water heater, 15litres ; ARISTON or equal approved.	Nr	1.00		
GROUND FLOOR-AUXILIARY BUILDING	Cold and hot water Pipework ; Supply, install, test and commission PPR pipe (DiZAYN GROUP/LESSO/ERA) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture ; joints to BS 143 and 126 of approved manufacture; Pipes ; 20mm diameter	m	39.00		
B	Ditto pipe ; 20mm diameter	m	72.00		
C	Ditto pipe ; 32mm diameter	m	25.00		
D	Ditto pipe ; 40mm diameter	m	6.00		
E	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		
F	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	2.00		
G	Ditto Gate Valve ; 32mm	Nr	2.00		
H	15mm diameter chrome angle valve	Nr	36.00		
I	Supply, install, test and commission 15mm diameter flexible pipe connectors to wash hand basin (WHB), water closet (WCs), et	Nr	36.00		
FIRST FLOOR-AUXILIARY BUILDING	Cold and hot water Pipework ; Supply, install, test and commission PPR pipe (DiZAYN GROUP) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture; joints to BS 143 and	m	5.00		

	126 of approved manufacture; Pipes ; 20mm diameter				
B	Ditto pipe ; 25mm diameter	m	12.00		
C	Ditto pipe ; 32mm diameter	m	45.00		
D	Ditto pipe ; 40mm diameter	m	12.00		
E	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		
F	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	1.00		
G	Ditto Gate Valve ; 32mm	Nr	3.00		
H	15mm diameter chrome angle valve	Nr	35.00		
I	Supply, install, test and commission 15mm diameter flexible pipe connectors to wash hand basin (WHB), water closet (WCs), etc.	Nr	35.00		
J	Supply and fix Water heater, 50litres ; ARISTON or equal approved.	Nr	1.00		
SECOND FLOOR & ROOF PLAN-AUXILIARY BUILDING	Cold and hot water Pipework; Supply, install, test and commission PPR pipe (DiZAYN GROUP) and tubing class "6" to BS 4554 with screwed and socketed joints to BS 143 and 126 of approved manufacture; joints to BS 143 and 126 of approved manufacture; Pipes; 20mm diameter	m	5.00		
B	Ditto pipe ; 25mm diameter	m	12.00		
C	Ditto pipe ; 32mm diameter	m	70.00		
D	Ditto pipe ; 50mm diameter	m	30.00		
E	Allow for other fittings i.e. elbow, tee, reducer, female elbow, female tee, sockets, threaded plug etc.	item	1.00		
F	Gate Valve; B.S. 1010; Part 2: wheel head; polished by manufacturer;joints to pipe; both ends screwed male iron ; 20mm	Nr	1.00		
G	Ditto Gate Valve ; 32mm	Nr	3.00		
H	15mm diameter chrome angle valve	Nr	20.00		
I	Supply, install, test and commission 15mm diameter flexible pipe connectors to wash hand basin (WHB), water closet (WCs), etc.	Nr	20.00		
ROOFTOP	Water Booster Pump at rooftop Supply, install, test and commission duplicate two water booster pumps each with capacity 2m³/hr at 20m head, complete with pressure tank, control panel, dry running protection and all necessary accessories, manufactured by Grundfos or similar equal approved. There should be two pumps, one operating and the other standby	Set	2.00		
FIRST FLOOR-AUXILIARY BUILDING	Supply and fix Water heater, 15litres ; ARISTON or equal approved.	Nr	1.00		
<b>BILL NO. 4</b>	<b>EXTERNAL WORKS</b>				

<b>ELEMENT NO. 2</b>	<b>GROUND, UNDERGROUND AND ELEVATED WATER TANKS</b>				
<b>2.1</b>	<b>GROUND WATER TANK</b>				
<b>IV</b>	<b>CONCRETE WORK</b>				
A	Water supply connection ; Allow for connection from public water supply main pipe to underground water storage tanks, including supply pipe, water meter, valves and other associated fittings.	item	1.00		
C	Supply, install, test and commission Glass reinforced plates (GRP) roof water storage tank with capacity of 22m3. The tank dimensions: 4x3x2m (LxWxH)	Nr	2.00		
C	Allow for supply, install, test and commission valves, flanges, pressure ball valve and all necessary fittings for above water tank	item	2.00		
D	Water Pump ; Supply, install, test and commission duplicate two water booster pumps each with capacity 10m <sup>3</sup> /hr at 50m head, complete with pressure tank, control panel, dry running protection and all necessary accessories, manufactured by Grundfos or similar equal approved. There should be two pumps, one operating and the other standby	set	2.00		
E	Water Pump; Allow for supply, install, test and commission float switches and asociated accessories for above installations	set	1.00		
F	Water supply Pipe ; Supply, install, test and commission 50mm diameter gulvanised steel pipe, complete with fittings and supporting brackets for transferring water from underground to roof water tank	m	120.00		
G	Water Pump ; Supply and install 50mm diameter gate valves to support the above installations	Nr	8.00		
H	Water Pump ; Supply install, test and commission 50mm diameter non-return valves to support the above installations	Nr	4.00		
I	Water Pump ; Allow for supply, install, test and commission Water supply pipe 25mm diameter (PPR) and asociated fittings and accessories for site distribution network	m	500.00		
<b>AUXILIARY BUILDING</b>					
<b>BILL NO. 3</b>	<b>MEASURED WORKS</b>				
<b>ELEMENT NO. 3</b>	<b>REINFORCED CONCRETE SUPERSTRUCTURE</b>				
<b>I</b>	<b>FRAMES, STAIRCASES AND RAMPS</b>				
<b>b</b>	<b>Normal; class M25 (C20/25); vibrated around reinforcements</b>				
A	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; 100mm slab	m2	3,702.00		
B	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Horizontal beams	m3	338.00		
C	Reinforced concrete grade "25"; 19mm. granite	m3	232.00		



	or basalt aggregates including vibrating around reinforcement ; Horizontal rib beams				
D	PRE-CAST CONCRETE FINS; Vertical fins 150x650mm, 8.50m high installed to complete with nuts, washers, bolts, screws to bolt in place as per Structural Eng details	No	200.00		
E	PRE-CAST CONCRETE FINS; Vertical fins 150x650mm, 3.00m high: complete with nuts, washers, bolts, screws to bolt in place as per Structural Eng details (bridge/link)	No	21.00		
F	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement; Staircases	m3	112.00		
G	Reinforced concrete grade "25"; 19mm. granite or basalt aggregates including vibrating around reinforcement; 150mm thick Suspended Landing	m3	113.00		
H	GUTTER ; Reinforced concrete grade "25" including vibrating around reinforcement; 150mm Thick concrete gutter size 2150x550mm casted with water proofing materials	m	260.00		
I	Precast Concrete; 200x75mm Thick weatger guard precast coping to parapet wall	m	260.00		
<b>a</b>	<b>Normal; class M30 (C25/30); vibrated around reinforcement; including concrete admixtures and additives</b>				
A	Reinforced concrete grade "30"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Columns	m3	304.00		
B	Reinforced concrete grade "30"; 19mm. granite or basalt aggregates including vibrating around reinforcement ; Lift shaft wall	m3	178.00		
<b>III</b>	<b>FORMWORK TO CONCRETE SURFACE</b>				
<b>a</b>	<b>Formwork generally; wrot/wrought or sawn (delete that is not applicable)</b>				
A	Vertical sides of columns	m2	2,029.00		
B	Lift shaft walls	m2	1,035.00		
C	Sides and soffit of horizontal beam	m2	2,504.00		
D	Sides and soffit of horizontal rib beam	m2	2,456.00		
E	Soffit of slab and the like	m2	3,702.00		
F	Vertical riser of 150mm but n.e 225mm	m2	972.00		
G	Sloping soffit of staircases	m2	294.00		
H	Soffit of suspended Landing	m2	113.00		
I	Vertical side of open raking string 300mm (extreme) high including cutting profile of treads and risers	m	98.00		
J	Vertical riser 150mm high	m	156.00		
K	Sides and soffits of concrete gutter	m2	1,131.00		
<b>V</b>	<b>OTHER STRUCTURES</b>				
<b>a</b>	<b>In situ concrete works</b>				
A	Bars; high yield steel; cold worked; B.S. 4466;	Kg	22,344.00		

	460 N/mm <sup>2</sup> ; Straight or bent ; 8mm diameter bars				
B	10mm diameter bars	Kg	5,473.00		
C	12mm diameter bars	Kg	37,944.00		
D	16mm diameter bars	Kg	9,551.00		
E	20mm diameter bars	Kg	35,514.00		
F	25mm diameter bars	Kg	164,842.00		
G	10mm diameter bars; To stairs	Kg	2,499.00		
H	12mm diameter bars ; To stairs	Kg	71.00		
I	12mm diameter bars ; To Gutters	Kg	36,900.00		
<b>ELEMENT NO. 5</b>	<b>INTERNAL WALLING</b>				
<b>II</b>	<b>BLOCKWORK; INTERNALLY</b>				
<b>a</b>	<b>Blockwork; concrete blocks, BS 6073; type A; solid, dense aggregate, average compressive strength 5-7N/mm<sup>2</sup> ; in cement mortar (1:4)</b>				
A	100mm Wall	m <sup>2</sup>	173.00		
B	150mm Wall	m <sup>2</sup>	1,913.00		
C	230mm Wall	m <sup>2</sup>	791.00		
D	Parapet Wall; Solid Concrete blocks; B.S. 6073; type A; 7.0N per square millimetre average compressive strength; solid; in cement mortar (1:4); 150mm Wall	m <sup>2</sup>	530.00		
<b>IV</b>	<b>COMPOSITE UNITS/ PURPOSE MADE UNITS</b>				
<b>a</b>	<b>Light / Demountable partitions</b>				
A	Dry Partition ;18mm High pressure laminated partition including a 100mm (floor clearance) complete with door and all necessary iron momgery and fittings	m <sup>2</sup>	189.00		
<b>ELEMENT NO. 6</b>	<b>DOORS</b>				
<b>III</b>	<b>HARDWOOD DOOR; LOCAL SPECIES; MNINGA OR MKONGO</b>				
A	Doors; solid hardwood 'Mkongo/Mninga" ; fixing 40mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid Hardwood(Mkongo/Mninga)door equipped with high-security locks with access control panel in addition of SS push and pull handle ; Door Size 1500 x 2400 mm overall D1	Nr	14.00		
B	Doors; solid hardwood 'Mkongo/Mninga" ; fixing 40mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid Hardwood(Mkongo/Mninga)door equipped with high-security locks with access control panel in addition of SS push and pull handle ; Door Size 1500 x 2400 mm overall D2	Nr	9.00		
C	50mm thick single leaf veneered and polished comprising of 40x150mm stiles top and bottom rails solid hardwood(Mkongo)door equipped with high-security locks with access control panel in addition of SS push and pull handle and double vision panel 200(width) X	Nr	2.00		

	1000(height)mm; Door Size 2000 x 2400 mm overall D7				
D	40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails soild Hardwood(Mkongo)door ; Door Size 900 x 2400 mm overall D3	Nr	49.00		
E	40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom rails soild Hardwood(Mkongo)door ;Door Size 1000 x 2400 mm overall D4	Nr	1.00		
F	FOLDING DOOR; Supply and fix folding door (Enviro Partition - Movable wall) assembly constructed with solid hardwood panes, including necessary hinges, tracks and hardware specified dimension and finish, complete with installation as per drawings; Door Size 18000 x 2400 mm	Nr	1.00		
G	GLASS DOOR; 8mm Thick pivot frameless tempered glass door with patch fittings fins, SS push and pull handle and complete with HAFELE iron mongery including 2No 1000x2100 fixed window of 8mm thick tempered glass; Door Size 4000 x 2400 mm D9	Nr	1.00		
<b>IV</b>	<b>FRAMES AND THE LIKE</b>				
A	Mkongo/Mninga or similar approved hardwood Frames: comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging ; 45 x 210mm. rebated ; screwed and pellated ;	m	346.00		
B	Mkongo/Mninga or similar approved hardwood Frames: comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging ; 45 x 290mm. rebated ; screwed and pellated	m	103.00		
C	Mkongo/Mninga or similar approved hardwood Frames: comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. ; to surfaces requiring plugging ; 45 x 360mm. rebated ; screwed and pellated	m	6.00		
D	Frames sanded smooth, primed and finished with two coats of teak oil or equal and approved for frame thickness; 45x 560mm. rebated; screwed and pellated	m	10.00		
E	Architraves; comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. mould 45 x 50mm Architrave	m	455.00		
F	Architraves; comprising of 0.50 mm thick Veneer finish and polished with oil paint as per Approved Sample. mould ; 45 x 75mm Architrave	m	10.00		
G	40mm thick single leaf veneered and polished comprising of 40x100mm stiles top and bottom	Nr	1.00		

	rails solid Hardwood(Mkongo)door ; Door Size 1000 x 2400 mm overall D4				
<b>V</b>	<b>IRONMONGERY</b>				
<b>a</b>	<b>Supplying and fixing ironmongery; as per design and approved to the Project Manager's approval; to hardwood, softwood or the like; fixing with screws</b>				
A	Supply and fix the following ironmongery as per HAFELLE or equal and approved manufacturer to or timber with suitable screws provided; SS Strike Plate,SS 4Pair 75 x50mm ball bearing hinges	Prs	300.00		
B	Medium Duty Door closer	Nr	76.00		
C	Hafele Door handle Stainless steel brass coloured Cat No. 903.06.038 600mm x 400mm x 25mm for 8-80mm door thickness	Nr	76.00		
D	Cylinder Lock Mortice Lock and handle Complete Set as per HAFELE or Equal Approved	Nr	75.00		
E	Galvanized Cylinder Lock Mortice Lock and handle Complete Set as per HAFELE or Equal Approved	Nr	1.00		
F	Heavy duty bottom hinge, top pivot with top pin hinges (offset pivot hinges)	Nr	1.00		
G	Door Signage/Door Name Plates	Nr	76.00		
<b>ELEMENT NO. 10</b>	<b>FITTINGS AND FIXTURES</b>				
	<b>TELLER CUBICLES</b>				
	<b>PANTRY</b>				
A	Outdoor Bar Counter ; Construct outdoor bar counter: 1100mm high Hardwood timber support structure finished with 6mm veneer board on front surface, 20mm thick granite 600mm wide hand rest, 20mm thick 600mm wide top and leg rest design and approval to Architect, 1 No, 10m long, curved to radii as per Architectural details	item	1.00		
B	Kitchen Cabinet; Supply and fix prime quality 'mkongo'/mninga' or other equal and approved hardwood pre-fabricated/factory made kitchen cabinets, each shutter shall be fixed to the framework using soft close auto hinges and stainless steel cabinet door handle of HAFELE or approved equivalent to Architect's approval; including making holes for pipes and Kitchen Sinks: Including drawers, 20mm thick 600mm wide granite work top (m/s) to Architect's design and approval ; Lower cabinet unit; overall 600 wide x 800 high; overall	m	15.00		
C	Kitchen Cabinet; Supply and fix prime quality 'mkongo'/mninga' or other equal and approved hardwood pre-fabricated/factory made kitchen cabinets, each shutter shall be fixed to the framework using soft close auto hinges and stainless steel cabinet door handle of HAFELE or approved equivalent to Architect's approval; including making holes for pipes and Kitchen Sinks: Including drawers, 20mm thick 600mm	m	15.00		

	wide granite work top (m/s) to Architect's design and approval ; Upper cabinet unit; overall 400 wide x 600 high; overall				
D	Lactation Room; Construct Cabinet: 800mm high 150mm thick solid concrete bocks, wall tiles on one surface, 15mm thick plaster on both surfaces, 20mm thick 600mm wide granite work top (m/s) including making holes for pipes and Kitchen Sinks: Including undercounter cabinet and Drawers of Hardwood Mkongo or equal and approved.	m	4.00		
E	Granite counter tops; Supply and fix selected high quality granite vanity top including necessary fittings to hold top in place ; 20mm Thick purpose made top granite (kitchen, pantry, lacatation)	m2	25.00		
F	Granite counter tops; Supply and fix selected high quality granite vanity top including necessary fittings to hold top in place ; 20mm Thick purpose made top granite (wc)	m2	23.00		
G	Cashier/Servicing Area ; Construct counter; 800mm high 150mm thick solid concrete bocks, wall tiles on one surface, 15mm thick plaster on both surfaces, 20mm thick 600mm wide granite work top (m/s) or equal and approved. Unit; overall 800 wide x 800 high; overall	m2	20.00		
H	Mirror -Gym Area ; Supply and install wall-mounted gym mirrors of size 2x1.5m each, made of 6mm thick high quality, distortion free, polished edge mirror glass, securely fixed to the wall with ss brackets, including necessary adhesives, fasteners and backing film as per recommendations Unit; overall	Nr	5.00		
<b>ELEMENT NO. 4</b>	<b>EXTERNAL WALLING</b>				
<b>IV</b>	<b>CURTAIN/ STRUCTURAL GLASS WALLING</b>				
<b>b</b>	<b>Supply, fix/install, test and commissioning of curtain/ structural glass walling</b>				
A	CURTAIN WALL ; Supply and fix 12.75mm (6.0+0.75GP+6.0) thick glass fixed to metal frames or to concrete background with all associated accessories; double glazing non solar reflective thermal glass fixed to mild steel painted in grey colour frames; Aqua-green Colored glass and grey color frames: as per Arch drawings ; Curtain walling	m2	2,100.00		
<b>ELEMENT NO. 9</b>	<b>FINISHINGS, PAINTING AND DECORATIONS</b>				
<b>I</b>	<b>EXTERNAL FLOOR FINISHINGS</b>				
<b>b</b>	<b>IN-SITU FINISHINGS</b>				
	<b>Screed Flooring</b>				
A	Roof Screeds: Cement and sand (1:4) lightweight screed with approved water proofing compound; 50mm (average) to falls to concrete roof	m2	168.00		
B	PROPRIETARY WATER PROOF PROOFING ; Thoroughly clean concrete	m2	168.00		

	surface to remove all types of dirt; fill all visible cracks, honeycombs and holes as per Krystol specifications No. 1: sand surfaces to smooth level, prepare and apply full coat of krystol T1, and wait for three hours to harden then apply finishing coat of Krystol T2, protect and cure properly as per manufacturer's direction and Krystol specification to concrete slab, over 300mm girth				
C	cement sand screed 1:3 steel trowelled laid to concrete beds to falls and crossfalls; 50mm thick to concrete gutter	m2	520.00		
D	Water Proofing to, Thoroughly clean concrete surface to remove all types of dirt; fill all visible cracks, honeycombs and holes as per Krystol specifications No. 1: sand surfaces to smooth level, prepare and apply full coat of krystol T1, and wait for three hours to harden then apply finishing coat of Krystol T2, protect and cure properly as per manufacturer's direction and Krystol specification; Exposed faces of parapet wall	m2	550.00		
<b>c</b>	<b>FLOOR TILES</b>				
A	Supply and lay 14mm minimum thick COTTO D'ESTE (Claire De'lune) 600x600mm body Matt Porcelain Tiles ; To Floor	m2	3,025.00		
B	Supply and lay 14mm minimum thick COTTO D'ESTE (Avorystone- Satinata) 300x600mm Full body Non-slip Porcelain Tiles ; To wet areas (pantry, changing room and wc)	m2	215.00		
C	Supply and lay 500x500mm Heavy duty Commercial Carpet tiles ; To Floor	m2	1,096.00		
D	Full body Matt Porcelain tiles; 150mm high skirting (Match with floor tiles)	m	1,264.00		
E	20mm Thick treated Hard wood Skirting ; 100mm high skirting	m	328.00		
F	Supply and lay COTTO D'ESTE (Avorystone-Satinata) 300x600mm Full body Non-slip Porcelain Tiles ; 300mm wide Tread	m2	252.00		
G	Supply and lay COTTO D'ESTE (Avorystone-Satinata) 300x600mm Full body Non-slip Porcelain Tiles ; 150mm High Riser	m2	270.00		
H	Supply and Install 4.5mm Vinly flooring to gym with polyurethen adhesive to cement and sand backing (m/s) ; To Gym Floor	m2	313.00		
<b>ii</b>	<b>Beds and backings</b>				
A	30 mm one coat beds; mortar; cement and sand (1:3)screed; to receive porcelain tiles; to concrete or blockwork base; generally to floors; level	m2	3,430.00		
B	12mm to walls	m2	956.00		
<b>i</b>	<b>Terracota/ Porcelain Floor Tiles</b>				
A	Power-floated reinforced concrete surface bed with steel float ; To Floor	m2	84.00		

B	Epoxy based 1 Coat epilac clear primer 2K and 2 coats Epilac floor paints ; To Floor	m2	84.00		
<b>II</b>	<b>EXTERNAL WALL FINISHINGS</b>				
<b>a</b>	<b>In-situ Finishings</b>				
A	INSITU FINISHING ; Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled; 15mm two coat work; to concrete or block work base; generally to Block walls	m2	7,859.00		
B	INSITU FINISHING ; Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled; 15mm two coat work; to concrete or block work base; generally to Sloping sides/waist of stairs 300mm wide	m2	11.00		
C	INSITU FINISHING ; Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled; 15mm two coat work; to concrete or block work base; generally to Soffit of suspended Slab	m2	1,153.00		
D	INSITU FINISHING ; Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled; 15mm two coat work; to concrete or block work base; generally to Soffit of Landing	m2	32.00		
E	INSITU FINISHING ; Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled; 15mm two coat work; to concrete or block work base; generally to sloping soffits of staircase	m2	86.00		
F	INSITU FINISHING ; Plaster; 12mm first coat of cement and sand (1:6); 3mm second coat of gypsum powder or white skimming ; steel trowelled; 15mm two coat work; to concrete or block work base; generally to Isolated Coulmns, beams	m2	923.00		
G	EXTERNALLY ; Cladding ; 12mm thick matt textured Equitone natural cladding complete with all necessary supporting fittings to fix to place all to Engineer and Arch approval ; to Walls,	m2	787.00		
H	EXTERNALLY ; Cladding ; Supply and lay 12mm thick matt textured Equitone natural cladding complete with all necessary supporting fittings to fix to place all to Engineer and Arch approval ; to Fins including exposed beams	m2	4,020.00		
<b>b</b>	<b>Painting</b>				
<b>V</b>	<b>INTERNAL WALLING FINISHINGS</b>				
<b>I</b>	<b>WALL TILES</b>				
<b>a</b>	<b>Glazed ceramic wall tiles; to regular pattern; bedding and jointing in cement mortar (1:1); grouting joints with coloured cement; including matt strip colour of aluminium alloy at edge of blockwork or shear walls</b>				

A	Supply and lay COTTO D'ESTE (Lucidata) 300x600mm Porcelain wall Tiles ;Walls (WC)	m2	913.00		
B	Supply and lay COTTO D'ESTE (Lucidata) 300x600mm Porcelain wall Tiles ; Backsplash (pantry/tea)	m2	43.00		
<b>II</b>	<b>PAINTING</b>				
	<b>Prepare and apply two undercoats and two full coats of vinly wash and wear paint as per Architect's approval</b>				
A	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; Block walls	m2	7,859.00		
B	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; sloping soffits of staircase	m2	86.00		
C	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; sloping sides/waist of stairs	m2	11.00		
D	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ;Isolated Coulmns,beams	m2	923.00		
E	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; Soffit of suspended Slab	m2	1,153.00		
F	Prepare and apply one coat alkali primer, two coats of wash 'n' wear surfacer and finish with two coats of amphibolin 2000 paint to as of PLASCON or equal and approved brand ; Soffit of suspended Landing	m2	32.00		
G	Prepare and apply one coat of sand sealer, one coat of dark stain and two coats of clear eggshell polyurethane varnish. on wood surfaces before fixing ;Frames and the like	m	464.00		
H	Prepare and apply one coat of sand sealer, one coat of dark stain and two coats of clear eggshell polyurethane varnish. on wood surfaces before fixing ;to Architrave	m	464.00		
I	Prepare and apply one coat of sand sealer, one coat of dark stain and two coats of clear eggshell polyurethane varnish. on wood surfaces before fixing ; General surfaces	m2	1,260.00		
	<b>EXTERNAL CEILING FINISHINGS</b>				
	<b>PLAIN SHEET FINISHINGS</b>				
	<b>Gypsum boards; to approval of the Project Manager; fixing with screws to manufacturer's recommendations</b>				



A	12mm Thick gypsum ceiling as per Arch drawings and approval including all necessary support grid system	m2	1,190.00		
B	600x600mm lined gypsum plasterboard ceiling with supporting metal work accessible tile system protected Tee clips to approved sample	m2	1,096.00		
C	Cement Board ; 25mm Thick cement board to cover services to Arch approval, including fixing to position, painting as approved	m2	216.00		
	<b>PATENT SUSPENDED ACOUSTIC CEILING SYSTEM</b>				
	<b>Armstrong; "Cirrus prima" suspended ceiling system or other equal approved; 15 x 600 x 600 mm 100% relative humidity resistance installed in Trulok F24 suspension system main runners at 1200mm centres and cross members at 600mm centers for exposed grid ; wire hangers not exceeding 1000mm long shot-fired to concrete soffit; Trulok matching angle edge trim ; plugging and screwing surfaces requiring plugging at perimeter;</b>				
A	600x600mm profile approved Luxaion suspended perforated tiles with supporting metal work accessible tile system protected Tee clips to approved sample	m2	2,158.00		
<b>VII</b>	<b>STAIRCASE AND RAMP FINISHINGS</b>				
<b>I</b>	<b>BALUSTRADES</b>				
<b>IC</b>	<b>ROLLED PLATES; BARS; SECTION OR TUBES</b>				
	<b>Stainless steel; grade 316; B.S.3100</b>				
A	Balustrade; Provide 316 stainless steel with 63mm dia Polished stainless steel handrail welded to 30mm dia stainless steel pipe balusters, corrosion resistant, heat resistance, high performance to support a continuous load to approval; 900mm High	m	114.00		
<b>ELEMENT NO. 7</b>	<b>WINDOWS</b>				
<b>II</b>	<b>PURPOSE MADE UNITS (ALUMINIUM WINDOWS)</b>				
A	Aluminium Windows ; Bronze Anodized Aluminium Window Frames 100 mm x 40 mm with 6mm Clear Glass fixed to Block work or Concrete work; Window size 1500 x 1800 mm overall W1	m2	10.00		
B	Aluminium Windows ; Bronze Anodized Aluminium Window Frames 100 mm x 40 mm with 6mm Clear Glass fixed to Block work or Concrete work; Window size 1500 x 600 mm overall W3	Nr	2.00		
C	Aluminium Windows ; Bronze Anodized Aluminium Window Frames 100 mm x 40 mm with 6mm Clear Glass fixed to Block work or Concrete work; Window size 1200 x 1800 mm overall W4	Nr	13.00		
<b>ELEMENT NO. 8</b>	<b>ROOF STRUCTURE AND COVERING</b>				
<b>II</b>	<b>STRUCTURAL STEEL</b>				
<b>a</b>	<b>WELDABLE STEELWORK; B.S. 449 PART 2; HOT FINISHED</b>				
	<b>Unframed; bolted and welded site connections Roof trusses</b>				
A	The following in Hot-finished Circular Hollow Section to BS 5920-1: 2000; Hot-finished	Kg	19,692.00		

	circular hollow section roof truss over 18m span but not exceeding 215m span comprising of 60.3mm diameter with 3.2mm thick circular hollow section top, bottom and section diagonal chord. All pipes are to be treated with anti-rust duram AS4, and painted with duram NS8 postop coat paint. Filla-foam to be placed at ends of the pipe to prevent bird ingress (In 5Nos) All accessories inclusive.				
B	'Z' Purlins size 150x50x20x2.5mm spaced at 1.3m centres	m	1,000.00		
C	16mm diameter SAG-ROD	m	3,136.00		
D	100x75x8mm Thick Angle Cleat	m	500.00		
E	250 x 300 x 10mm Thick M/s steel plate with two (2) pre-drilled holes	Nr	40.00		
F	20mm Diameter anchorage bolt, 300mm long including head nut and washers	Nr	80.00		
G	CRADLE SYSTEM; Supply, install, testing and commissioning of a permanent suspended cradle system for external building cleaning and maintenance, mof stainless steel, capacity 120kg, complete with motorized suspension system with galvanized steel ropes; electric control panel with emergency stop, automatic descent incase of power failure, complete with all necessary safety features	item	1.00		
<b>III</b>	<b>PITCHED ROOF COVERING</b>				
<b>I</b>	<b>Roof covering</b>				
A	ROOF COVERING; Supply and fix pitched IT5 Roof sheet covering Guage 26 Coverings; sloping not exceeding 25 degree from horizontal and fixed with appropriate accessories; Roof covering to falls, cross falls or slopes not exceeding 15 degrees from horizontal.	m2	1,163.00		
B	Turn at abutment 250mm wide, turn top edge into groove, wedge and point with cement mortar (1:3)	m	375.00		
C	Working into pipes, gullies and the like	Nr	750.00		
<b>IV</b>	<b>FLAT ROOF WATER PROOFING</b>				
A	Xypex waterproofing underlayment followed by COTTO D'ESTE (Lucidata) 300x600mm Porcelain wall Tiles 300 x 600 x 8mm; joints straight both ways; to cement and sand base; generally to Walls	m2	913.00		
<b>V</b>	<b>RAIN WATER DISPOSAL</b>				
<b>I</b>	<b>RAINWATER INSTALLATIONS</b>				
<b>a</b>	<b>Rainwater down pipework; unplastised PVC pipes and fittings; B.S. 4514; colour to approval; Pipes; solvent weld straight couplings in the running length; embedded in flat concrete/blockwork</b>				
A	RAINWATER INSTALLATION; ROOF OUTLETS Fulbora ; cast aluminium roof outlet ; domed grating cast into concrete and dress roof membrane to suit 110 mm. diameter pipe	Nr	12.00		

B	Carrodon Terrain uPvc rainwater gutter and pipework system ; BS 4576 ; white colour ; fascia brackets at 1.8 m centres ; slip in fittings in running length ;110mm. uPVC pipe stand off wall brackets clips at at 1800mm. Centres	m	329.00		
C	Carrodon Terrain uPvc rainwater gutter and pipework system ; BS 4576 ; white colour ; fascia brackets at 1.8 m centres ; slip in fittings in running length ; extra over for shoe	m	329.00		
<b>Summary</b>					
<b>BILL NO. 4 EXTERNAL WORKS</b>					<b>0.00</b>
<b>BILL NO. 3 MEASURED WORKS</b>					<b>0.00</b>
<b>SERIES 2000 DRAINAGE</b>					<b>0.00</b>
<b>SERIES 4000 BITUMINOUS LAYERS AND SEALS</b>					<b>0.00</b>
<b>SERIES 5000 ANCILLARY ROADWORKS</b>					<b>0.00</b>
<b>BILL NO. 4 BUILDING SERVICES INSTALLATIONS</b>					<b>0.00</b>
<b>BILL NO. 1 PRELIMINARIES AND GENERAL MATTERS</b>					<b>0.00</b>
<b>BILL NO. 2 PRIME COST AND PROVISIONAL SUMS</b>					<b>0.00</b>
<b>BILL NO. 3 MEASURED WORKS</b>					<b>0.00</b>
<b>A. Total of Bills</b>					<b>3,000,000.00</b>
B. Less Specified Provisional Sum					3,000,000.00
C. SUB TOTAL [(A) - (B)]					0.00
D. ADD Provisional Sum of Physical Contingency					0.00
E. SUB TOTAL [(C) + (D)]					0.00
F. ADD Provisional Sum of Variation of Prices					0.00
G. Sub Total [(E) + (F)]					0.00
H. ADD Value Added Tax (VAT) [18% of G]					0.00
<b>I. Bid Price [(A) + (D) +(F) + (H)] Carried to the Form of Tender</b>					<b>3,000,000.00</b>



## **CONTRACT CONDITIONS AND CONTRACT FORMS**

## **SECTION VIII: GENERAL CONDITIONS OF CONTRACT**

## GENERAL CONDITIONS OF CONTRACT

### 1. General Provisions

GCC Clause	GCC Sub Clause	GCC Sub Clause Description
<b>1.1 Definitions</b>	<b>1.1.0</b>	In the Conditions of Contract (“these Conditions”), which include Special Conditions of Contract and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.
<b>1.1.1 The Contract</b>	<b>1.1.1</b>	<p>“<b>Arbitrator</b>” is the person appointed by the Appointing Authority specified in the Special Conditions of Contract (SCC) to resolve contractual disputes, and as provided for in Sub-Clause 20.6 hereunder.</p> <p>“<b>Contract</b>” means the Contract Agreement, the Letter of Acceptance, the Form of Tender, these Conditions, the Specification, the Drawings, the Schedules, and the further documents (if any) which are listed in the Contract Agreement or in the Letter of Acceptance.</p> <p>“<b>Form of Contract</b>” means the contract agreement referred to in Sub-Clause 1.6 [Contract Agreement].</p> <p>“<b>Letter of Acceptance</b>” means the letter of formal acceptance, signed by the Employer, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression “Letter of Acceptance” means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.</p> <p>“<b>Form of Tender</b>” means the document entitled Form of Tender which was completed by the Contractor and includes the signed offer to the Employer for the Works.</p> <p>“<b>Specification</b>” means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.</p> <p>“<b>Drawings</b>” means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.</p> <p>“<b>Schedules</b>” means the document(s) entitled schedules, completed by the Contractor and submitted with the Form of Tender, as included in the Contract. Such document may include the Bill of Quantities, data, lists, and schedules of rates and/or prices.</p> <p>“<b>Tender</b>” means the Form of Tender and all other documents which the Contractor submitted with the Form of Tender, as included in the Contract.</p> <p>“<b>Bill of Quantities</b>” and “<b>Daywork Schedule</b>” and “<b>Schedule of Payment Currencies</b>” mean the documents so named (if any) which are comprised in the Schedules.</p> <p>“<b>Value Engineering</b>” is a systematic and organized approach to provide the necessary functions at optimal cost. Value Engineering should normally enhance performance, reliability, quality, safety, durability, effectiveness, or other desirable characteristics Resulting in more efficient methods, alternatives, time reduction substitution of better materials, or less expensive inputs without sacrificing needed functionality or reliability. Value Engineering could result in the reduction of time or cost or all without sacrificing the needed functionality, longevity, or reliability.</p>
<b>1.1.2 Parties and Persons</b>	<b>1.1.2</b>	<p>“<b>Party</b>” means the Employer or the Contractor, as the context requires.</p> <p>“<b>Employer</b>” means the person named as employer in the SCC and the legal successors in title to this person.</p> <p>“<b>Contractor</b>” means the person(s) named as contractor in the Form of Tender accepted by the Employer and the legal successors in title to this</p>

		<p>person(s).</p> <p><b>“Project Manager”</b> means the person appointed by the Employer to act as the Project Manager for the purposes of the Contract and named in the SCC, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.5.</p> <p><b>“Contractor’s Representative”</b> means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3, who acts on behalf of the Contractor.</p> <p><b>“Employer’s Personnel”</b> means the Project Manager, the assistants referred to in Sub-Clause 3.2 and all other staff, labour and other employees of the Project Manager and of the Employer; and any other personnel notified to the Contractor, by the Employer or the Project Manager, as Employer’s Personnel.</p> <p><b>“Contractor’s Personnel”</b> means the Contractor’s Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.</p> <p><b>“Subcontractor”</b> means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.</p> <p><b>“DARB”</b> one or three persons appointed under Sub-Clause 20.2 [Appointment of the Dispute Avoidance and Resolution Board] or Sub-Clause 20.3 [Failure to Agree on the Composition of the Dispute Avoidance and Resolution Board].</p> <p><b>“Base Date”</b> means the date 28 days prior to the latest date for submission of the Tender.</p> <p><b>“Commencement Date”</b> means the date notified under Sub-Clause 8.1 [Commencement of Works].</p> <p><b>“Time for Completion”</b> means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [Time for Completion], as stated in the SCC (with any extension under Sub-Clause 8.4 [Extension of Time for Completion]), calculated from the Commencement Date.</p> <p><b>“Tests on Completion”</b> means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by the Employer.</p> <p><b>“Taking-Over Certificate”</b> means a certificate issued under Clause 10 [Employer’s Taking Over].</p> <p><b>“Tests after Completion”</b> means the tests (if any) which are specified in the Contract and which are carried out in accordance with the Specification after the Works or a Section (as the case may be) are taken over by the Employer.</p> <p><b>“Defects Notification Period”</b> means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], which extends over twelve months except if otherwise stated in the SCC (with any extension under Sub-Clause 11.3 [Extension of Defects Notification Period]), calculated from the date on which the Works or Section is completed as certified under Sub-Clause 10.1 [Taking Over of the Works and Sections].</p> <p><b>“Performance Certificate”</b> means the certificate issued under Sub-Clause 11.9 [Performance Certificate].</p> <p><b>“day”</b> means a calendar day and “year” means 365 days.</p> <p><b>“Accepted Contract Amount”</b> means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.</p> <p><b>“Contract Price”</b> means the price defined in Sub-Clause 14.1 [The Contract Price], and includes adjustments in accordance with the Contract.</p>
<b>1.1.3 Dates, Tests, Periods and Completion</b>	<b>1.1.3</b>	
<b>1.1.4 Money and Payments</b>	<b>1.1.4</b>	



		<p><b>“Cost”</b> means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.</p> <p><b>“Final Payment Certificate”</b> means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].</p> <p><b>“Final Statement”</b> means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate].</p> <p><b>“Foreign Currency”</b> means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.</p> <p><b>“Interim Payment Certificate”</b> means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.</p> <p><b>“Local Currency”</b> means the currency of the Country.</p> <p><b>“Payment Certificate”</b> means a payment certificate issued under Clause 14 [Contract Price and Payment].</p> <p><b>“Provisional Sum”</b> means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [Provisional Sums].</p> <p><b>“Retention Money”</b> means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].</p> <p><b>“Statement”</b> means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.</p>
<b>1.1.5 Works and Goods</b>	<b>1.1.5</b>	<p><b>“Contractor’s Equipment”</b> means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor’s Equipment excludes Temporary Works, Employer’s Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.</p> <p><b>“Goods”</b> means Contractor’s Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.</p> <p><b>“Materials”</b> means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.</p> <p><b>“Permanent Works”</b> means the permanent works to be executed by the Contractor under the Contract.</p> <p><b>“Plant”</b> means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for the Employer and relating to the construction or operation of the Works.</p> <p><b>“Section”</b> means a part of the Works specified in the SCC as a Section (if any).</p> <p><b>“Temporary Works”</b> means all temporary works of every kind (other than Contractor’s Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.</p>
<b>1.1.6 Other Definitions</b>	<b>1.1.6</b>	<p><b>“Works”</b> mean the Permanent Works and the Temporary Works, or either of them as appropriate.</p> <p><b>“Contractor’s Documents”</b> means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.</p> <p><b>“Country”</b> means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.</p> <p><b>“Employer’s Equipment”</b> means the apparatus, machinery and</p>

vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Employer.

**“Force Majeure”** is defined in Clause 19 [Force Majeure].

**“Laws”** means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

**“Performance Security”** means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security].

**“Site”** means the places where the Permanent Works are to be executed including storage and working areas and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

**“Unforeseeable”** means not reasonably foreseeable by an experienced contractor by the Base Date.

**“Variation”** means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].

**“ES”** means Environmental and Social (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)). **“ES”** means Environmental and Social (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)).

**“Sexual Exploitation and Abuse”** **“(SEA)”** stands for the following:

Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions; and

**“Sexual Harassment”** **“(SH)”** is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Contractor’s Personnel with other Contractor’s or Employer’s Personnel.

## 1.2 Interpretation

### 1.2.1

In the Contract, except where the context requires otherwise:

- (a) words indicating one gender include all genders;
- (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) provisions including the word “agree,” “agreed” or “agreement” require the agreement to be record in writing;
- (d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and
- (e) the word “bid” is synonymous with “Tender”, and “bidder” with “Tenderer” and the words “Bid documents” with “Tendering documents”

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

## 1.3 Communications

### 1.3.1

Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be:

- (a) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the SCC; and
- (b) delivered, sent or transmitted to the address for the recipient’s communications as stated in the SCC. However: (i) if the recipient gives notice of another address, communications shall thereafter be

		delivered accordingly; and (ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.
	<b>1.3.2</b>	Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Project Manager, a copy shall be sent to the Project Manager or the other Party, as the case may be.
<b>1.4 Law and Language</b>	<b>1.4.1</b>	The Contract shall be governed by the law of Tanzania.
	<b>1.4.2</b>	The ruling language of the Contract shall be that stated in the SCC.
	<b>1.4.3</b>	The language for communications shall be that stated in the SCC. If no language is stated there, the language for communications shall be the ruling language of the Contract.
<b>1.5 Priority of Documents</b>	<b>1.5.1</b>	<p>The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:</p> <ul style="list-style-type: none"> <li>(a) Form of Contract;</li> <li>(b) Letter of Acceptance;</li> <li>(c) Special Conditions of Contract;</li> <li>(d) General Conditions of Contract;</li> <li>(e) Specification;</li> <li>(f) Drawings;</li> <li>(g) Bills of Quantities;</li> <li>(h) Completed Schedule (including Price Schedule); and</li> <li>(i) Any other additional documents stated in SCC forming part of contract. The additional documents will be indicated as Appendices [from Appendix 1 - Appendix nth].</li> </ul>
	<b>1.5.2</b>	If an ambiguity or discrepancy is found in the documents, the Project Manager shall issue any necessary clarification or instruction.
<b>1.6 Contract Agreement</b>	<b>1.6.1</b>	The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.
	<b>1.6.2</b>	If the Contractor comprises a JV, the authorised representative of the JV shall sign the Contract Agreement in accordance with Sub-Clause 1.15 (Joint and Several Liability)."
<b>1.7 Conditions Precedent to contract effectiveness</b>	<b>1.7.1</b>	The Contract shall come into effect after the Contractor fulfilling the conditions precedent stated in the SCC.
	<b>1.7.2</b>	If the Conditions precedent stipulated on Sub-Clause 1.7.1 is not met by the date specified in the SCC this contract shall not come into effect;
	<b>1.7.3</b>	If the Employer is satisfied that each of the conditions precedent in this contract has been satisfied (except to the extent waived by him, but subject to such conditions as he shall impose in respect of such waiver) he shall promptly issue to the contractor a certificate of Contract commencement, which shall confirm the start date
<b>1.8 Assignment</b>	<b>1.8.1</b>	<p>Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:</p> <ul style="list-style-type: none"> <li>(a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and</li> <li>(b) may, as security in favour of a bank or financial institution, assign its</li> </ul>

right to any moneys due, or to become due, under the Contract.

**1.9 Care and Supply of Documents**

**1.9.1**

The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.

**1.9.2**

Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Project Manager six copies of each of the Contractor's Documents.

**1.9.3**

The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.

**1.9.4**

If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

**1.10 Delayed Drawings or Instructions**

**1.10.1**

The Contractor shall give notice to the Project Manager whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and the nature and amount of the delay or disruption likely to be suffered if it is late.

**1.10.2**

If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Project Manager to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price.

**1.10.3**

After receiving this further notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these matters.

**1.10.4**

However, if and to the extent that the Project Manager's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

**1.11 Employer's Use of Contractor's Documents**

**1.11.1**

As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

**1.11.2**

The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and

		(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.
	<b>1.11.3</b>	The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.
<b>1.12 Contractor's Use of Employer's Documents</b>	<b>1.12.1</b>	As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.
<b>1.13 Confidential Details</b>	<b>1.13.1</b>	The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify the Contractor's compliance with the Contract and allow its proper implementation.
	<b>1.13.2</b>	Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.
<b>1.14 Compliance with Laws</b>	<b>1.14.1</b>	The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the SCC: (a) the Employer shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specification as having been (or to be) obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and (b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licenses and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.
<b>1.15 Joint and Several Liability</b>	<b>1.15.1</b>	If the Contractor constitutes (under applicable Laws) a joint venture or other unincorporated grouping of two or more persons: (a) these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract; (b) these persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons; and (c) (c) the Contractor shall not alter its composition or legal status without the prior consent of the Employer.

<b>1.16 Instructions, Inspections and Audits</b>	<b>1.16.1</b>	The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the site is located.
	<b>1.16.2</b>	The Contractor shall permit the Government of the United Republic of Tanzania to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Government of United Republic of Tanzania if so required by the Government of the Republic of Tanzania.

## 2. THE EMPLOYER

<b>2.1 Right of Access to the Site</b>	<b>2.1.1</b>	The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the SCC. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Employer shall do so in the time and manner stated in the Specification.
	<b>2.1.2</b>	If no such time is stated in the GCC 2.2.1, the Employer shall give the Contractor right of access to, and possession of, the Site within such times as required to enable the Contractor to proceed without disruption in accordance with the programme submitted under Sub-Clause 8.3 [Programme].
	<b>2.1.3</b>	If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to: <ul style="list-style-type: none"> <li>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and</li> <li>(b) payment of any such Cost-plus profit, which shall be included in the Contract Price.</li> </ul>
	<b>2.1.4</b>	After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these matters.
	<b>2.1.5</b>	However, if and to the extent that the Employer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.
<b>2.2 Permits, Licenses or Approvals</b>	<b>2.2.1</b>	The Employer shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly: <ul style="list-style-type: none"> <li>(a) copies of the Laws Tanzania which are relevant to the Contract but are not readily available, and</li> <li>(b) any permits, licenses or approvals required by the Laws of Tanzania: (i) which the Contractor is required to obtain under Sub-Clause 1.14 [Compliance with Laws], (ii) for the delivery of Goods, including clearance through customs, and (iii) for the export of Contractor's Equipment when it is removed from the Site.</li> </ul>
<b>2.3 Employer's Personnel</b>	<b>2.3.1</b>	The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site: <ul style="list-style-type: none"> <li>(a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and</li> <li>(b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].</li> </ul>
<b>2.4 Employer's Claims</b>	<b>2.4.1</b>	If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Employer or the Project Manager shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Employer's Equipment and Free-Issue Material], or for other services requested by the Contractor.
	<b>2.4.2</b>	The notice shall be given as soon as practicable and no longer than 28 days after the Employer became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given

	before the expiry of such period.
<b>2.4.3</b>	The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The Project Manager shall then proceed in accordance with Sub- Clause 3.6 [Determinations] to agree or determine (i) the amount (if any) which the Employer is entitled to be paid by the Contractor, and/or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub- Clause 11.3 [Extension of Defects Notification Period].
<b>2.4.4</b>	This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.



### 3. THE PROJECT MANAGER

<b>3.1 Project Manager's Duties and Authority</b>	<b>3.1.1</b>	The Employer shall appoint the Project Manager who shall carry out the duties assigned to him in the Contract. The Project Manager's staff shall include suitably qualified architects, engineers, quantity surveyors and other professionals who are competent to carry out these duties.
	<b>3.1.2</b>	The Project Manager shall have no authority to amend the Contract.
	<b>3.1.3</b>	The Project Manager may exercise the authority attributable to the Project Manager as specified in or necessarily to be implied from the Contract. If the Project Manager is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the SCC. The Employer shall promptly inform the Contractor of any change to the authority attributed to the Project Manager.
	<b>3.1.4</b>	However, whenever the Project Manager exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval.
	<b>3.1.5</b>	<p>Except as otherwise stated in these Conditions:</p> <ul style="list-style-type: none"> <li>(a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Project Manager shall be deemed to act for the Employer;</li> <li>(b) the Project Manager has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; and</li> <li>(c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Project Manager (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.</li> <li>(d) Any act by the Project Manager in response to a Contractor's request except otherwise expressly specified shall be notified in writing to the Contractor within 28 days of receipt.</li> </ul>
	<b>3.1.6</b>	<p>The Project Manager shall obtain the specific approval of the Employer before taking action under the following Sub-Clauses of these Conditions:</p> <ul style="list-style-type: none"> <li>(a) Sub-Clause 4.12: Agreeing or determining an extension of time and/or additional cost.</li> <li>(b) Sub-Clause 13.1: Instructing a Variation, except in an emergency situation as determined by the Project Manager.</li> <li>(c) Sub-Clause 13.3: Approving a proposal for Variation submitted by the Contractor in accordance with Sub Clause 13.1 or 13.2.</li> <li>(d) Sub-Clause 13.4: Specifying the amount payable in each of the applicable currencies</li> <li>(e) Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Project Manager, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Project Manager, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Project Manager. The Project Manager shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.</li> </ul>

**3.2. The Project  
Manager's Representative**

**3.2.1**

The Project Manager may appoint a Project Manager's Representative and delegate to him/her in accordance with Sub-Clause 3.3 [Delegation by the Project Manager] the authority necessary to act on the Project Manager's behalf at the Site, except to replace the Project Manager's Representative.

**3.2.2**

The Project Manager's Representative (if appointed) shall comply with Sub-Clause 3.1 [Project Manager's Appointment, Duties and Authority] and shall be based at the Site for the whole time that the Works are being executed at the Site. If the Project Managers' Representative is to be temporarily absent from the Site during the execution of the Works, an equivalently qualified, experienced and competent replacement shall be appointed by the Project Manager, and the Contractor shall be given a Notice of such replacement

**3.2.3**

The Project Manager shall obtain the consent of the Employer before appointing or replacing an Project Managers' Representative

**3.3 Delegation by the  
Project Manager**

**3.3.1**

The Project Manager may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident Project Manager, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties.

**3.3.2**

However, unless otherwise agreed by both Parties, the Project Manager shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.6 [Determinations].

**3.3.3**

Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. [Variations and Adjustments] shall apply.

**3.3.4**

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Project Manager. However:

- (a) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Project Manager to reject the work, Plant or Materials;
- (b) if the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Project Manager, who shall promptly confirm, reverse or vary the determination or instruction.

**3.4 Instructions of the  
Project Manager**

**3.4.1**

The Project Manager may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Project Manager, or from an assistant to

		<p>whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.</p> <p>The Contractor shall comply with the instructions given by the Project Manager or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Project Manager or a delegated assistant:</p> <ul style="list-style-type: none"> <li>(a) gives an oral instruction,</li> <li>(b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and</li> <li>(c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation, then the confirmation shall constitute the written instruction of the Project Manager or delegated assistant (as the case may be).</li> </ul>
<b>3.5 Replacement of the Project Manager</b>	<b>3.5.1</b>	<p>Notwithstanding Sub-Clause 3.1, if the Employer intends to replace the Project Manager, the Employer shall, not less than 21 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Project Manager. If the Contractor considers the intended replacement Project Manager to be unsuitable, he has the right to raise reasonable objection against him by notice to the Employer, with supporting particulars, and the Employer shall give full and fair consideration to this objection.</p>
<b>3.6 Determinations</b>	<b>3.6.1</b>	<p>Whenever these Conditions provide that the Project Manager shall proceed in accordance with this Sub Clause 3.5 to agree or determine any matter, the Project Manager shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Project Manager shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.</p>
	<b>3.6.2</b>	<p>The Project Manager shall give notice to both Parties of each agreement or determination, with supporting particulars within 28 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration]</p>

#### 4. THE CONTRACTOR

##### 4.1 Contractor's General Obligations

- 4.1.1** The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Project Manager 's instructions, and shall remedy any defects in the Works.
- 4.1.2** The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.
- 4.1.3** All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible country.
- 4.1.4** The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor;  
(i) shall be responsible for all Contractor 's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and  
(ii) shall not otherwise be responsible for the design or specification of the Permanent Works.
- 4.1.5** The Contractor shall, whenever required by the Project Manager, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Project Manager.
- 4.1.6** The Contractor shall not carry out mobilization to Site (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits) unless the Project Manager gives a Notice of No-objection to the Contractor, a Notice that shall not be unreasonably delayed, to the measures the Contractor proposes to manage the environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel submitted as part of the Tender and agreed as part of the Contract.
- 4.1.7** The Contractor shall submit, to the Project Manager for Review and approval, any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). These MSIPs collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Project Manager for Review.
- 4.1.8** If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the SCC:  
(a) the Contractor shall submit to the Project Manager the Contractor's Documents for this part in accordance with the procedures specified in the Contract;  
(b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Project

Manager to add to the Drawings for co[1]ordination of each Party's designs;

- (c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
- (d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Project Manager the as-built documents and, if applicable, operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Project Manager

## **4.2 Performance Security and ES Performance Security**

### **4.2.1**

The Contractor shall obtain (at its cost) a Performance Security for proper performance and, if applicable, an Environmental and Social (ES) Performance Security for compliance with the Contractor's ES obligations, in the amounts stated in the SCC and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If amounts are not stated in the SCC, this Sub-Clause shall not apply.

### **4.2.2**

The Contractor shall deliver the Performance Security and, if applicable, an ES Performance Security to the Employer within 28 days after receiving the Letter of Acceptance and shall send a copy to the Project Manager. The Performance Security shall be issued by a reputable bank or financial institution selected by the Contractor and shall be in the form annexed to the SCC, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer. The ES Performance Security shall be issued by a reputable bank selected by the Contractor and shall be in the form annexed to the SCC, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer

### **4.2.3**

The Contractor shall ensure that the Performance Security and, if applicable, an ES Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security and, if applicable, an ES Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security and, if applicable, an ES Performance Security until the Works have been completed and any defects have been remedied.

### **4.2.4**

The Employer shall not make a claim under the Performance Security and, if applicable, an ES Performance Security, except for amounts to which the Employer is entitled under the Contract. The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security and, if applicable, an ES Performance Security to the extent to which the Employer was not entitled to make the claim.

### **4.2.5**

The Employer shall return the Performance Security and, if applicable, an ES Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

### **4.2.6**

Without limitation to the provisions of the rest of this Sub Clause, whenever the Project Manager determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation or as a result of cumulative Variations amounting to more than 10 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Project Manager's request promptly increase, or

may decrease, as the case may be, the value of the Performance Security and, if applicable, an ES Performance Security in that currency by an equal percentage.

#### **4.3 Contractor's Representative**

- 4.3.1** The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.
- 4.3.2** Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Project Manager for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.
- 4.3.3** The Contractor shall not, without the prior consent of the Project Manager, revoke the appointment of the Contractor's Representative or appoint a replacement.
- 4.3.4** The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Project Manager's prior consent, and the Project Manager shall be notified accordingly.
- 4.3.5** The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.4 [Instructions of the Project Manager].
- 4.3.6** The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Project Manager has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.
- 4.3.7** The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Project Manager.

#### **4.4 Sub Contractors**

- 4.4.1** The Contractor shall not subcontract the whole of the Works.
- 4.4.2** The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the SCC:
- (a) the Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
  - (b) the prior consent of the Project Manager shall be obtained to other proposed Subcontractors;
  - (c) the Contractor shall give the Project Manager not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and
  - (d) each subcontract shall include provisions which would entitle the Employer to require the subcontract to be assigned to the Employer under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Employer].

	<b>4.4.3</b>	The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.13 [Confidential Details] apply equally to each Subcontractor.
	<b>4.4.4</b>	Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.
<b>4.5 Assignment of Benefit of Subcontract</b>	<b>4.5.1</b>	If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Project Manager, prior to this date, instructs the Contractor to assign the benefit of such obligations to the Employer, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Employer for the work carried out by the Subcontractor after the assignment takes effect.
<b>4.6 Co-operation</b>	<b>4.6.1</b>	The Contractor shall, as specified in the Contract or as instructed by the Project Manager, allow appropriate opportunities for carrying out work to: <ul style="list-style-type: none"> <li>(a) the Employer's Personnel,</li> <li>(b) any other contractors employed by the Employer, and</li> <li>(c) the personnel of any legally constituted public authorities, who may be employed in the execution on or near the Site of any work not included in the Contract.</li> </ul>
	<b>4.6.2</b>	Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor
	<b>4.6.3</b>	If, under the Contract, the Employer is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Project Manager in the time and manner stated in the Specification.
<b>4.7 Setting Out</b>	<b>4.7.1</b>	The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract or notified by the Project Manager. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.
	<b>4.7.2</b>	The Employer shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.
	<b>4.7.3</b>	If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or Cost, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to: <ul style="list-style-type: none"> <li>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and</li> <li>(b) payment of any such Cost-plus profit, which shall be included in the Contract Price.</li> </ul>
	<b>4.7.4</b>	After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.
<b>4.8 Safety Procedures</b>	<b>4.8.1</b>	The Contractor shall: <ul style="list-style-type: none"> <li>(a) comply with all applicable safety regulations,</li> <li>(b) take care for the safety of all persons entitled to be on the Site,</li> <li>(c) use reasonable efforts to keep the Site and Works clear of</li> </ul>

- unnecessary obstruction so as to avoid danger to these persons,
- (d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [Employer's Taking Over], and
- (e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

<b>4.9 Quality Assurance</b>	<b>4.9.1</b>	The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Project Manager shall be entitled to audit any aspect of the system.
	<b>4.9.2</b>	Details of all procedures and compliance documents shall be submitted to the Project Manager for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Project Manager, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.
	<b>4.9.3</b>	Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.
<b>4.10 Site Data</b>	<b>4.10.1</b>	The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on sub- surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.
	<b>4.10.2</b>	<p>To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):</p> <ul style="list-style-type: none"> <li>(a) the form and nature of the Site, including sub- surface conditions,</li> <li>(b) the hydrological and climatic conditions,</li> <li>(c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,</li> <li>(d) the Laws, procedures and labour practices of the Country, and</li> <li>(e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services</li> </ul>
<b>4.11 Sufficiency of the Accepted Contract Amount</b>	<b>4.11.1</b>	<p>The Contractor shall be deemed to:</p> <ul style="list-style-type: none"> <li>(a) have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and</li> <li>(b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].</li> </ul>
	<b>4.11.2</b>	Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the



#### **4.12 Unforeseeable Physical Conditions**

##### **4.12.1**

proper execution and completion of the Works and the remedying of any defects.

In this Sub-Clause, “physical conditions” means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

##### **4.12.2**

If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Project Manager as soon as practicable. This notice shall describe the physical conditions, so that they can be inspected by the Project Manager, and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Project Manager may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

##### **4.12.3**

If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to notice under Sub-Clause 20.1 [Contractor’s Claims] to:

(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

(b) payment of any such Cost, which shall be included in the Contract Price.

##### **4.12.4**

Upon receiving such notice and inspecting and/or investigating these physical conditions, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine

(i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub- paragraphs (a) and (b) above related to this extent.

##### **4.12.5**

However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Project Manager may also review whether other physical conditions in similar parts of the Works (if any) were more favourable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favourable conditions were encountered, the Project Manager may proceed in accordance with Sub- Clause 3.6 [Determinations] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.

##### **4.12.6**

The Project Manager shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor’s interpretation of any such evidence

#### **4.13 Rights of Way and Facilities**

##### **4.13.1**

Unless otherwise specified in the Contract, the Employer shall provide access to and possession of the Site including special and/or temporary

		rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Work
<b>4.14 Avoidance of Interference</b>	<b>4.14.1</b>	The Contractor shall not interfere unnecessarily or improperly with: (a) the convenience of the public, or (b) the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others.
	<b>4.14.2</b>	The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.
<b>4.15 Access Route</b>	<b>4.15.1</b>	The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.
	<b>4.15.2</b>	Except as otherwise stated in these Conditions: (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes; (b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions; (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route; (d) the Employer does not guarantee the suitability or availability of particular access routes; and (e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor the execution of the Works. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Project Manager. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.
<b>4.16 Transport of Goods</b>	<b>4.16.1</b>	Unless otherwise stated in the SCC: (a) the Contractor shall give the Project Manager not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site; (b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and (c) the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.
<b>4.17 Contractor's Equipment</b>	<b>4.17.1</b>	The Contractor shall be responsible for all Contractor's Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for.
<b>4.18 Protection of the Environment</b>	<b>4.18.1</b>	The Contractor shall take all necessary measures to: (a) protect the environment (both on and off the Site); and (b) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor's operations and/ or activities.  The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor's activities shall exceed neither the values indicated in the Specification, nor those prescribed

		by applicable Laws.
	<b>4.18.2</b>	In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor's operations, the Contractor shall agree with the Project Manager the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Project Manager.
<b>4.19 Electricity, Water and Gas</b>	<b>4.19.1</b>	The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the Specifications, for the tests.
	<b>4.19.2</b>	The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specification. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.
	<b>4.19.3</b>	The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Project Manager in accordance with Sub-Clause 2.4 [Employer's Claims] and Sub-Clause 3.6 [Determinations]. The Contractor shall pay these amounts to the Employer.
<b>4.20 Employer's Equipment and Free-Issue Materials</b>	<b>4.20.1</b>	The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification: <ul style="list-style-type: none"> <li>(a) the Employer shall be responsible for the Employer's Equipment, except that</li> <li>(b) the Contractor shall be responsible for each item of Employer's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.</li> </ul>
	<b>4.20.2</b>	The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined by the Project Manager in accordance with Sub-Clause 2.4 [Employer's Claims] and Sub-Clause 3.6 [Determinations]. The Contractor shall pay these amounts to the Employer.
	<b>4.20.3</b>	The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the Project Manager of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.
	<b>4.20.4</b>	After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection
<b>4.21 Progress Reports</b>	<b>4.21.1</b>	Unless otherwise stated in the SCC, monthly progress reports shall be prepared by the Contractor and submitted to the Project Manager in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.
	<b>4.21.2</b>	Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.
	<b>4.21.3</b>	Each report shall include:

- (a) charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- (b) photographs showing the status of manufacture and of progress on the Site;
- (c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of: (i) commencement of manufacture, (ii) Contractor's inspections, (iii) tests, and (iv) shipment and arrival at the Site;
- (d) the details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];
- (e) copies of quality assurance documents, test results and certificates of Materials;
- (f) list of notices given under Sub-Clause 2.4 [Employer's Claims] and notices given under Sub-Clause 20.1 [Contractor's Claims];
- (g) the Environmental and Social (ES) metrics set out in Appendix A; and comparisons of actual and planned progress, with details of any events or circumstances which may jeopardise the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

#### **4.21.4**

In addition to the reporting requirement of sub-paragraph (g) of Sub-Clause 4.21.3 the Contractor shall inform the Project Manager immediately of any allegation, incident or accident, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's Personnel. This includes, but is not limited to, any incident or accident-causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information.

#### **4.21.5**

The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Sub-Clause

### **4.22 Security of the Site**

#### **4.22.1**

The Contractor shall be responsible for the security of the Site, and:

- (a) for keeping unauthorized persons off the Site;
- (b) authorized persons shall be limited to the Contractor's Personnel, the Employer's Personnel, and to any other personnel identified as authorized personnel (including the Employer's other contractors on the Site), by a Notice from the Employer or the Engineer to the Contractor.

#### **4.22.2**

Subject to Sub-Clause 4.1 [Contractor's General Obligations], the Contractor shall submit for the Project Manager's No-objection a security management plan that sets out the security arrangements for the Site.

	<b>4.22.3</b>	The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor's Personnel, Employer's Personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Specification.
	<b>4.22.4</b>	The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.
	<b>4.22.5</b>	In making security arrangements, the Contractor shall also comply with any additional requirements stated in the Specification."
<b>4.23 Contractor's Operations on Site</b>	<b>4.23.1</b>	The Contractor shall confine his operations to the Site, and to any additional are as which may be obtained by the Contractor and agreed by the Project Manager as additional working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.
	<b>4.23.2</b>	During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.
	<b>4.23.3</b>	Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.
<b>4.24 Fossils</b>	<b>4.24.1</b>	All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.
	<b>4.24.2</b>	The Contractor shall, upon discovery of any such finding, promptly give notice to the Project Manager, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to: <ul style="list-style-type: none"> <li>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and</li> <li>(b) payment of any such Cost, which shall be included in the Contract Price.</li> </ul>
	<b>4.24.3</b>	After receiving this further notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these matters.

## 5. NOMINATED SUBCONTRACTORS

<b>5.1 Definition of “nominated Subcontractor”</b>	<b>5.1.1</b>	In the Contract, “nominated Subcontractor” means a Subcontractor: (a) who is stated in the Contract as being a nominated Subcontractor, or (b) whom the Project Manager, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor subject to Sub-Clause 5.2 [Objection to Notification].
<b>5.2 Objection to Nomination</b>	<b>5.2.1</b>	The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Project Manager as soon as practicable, with supporting particulars.
	<b>5.2.2</b>	An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Employer agrees in writing to indemnify the Contractor against and from the consequences of the matter: (a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength; (b) the nominated Subcontractor does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or (c) the nominated Subcontractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontractor shall: (i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract; (ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities; and (iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Subcontractors].
<b>5.3 Payments to nominated Subcontractors</b>	<b>5.3.1</b>	The Contractor shall pay to the nominated Subcontractor the amounts shown on the nominated Subcontractor’s invoices approved by the Contractor which the Project Manager certifies to be due in accordance with the subcontract.
	<b>5.3.2</b>	These amounts plus other charges shall be included in the Contract Price in accordance with sub-paragraph (b) of Sub-Clause 13.5 [Provisional Sums], except as stated in Sub-Clause 5.4 [Evidence of Payments].
<b>5.4 Evidence of Payments</b>	<b>5.4.1</b>	Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Project Manager may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise.
	<b>5.4.2</b>	Unless the Contractor: (a) submits this reasonable evidence to the Project Manager, or (b) satisfies the Project Manager in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and submits to the Project Manager reasonable evidence that the nominated Subcontractor has been notified of the Contractor’s entitlement, then the Employer may (at his sole discretion) pay, direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Employer, the

amount which the nominated Subcontractor was directly paid by the Employer.

## 6. STAFF AND LABOUR

<b>6.1 Engagement of Staff and Labour</b>	<b>6.1.1</b>	Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing.
	<b>6.1.2</b>	The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within Tanzania.
<b>6.2 Rates of Wages and Conditions of Labour</b>	<b>6.2.1</b>	The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.
	<b>6.2.2</b>	The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances, and any benefits as are subject to taxes under the Laws of Tanzania for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.
<b>6.3 Persons in the Service of Employer</b>	<b>6.3.1</b>	The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.
<b>6.4 Labour Laws</b>	<b>6.4.1</b>	The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.
	<b>6.4.2</b>	The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.
<b>6.5 Working Hours</b>	<b>6.5.1</b>	No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the SCC, unless: <ul style="list-style-type: none"> <li>(a) otherwise stated in the Contract,</li> <li>(b) the Project Manager gives consent, or</li> <li>(c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Project Manager.</li> </ul>
	<b>6.5.2</b>	The Contractor shall provide the Contractor's Personnel annual holiday and sick, maternity and family leave, as required by applicable Laws or as stated in the Specification.
	<b>6.6.1</b>	Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Specification
<b>6.6 Facilities for Staff and Labour</b>	<b>6.6.2</b>	The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.
	<b>6.7.1</b>	The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
<b>6.7 Health and Safety</b>	<b>6.7.2</b>	Subject to Sub-Clause 6.7.1, the Contractor shall submit to the Project



Manager for Review a health and safety manual which has been specifically prepared for the Works, the Site and other places (if any) where the Contractor intends to execute the Works

**6.7.3**

The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws. The health and safety manual shall set out all the health and safety requirements under the Contract, which shall include at a minimum:

- (a) the procedures to establish and maintain a safe working environment without risk to health at all workplaces, machinery, equipment and processes under the control of the Contractor, including control measures for chemical, physical and biological substances and agents;
- (b) details of the training to be provided, records to be kept;
- (c) the procedures for prevention, preparedness and response activities to be implemented in the case of an emergency event (i.e. an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning);
- (d) the measures to be taken to avoid or minimize the potential for community exposure to water- borne, water-based, water-related, and vector- borne diseases,
- (e) the measures to be implemented to avoid or minimize the spread of communicable diseases (including transfer of Sexually Transmitted Diseases or Infections (STDs), such as HIV virus) and non-communicable diseases associated with the execution of the Works, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. This includes taking measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent Contract-related labour;
- (f) the policies and procedures on the management and quality of accommodation and welfare facilities if such accommodation and welfare facilities are provided by the Contractor in accordance with Sub-Clause 6.6.1; and any other requirements stated in the Specification.

**6.7.4**

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility.

**6.7.5**

The Contractor shall send, to the Project Manager, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Project Manager may reasonably require.

**6.7.6**

The Contractor shall conduct a COVID-19 and an HIV- AIDS awareness programme via an approved service provider, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the COVID-19 and HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

**6.7.7**

The Contractor shall throughout the contract (including the Defects Notification Period): (i) conduct Information, Education and Consultation Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labour (including all the Contractor's employees, all Sub-Contractors and Consultants'

employees, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to, of Sexually Transmitted Diseases (STD)—or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular; (ii) provide male or female condoms for all Site staff and labour as appropriate; and (iii) provide for STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labour.

**6.7.8** The Contractor shall include in the program to be submitted for the execution of the Works under Sub- Clause 8.3 an alleviation program for Site staff and labour and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related sub-contracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation this program shall not exceed the Provisional Sum dedicated for this purpose

## **6.8 Contractor's Superintendence**

**6.8.1** Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

**6.8.2** Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

## **6.9 Contractor's Personnel**

**6.9.1** The Contractor's Personnel (including Key Personnel, if any) shall be appropriately qualified, skilled, experienced and competent in their respective trades or occupations.

**6.9.2** The Project Manager may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative and Key Personnel (if any), who:

- (a) persists in any misconduct or lack of care;
- (b) carries out duties incompetently or negligently;
- (c) fails to comply with any provision of the Contract;
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment;
- (e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works;
- (f) has been recruited from the Employer's Personnel in breach of Sub-Clause 6.3 [Persons in the Service of Employer];
- (g) undertakes behavior which breaches the Code of Conduct for Contractor's Personnel (ES).

**6.9.3** If appropriate, the Contractor shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience. In the case of replacement of the Contractor's Representative, Sub- Clause 4.3 [Contractor's Representative] shall apply. In the case of replacement of Key Personnel (if any), Sub-Clause 6.12 [Key Personnel] shall apply. Subject to the requirements in

		Sub-Clause 4.3 [Contractor's Representative] and 6.12 [Key Personnel], and notwithstanding any requirement from the Engineer to remove or cause to remove any person, the Contractor shall take immediate action as appropriate in response to any violation of (a) through (g) above. Such immediate action shall include removing (or causing to be removed) from the Site or other places where the Works are being carried out, any Contractor's Personnel who engages in (a), (b), (c), (d),(e) or (g) above or has been recruited as stated in (f) above."
<b>6.10 Records of Contractor's Personnel and Equipment</b>	<b>6.10.1</b>	The Contractor shall submit, to the Project Manager, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Project Manager, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking- Over Certificate for the Works.
<b>6.11 Disorderly Conduct</b>	<b>6.11.1</b>	The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.
<b>6.12 Key Personnel</b>	<b>6.12.1</b>	The Contractor shall, appoint the natural persons named in the SCC to the positions of Key Personnel. If an appointed person fails to act in the relevant position of Key Personnel, the Contractor shall submit to the Project Manager for consent the name and particulars of another person the Contractor proposes to appoint to such position. If consent is withheld or if the Project Manager does not respond within 14 days after receiving any such submission, by giving a Notice stating his/her objection to the appointment of such person (or replacement) with reasons, the Project Manager shall be deemed to have given his/her consent.
	<b>6.12.2</b>	The Contractor shall not, without the Project Manager's prior consent, revoke the appointment of any of the Key Personnel or appoint a replacement (unless the person is unable to act as a result of death, illness, disability or resignation, in which case the appointment shall be deemed to have been revoked with immediate effect and the appointment of a replacement shall be treated as a temporary appointment until the Project Manager gives his/her consent to this replacement, or another replacement is appointed, under this Sub-Clause).
	<b>6.12.3</b>	All Key Personnel shall be based at the Site (or, where Works are being executed off the Site, at the location of the Works) for the whole time that the Works are being executed. If any of the Key Personnel is to be temporarily absent during execution of the Works, a suitable replacement shall be temporarily appointed, subject to the Project Manager's prior consent.
	<b>6.12.4</b>	All Key Personnel shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. If any of the Key Personnel are not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Project Manager.
<b>6.13 Foreign Personnel</b>	<b>6.13.1</b>	The Contractor may bring in to the country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use his best endeavours in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.
	<b>6.13.2</b>	The Contractor shall be responsible for the return of these personnel to

the place where they were recruited or to their domicile. In the event of the death in Tanzania of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

<b>6.14 Supply of Food stuffs and Water</b>	<b>6.14.1</b>	The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.
	<b>6.14.2</b>	The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.
<b>6.15 Measures against Insect and Pest Nuisance</b>	<b>6.15.1</b>	The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.
<b>6.16 Alcoholic Liquor or Drugs</b>	<b>6.16.1</b>	The Contractor shall not, otherwise than in accordance with the Laws of Tanzania, import, sell, give barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter or disposal thereto by Contractor's Personnel.
<b>6.17 Arms and Ammunition</b>	<b>6.17.1</b>	The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.
<b>6.18 Festivals and Religious Customs</b>	<b>6.18.1</b>	The Contractor shall respect Tanzania's recognized festivals, days of rest and religious or other customs.
<b>6.19 Funeral Arrangements</b>	<b>6.19.1</b>	The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of his local employees who may die while engaged upon the Works.
<b>6.20 Prohibition of Forced or Compulsory Labour</b>	<b>6.20.1</b>	The Contractor, including its Subcontractors, shall not employ or engage forced labour. Forced labour consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or similar labour-contracting arrangements.
	<b>6.20.2</b>	No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.
<b>6.21 Prohibition of Harmful Child Labour</b>	<b>6.21.1</b>	The Contractor, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the Laws of Tanzania specifies a higher age (the minimum age). The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.
	<b>6.21.2</b>	The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Project Manager's consent. The Contractor shall be subject to regular monitoring by the Project Manager that includes monitoring of health, working conditions and hours of work.
	<b>6.21.3</b>	Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (a) with exposure to physical, psychological or sexual abuse;
- (b) underground, underwater, working at heights or in confined spaces;
- (c) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads;
- (d) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or
- (e) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.

**6.22 Employment Records of Workers**      **6.22.1**

The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Project Manager, and these records shall be available for inspection by Auditors during normal working hours. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].

**6.23 Workers' Organisations**      **6.23.1**

In accordance with Tanzania's labour laws which recognise workers' rights to form and to join workers' organisations of their choosing and to bargain collectively without interference, the Contractor shall comply with such laws. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner.

**6.23.2**

Where the relevant labour laws substantially restrict workers' organisations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. The Contractor shall not seek to influence or control these alternative means. The Contractor shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organisations and collective bargaining or alternative mechanisms. Workers' organisations are expected to fairly represent the workers in the workforce.

**6.24 Non- Discrimination and Equal Opportunity**      **6.24.1**

The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.

**6.25 Contractor's Personnel Grievance Mechanism**      **6.25.1**

The Contractor shall have a grievance mechanism for Contractor's Personnel, and where relevant the workers' organizations stated in GCC 6.23, to raise workplace concerns. The grievance mechanism shall be proportionate to the nature, scale, risks and impacts of the Contract. The mechanism shall address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner.

<b>6.26 Training of Contractor's Personnel</b>	<b>6.25.2</b>	The Contractor's Personnel shall be informed of the grievance mechanism at the time of engagement for the Contract, and the measures put in place to protect them against any reprisal for its use. Measures will be put in place to make the grievance mechanism easily accessible to all Contractor's Personnel.
	<b>6.25.3</b>	The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available, or substitute for grievance mechanisms provided through collective agreements.
	<b>6.25.4</b>	The grievance mechanism may utilize existing grievance mechanisms, providing that they are properly designed and implemented, address concerns promptly, and are readily accessible to such project workers. Existing grievance mechanisms may be supplemented as needed with Contract-specific arrangements.
	<b>6.26.1</b>	The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA and SH, and health and safety training. As stated in the Specification or as instructed by the Project Manager, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel. The Contractor shall provide training on SEA and SH, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.

## 7. PLANT, MATERIALS AND WORKMANSHIP

<b>7.1 Manner of Execution</b>	<b>7.1.1</b>	The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works: (a) in the manner (if any) specified in the Contract, (b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.
<b>7.2 Samples</b>	<b>7.2.1</b>	The Contractor shall submit the following samples of Materials, and relevant information, to the Project Manager for consent prior to using the Materials in or for the Works: (a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and (b) additional samples instructed by the Project Manager as a Variation. (c) Each sample shall be labelled as to origin and intended use in the Works.
<b>7.3 Inspection</b>	<b>7.3.1</b>	The Employer's Personnel shall at all reasonable times: (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and (b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.
	<b>7.3.2</b>	The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.
	<b>7.3.3</b>	The Contractor shall give notice to the Project Manager whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Project Manager shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Project Manager does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Project Manager, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.
<b>7.4 Testing</b>	<b>7.4.1</b>	This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).
	<b>7.4.2</b>	Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Project Manager, the time and place for the specified testing of any Plant, Materials and other parts of the Works.
	<b>7.4.3</b>	The Project Manager may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.
	<b>7.4.5</b>	The Project Manager shall give the Contractor not less than 24 hours' notice of the Project Manager's intention to attend the tests. If the Project

		Manager does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Project Manager, and the tests shall then be deemed to have been made in the Project Manager's presence.
	<b>7.4.6</b>	If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which the Employer is responsible, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to: (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and (b) payment of any such Cost-plus profit, which shall be included in the Contract Price.
	<b>7.4.7</b>	After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these matters.
	<b>7.4.8</b>	The Contractor shall promptly forward to the Project Manager duly certified reports of the tests. When the specified tests have been passed, the Project Manager shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Project Manager has not attended the tests, he shall be deemed to have accepted the readings as accurate.
<b>7.5 Rejection</b>	<b>7.5.1</b>	If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Project Manager may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.
	<b>7.5.2</b>	If the Project Manager requires this Plant, Materials or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay these costs to the Employer.
<b>7.6 Remedial Work</b>	<b>7.6.1</b>	Notwithstanding any previous test or certification, the Project Manager may instruct the Contractor to: (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract, (b) remove and re-execute any other work which is not in accordance with the Contract, and (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.
	<b>7.6.2</b>	The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).
	<b>7.6.3</b>	If the Contractor fails to comply with the instruction, the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay to the Employer all costs arising from this failure.
<b>7.7 Ownership of Plant and Materials</b>	<b>7.7.1</b>	Except otherwise specified in the Contract, each item of Plant and Materials shall, to the extent consistent with the Laws of Tanzania, become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances: (a) when it is incorporated in the Works; (b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].



<b>7.8 Royalties</b>	<b>7.8.1</b>	<p>Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:</p> <ul style="list-style-type: none"> <li>(a) natural Materials obtained from outside the Site, and</li> <li>(b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.</li> </ul>
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## 8. COMMENCEMENT, DELAYS AND SUSPENSION

<b>8.1 Commencement of Works</b>	<b>8.1.1</b>	<p>Except otherwise specified in the SCC, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Project Manager's instruction recording the agreement of both Parties on such fulfilment and instructing to commence the Works is received by the Contractor:</p> <ul style="list-style-type: none"><li>(a) except if otherwise specified in the SCC, possession of the Site given to the Contractor together with such permission(s) under (a) of Clause 1.14.1 [Compliance with Laws] as required for the commencement of the Works; and</li><li>(b) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.</li></ul>
	<b>8.1.2</b>	<p>If the above said Project Manager's instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Clause 16.2 [Termination by Contractor].</p> <p>Subject to Clause 4.1.7 on the Management Strategies and Implementation Plans and the C-ESMP, Sub-Clause 6.7.2 on the health and safety manual and Sub-Clause 4.22.2 on the security management plan, the Contractor, shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay</p>
<b>8.2 Time for Completion</b>	<b>8.2.1</b>	<p>The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:</p> <ul style="list-style-type: none"><li>(a) achieving the passing of the Tests on Completion, and</li><li>(b) Completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections].</li></ul>
<b>8.3 Programme</b>	<b>8.3.1</b>	<p>The Contractor shall submit a detailed time programme to the Project Manager within 28 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:</p> <ul style="list-style-type: none"><li>(a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,</li><li>(b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),</li><li>(c) the sequence and timing of inspections and tests specified in the Contract, and</li><li>(d) a supporting report which includes: (i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and (ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.</li></ul>
	<b>8.3.2</b>	<p>Unless the Project Manager, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under</p>

		the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.
	<b>8.3.3</b>	The Contractor shall promptly give notice to the Project Manager of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Project Manager may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 13.3 [Variation Procedure].
	<b>8.3.4</b>	If, at any time, the Project Manager gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Project Manager in accordance with this Sub-Clause.
<b>8.4 Extension of Time for Completion</b>	<b>8.4.1</b>	<p>The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking-Over of the Works and Sections] is or will be delayed by any of the following causes:</p> <ul style="list-style-type: none"> <li>(a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,</li> <li>(b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,</li> <li>(c) exceptionally adverse climatic conditions,</li> <li>(d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or</li> <li>(e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors.</li> </ul>
	<b>8.4.2</b>	If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Project Manager in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Project Manager shall review previous determinations and may increase, but shall not decrease, the total extension of time.
<b>8.5 Delays Caused by Authorities</b>	<b>8.5.1</b>	<p>If the following conditions apply, namely:</p> <ul style="list-style-type: none"> <li>(a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in Tanzania,</li> <li>(b) these authorities delay or disrupt the Contractor's work, and</li> <li>(c) the delay or disruption was Unforeseeable, then this delay or disruption will be considered as a cause of delay under subparagraph (b) of Sub-Clause 8.4 [Extension of Time for Completion].</li> </ul>
<b>8.6 Rate of Progress</b>	<b>8.6.1</b>	<p>If, at any time:</p> <ul style="list-style-type: none"> <li>(a) actual progress is too slow to complete within the Time for Completion, and/or</li> <li>(b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme],</li> </ul> <p>other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Project Manager may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.</p>
	<b>8.6.2</b>	Unless the Project Manager notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or

Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.4 [Employer's Claims] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

<b>8.7 Delay Damages</b>	<b>8.6.3</b>	Additional costs of revised methods, including acceleration measures, instructed by the Project Manager to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Employer, without generating, however, any other additional payment benefit to the Contractor.
	<b>8.7.1</b>	If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall be subject to notice under Sub-Clause 2.4 [Employer's Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the SCC, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the SCC.
	<b>8.7.2</b>	These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Employer] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract
<b>8.8 Suspension of Work</b>	<b>8.8.1</b>	The Project Manager may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.
	<b>8.8.2</b>	The Project Manager may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.
<b>8.9 Consequences of Suspension</b>	<b>8.9.1</b>	If the Contractor suffers delay and/or incurs Cost from complying with the Project Manager's instructions under Sub-Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to: <ul style="list-style-type: none"> <li>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and</li> <li>(b) payment of any such Cost, which shall be included in the Contract Price.</li> </ul>
	<b>8.9.2</b>	After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these matters.
	<b>8.9.3</b>	The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].
<b>8.10 Payment for Plant and Materials in Event of Suspension</b>	<b>8.10.1</b>	The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/or Materials which have not been delivered to Site, if: <ul style="list-style-type: none"> <li>(a) the work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days, and</li> <li>(b) the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Project Manager's instructions.</li> </ul>

**8.11 Prolonged Suspension      8.11.1**

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Project Manager’s permission to proceed. If the Project Manager does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Project Manager, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

**8.12 Resumption of Work      8.12.1**

After the permission or instruction to proceed is given, the Contractor and the Project Manager shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Project Manager an instruction to this effect under Clause 13 [Variations and Adjustments].

## 9. TESTS ON COMPLETION

<b>9.1 Contractor's Obligations</b>	<b>9.1.1</b>	The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [Testing], after providing the documents in accordance with sub-paragraph (d) of Sub-Clause 4.1 [Contractor's General Obligations].
	<b>9.1.2</b>	The Contractor shall give to the Project Manager not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Project Manager shall instruct.
	<b>9.1.3</b>	In considering the results of the Tests on Completion, the Project Manager shall make allowances for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests to the Project Manager.
<b>9.2 Delayed Tests</b>	<b>9.2.1</b>	If the Tests on Completion are being unduly delayed by the Employer, Sub-Clause 7.4 [Testing] (fifth paragraph) and/or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.
	<b>9.2.2</b>	If the Tests on Completion are being unduly delayed by the Contractor, the Project Manager may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Project Manager.
	<b>9.2.3</b>	If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.
<b>9.3 Retesting</b>	<b>9.3.1</b>	If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Project Manager or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.
<b>9.4 Failure to Pass Tests on Completion</b>	<b>9.4.1</b>	If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Project Manager shall be entitled to: <ul style="list-style-type: none"> <li>(a) order further repetition of Tests on Completion under Sub-Clause 9.3; if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Employer shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [Failure to Remedy Defects]; or</li> <li>(b) issue a Taking-Over Certificate, if the Employer so requests.</li> </ul>
	<b>9.4.2</b>	In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.4 [Employer's Claims] and Sub-Clause 3.6 [Determinations].
<b>10. EMPLOYER'S TAKING OVER</b>		
<b>10.1 Taking Over of the Works and Sections</b>	<b>10.1.1</b>	Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for

		Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.
	<b>10.1.2</b>	The Contractor may apply by notice to the Project Manager for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.
	<b>10.1.3</b>	<p>The Project Manager shall, within 28 days after receiving the Contractor's application:</p> <ul style="list-style-type: none"> <li>(a) issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or</li> <li>(b) reject the application, giving reasons and specifying the work required to be done by the Contractor to</li> <li>(c) enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.</li> </ul>
	<b>10.1.4</b>	If the Project Manager fails either to issue the Taking- Over Certificate or to reject the Contractor's application within the period of 28 days, and if the Works or Section (as the case may be) are substantially completed in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.
<b>10.2 Taking Over of Parts of the Works</b>	<b>10.2.1</b>	The Project Manager may, at the sole discretion of the Employer, issue a Taking-Over Certificate for any part of the Permanent Works.
	<b>10.2.2</b>	<p>The Employer shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Project Manager has issued a Taking-Over Certificate for this part. However, if the Employer does use any part of the Works before the Taking-Over Certificate is issued:</p> <ul style="list-style-type: none"> <li>(a) the part which is used shall be deemed to have been taken over as from the date on which it is used,</li> <li>(b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Employer, and</li> <li>(c) (c) if requested by the Contractor, the Project Manager shall issue a Taking-Over Certificate for this part.</li> </ul>
	<b>10.2.3</b>	After the Project Manager has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.
	<b>10.2.4</b>	If the Contractor incurs Cost as a result of the Employer taking over and/or using a part of the Works, other than such use as is specified in the Contract or agreed by the Contractor, the Contractor shall (i) give notice to the Project Manager and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such Cost plus profit, which shall be included in the Contract Price. After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine this Cost and profit.
	<b>10.2.5</b>	If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the

value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 8.7 [Delay Damages], and shall not affect the maximum amount of these damages.

### **10.3 Interference with Tests on Completion**

#### **10.3.1**

If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Employer is responsible, the Employer shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.

#### **10.3.2**

The Project Manager shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Project Manager shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.

#### **10.3.3**

If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

#### **10.3.4**

After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these matters.

### **10.4 Surfaces Requiring Reinstatement**

#### **10.4.1**

Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.



## 11. DEFECTS LIABILITY

<b>11.1 Completion of Outstanding Work and Remedying Defects</b>	<b>11.1.1</b>	<p>In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter, the Contractor shall:</p> <p>(a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Project Manager, and</p> <p>(b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Employer on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).</p>
<b>11.2 Cost of Remedying Defects</b>	<b>11.1.2</b>	<p>If a defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) the Employer.</p>
	<b>11.2.1</b>	<p>All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:</p> <p>(a) any design for which the Contractor is responsible,</p> <p>(b) Plant, Materials or workmanship not being in accordance with the Contract, or</p> <p>(c) failure by the Contractor to comply with any other obligation.</p>
	<b>11.2.2</b>	<p>If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Employer, and Sub-Clause 13.3 [Variation Procedure] shall apply.</p>
<b>11.3 Extension of Defects Notification Period</b>	<b>11.3.1</b>	<p>The Employer shall be entitled subject to Sub-Clause 2.4 [Employer's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or by reason of a damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.</p>
	<b>11.3.2</b>	<p>If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [Suspension of Work] or Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired.</p>
<b>11.4 Failure to Remedy Defects</b>	<b>11.4.1</b>	<p>If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by (or on behalf of) the Employer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.</p>
	<b>11.4.2</b>	<p>If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Employer may (at his option):</p> <p>(a) carry out the work himself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;</p> <p>(b) require the Project Manager to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.6 [Determinations]; or</p> <p>(c) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part</p>

which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

<b>11.5 Removal of Defective Work</b>	<b>11.5.1</b>	If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.
<b>11.6 Further Tests</b>	<b>11.6.1</b>	If the work of remedying of any defect or damage may affect the performance of the Works, the Project Manager may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 28 days after the defect or damage is remedied.
	<b>11.6.2</b>	These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under GCC 11.2 [Cost of Remedying Defects], for the cost of the remedial work.
<b>11.7 Right of Access after Taking Over</b>	<b>11.7.1</b>	Until the Performance Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonably required in order to comply with this Clause, except as may be inconsistent with the Employer's reasonable security restrictions.
<b>11.8 Contractor to Search</b>	<b>11.8.1</b>	The Contractor shall, if required by the Project Manager, search for the cause of any defect, under the direction of the Project Manager. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus profit shall be agreed or determined by the Project Manager in accordance with Sub-Clause 3.6 [Determinations] and shall be included in the Contract Price.
<b>11.9 Performance Certificate</b>	<b>11.9.1</b>	Performance of the Contractor's obligations shall not be considered to have been completed until the Project Manager has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.
	<b>11.9.2</b>	The Project Manager shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Periods, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Performance Certificate shall be issued to the Employer.
	<b>11.9.3</b>	Only the Performance Certificate shall be deemed to constitute acceptance of the Works.
<b>11.10 Unfulfilled Obligations</b>	<b>11.10.1</b>	After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.
<b>11.11 Clearance of Site</b>	<b>11.11.1</b>	Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.
	<b>11.11.2</b>	If all these items have not been removed within 28 days after receipt by the Contractor of the Performance Certificate, the Employer may sell or otherwise dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site
	<b>11.11.3</b>	Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

## 12. MEASUREMENT AND EVALUATION

<b>12.1 Works to be Measured</b>	<p><b>12.1.1</b> The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement at Completion], and 14.11 [Application for Final Payment Certificate] the quantities and other particulars detailing the amounts which he considers to be entitled under the Contract. Whenever the Project Manager requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:</p> <ul style="list-style-type: none"> <li>(a) promptly either attend or send another qualified representative to assist the Project Manager in making the measurement, and</li> <li>(b) supply any particulars requested by the Project Manager.</li> </ul>
	<p><b>12.1.2</b> If the Contractor fails to attend or send a representative, the measurement made by (or on behalf of) the Project Manager shall be accepted as accurate.</p>
	<p><b>12.1.3</b> Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Project Manager. The Contractor shall, as and when requested, attend to examine and agree the records with the Project Manager, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.</p>
	<p><b>12.1.4</b> If the Contractor examines and disagrees the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Project Manager of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Project Manager shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Project Manager within 14 days after being requested to examine the records, they shall be accepted as accurate.</p>
<b>12.2 Method of Measurement</b>	<p><b>12.2.1</b> Except as otherwise stated in the Contract and notwithstanding local practice:</p> <ul style="list-style-type: none"> <li>(a) measurement shall be made of the net actual quantity of each item of the Permanent Works, and</li> <li>(b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.</li> </ul>
<b>12.3 Evaluation</b>	<p><b>12.3.1</b> Except as otherwise stated in the Contract, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine the Contract price by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item.</p> <p><b>12.3.2</b> For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contract or, if there is no such item, specified for similar work.</p> <p><b>12.3.3</b> Any item of work included in the Bill of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bill of Quantities and will not be paid for separately.</p> <p><b>12.3.4</b> However, a new rate or price shall be appropriate for an item of work if:</p> <ul style="list-style-type: none"> <li>(a) (i) the measured quantity of the item is changed by more than 25% from the quantity of this item in the Bill of Quantities or other Schedule, (ii) this change in quantity multiplied by such specified rate for this item exceeds 0.25% of the Accepted Contract Amount, (iii) this change in quantity directly changes the Cost per unit quantity of this item by more than 1%, and (iv) this item is not specified in the Contract as a "fixed rate item";</li> <li>(b) (i) the work is instructed under Clause 13 [Variations and Adjustments], (ii) no rate or price is specified in the Contract for</li> </ul>

this item, and (iii) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.

	<b>12.3.5</b>	Each new rate or price shall be derived from any relevant rates or prices in the Contract, with reasonable adjustments to take account of the matters described in sub-paragraph (a) and/or (b), as applicable. If no rates or prices are relevant for the derivation of a new rate or price, it shall be derived from the reasonable Cost of executing the work, together with profit, taking account of any other relevant matters.
	<b>12.3.6</b>	Until such time as an appropriate rate or price is agreed or determined, the Project Manager shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned Works commences.
<b>12.4 Omissions</b>	<b>12.4.1</b>	Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if: <ul style="list-style-type: none"> <li>(a) the Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;</li> <li>(b) the omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and</li> <li>(c) this cost is not deemed to be included in the evaluation of any substituted work; then the Contractor shall give notice to the Project Manager accordingly, with supporting particulars. Upon receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.</li> </ul>

### **13. VARIATIONS AND ADJUSTMENTS**

<b>13.1 Right to Vary</b>	<b>13.1.1</b>	Variations may be initiated by the Project Manager at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal.
	<b>13.1.2</b>	The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Project Manager stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Project Manager shall cancel, confirm or vary the instruction.
	<b>13.1.3</b>	Each Variation may include: <ul style="list-style-type: none"> <li>(a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),</li> <li>(b) changes to the quality and other characteristics of any item of work,</li> <li>(c) changes to the levels, positions and/or dimensions of any part of the Works,</li> <li>(d) omission of any work unless it is to be carried out by others,</li> <li>(e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or</li> <li>(f) changes to the sequence or timing of the execution of the Works.</li> </ul>
	<b>13.1.4</b>	The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Project Manager instructs or approves a Variation.
<b>13.2 Value Engineering</b>	<b>13.2.1</b>	The Contractor may, at any time, submit to the Project Manager a written proposal which (in the Contractor's opinion) will, if adopted,

		(i) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.
	<b>13.2.2</b>	The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub Clause 13.3 [Variation Procedure].
	<b>13.2.3</b>	<p>If a proposal, which is approved by the Project Manager, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:</p> <p>(a) the Contractor shall design this part, sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and</p> <p>(b) if this change results in a reduction in the contract value of this part, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts: (i) such reduction in contract value, resulting from the change, excluding adjustments under Sub Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost], and (ii) the reduction (if any) in the value to the Employer of the varied works, taking account of any reductions in quality, anticipated life or operational efficiencies. However, if amount (i) is less than amount (ii), there shall not be a fee.</p>
<b>13.3 Variation Procedure</b>	<b>13.3.1</b>	<p>If the Project Manager requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:</p> <p>(a) a description of the proposed work to be performed and a programme for its execution,</p> <p>(b) the Contractor's proposal for any necessary modifications to the programme according to Sub[1]Clause 8.3 [Programme] and to the Time for Completion, and (c) the Contractor's proposal for evaluation of the Variation.</p>
	<b>13.3.2</b>	The Project Manager shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.
	<b>13.3.3</b>	Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Project Manager to the Contractor, who shall acknowledge receipt
	<b>13.3.4</b>	Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Project Manager instructs or approves otherwise in accordance with this Clause.
<b>13.4 Payment in Applicable Currencies</b>	<b>13.4.1</b>	If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.
<b>13.5 Provisional Sums</b>	<b>13.5.1</b>	<p>Each Provisional Sum shall only be used, in whole or in part, in accordance with the Project Manager's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Project Manager shall have instructed. For each Provisional Sum, the Project Manager may instruct:</p> <p>(a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or</p> <p>(b) Plant, Materials or services to be purchased by the Contractor, from</p>

		a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price: (i) the actual amounts paid (or due to be paid) by the Contractor, and (ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in the SCC shall be applied.
	<b>13.5.2</b>	The Contractor shall, when required by the Project Manager, produce quotations, invoices, vouchers and accounts or receipts in substantiation.
	<b>13.5.3</b>	The Provisional Sum shall be used to cover the Employer's share of the DARB members' fees and expenses, in accordance with Clause 20. No prior instruction of the Project Manager shall be required with respect to the work of the DARB. The Contractor shall submit the DARB members' invoices and satisfactory evidence of having paid 100% of such invoices as part of the substantiation of those Statements submitted under Sub-Clause 14.3 [Application for Interim Payment Certificates]
<b>13.6 Daywork</b>	<b>13.6.1</b>	For work of a minor or incidental nature, the Project Manager may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub-Clause shall not apply.
	<b>13.6.2</b>	Before ordering Goods for the work, the Contractor shall submit quotations to the Project Manager. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.
	<b>13.6.3</b>	Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Project Manager accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work: <ul style="list-style-type: none"> <li>(a) the names, occupations and time of Contractor's Personnel,</li> <li>(b) the identification, type and time of Contractor's Equipment and Temporary Works, and</li> <li>(c) the quantities and types of Plant and Materials used.</li> </ul>
	<b>13.6.4</b>	One copy of each statement will, if correct, or when agreed, be signed by the Project Manager and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Project Manager, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].
<b>13.7 Adjustments for Changes in Legislation</b>	<b>13.7.1</b>	The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of Tanzania (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.
	<b>13.7.2</b>	If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to: <ul style="list-style-type: none"> <li>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and</li> <li>(b) payment of any such Cost, which shall be included in the Contract Price.</li> </ul>
	<b>13.7.3</b>	After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or

		determine these matters.
	<b>13.7.4</b>	Notwithstanding the foregoing, the Contractor shall not be entitled to such an extension of time if the same shall already have been taken into account in determining an extension and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8.
<b>13.8 Adjustments for Changes in Cost</b>	<b>13.8.1</b>	In this Sub-Clause, “table of adjustment data” means the completed table of adjustment data for local and foreign currencies included in the Schedules. If there is no such table of adjustment data, this Sub-Clause shall not apply.
	<b>13.8.2</b>	If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.
	<b>13.8.3</b>	<p>The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:</p> $P_n = a + bL_n/L_o + cE_n/E_o + dM_n/M_o + \dots$ <p>where:</p> <p>“P<sub>n</sub>” is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period “n”, this period being a month unless otherwise stated in the SCC ;</p> <p>“a” is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;</p> <p>“b”, “c”, “d”, ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;</p> <p>“L<sub>n</sub>”, “E<sub>n</sub>”, “M<sub>n</sub>”, ... are the current cost indices or reference prices for period “n”, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 30 days prior to the last day of the period (to which the particular Payment Certificate relates); and</p> <p>“L<sub>o</sub>”, “E<sub>o</sub>”, “M<sub>o</sub>”, ... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.</p> <p>If the currency in which the Contract Price P<sub>0</sub> is expressed is different from the currency of the indices, a correction factor will be applied to avoid incorrect adjustments of the Contract Price.</p> <p>The correction factor shall be: Z<sub>0</sub>/Z<sub>n</sub>, where:</p> <p>Z<sub>0</sub> = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Base date, and</p> <p>“L<sub>o</sub>”, “E<sub>o</sub>”, “M<sub>o</sub>”, ... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.</p>
	<b>13.8.4</b>	The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Project Manager. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not

correspond to the base cost indices.

- 13.8.5** In cases where the “currency of index” (stated in the table) is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the central bank of Tanzania, of this relevant currency on the above date for which the index is required to be applicable.
- 13.8.6** Until such time as each current cost index is available, the Project Manager shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.
- 13.8.7** If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price: whichever is more favourable to the Employer.
- 13.8.8** The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.



## 14. Contract Price and Payment

14.1 The Contract Price	14.1.1	<p>Unless otherwise stated in the <b>SCC</b>:</p> <ul style="list-style-type: none"><li>(a) the Contract Price shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;</li><li>(b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];</li><li>(c) any quantities which may be set out in the Bill of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities: (i) of the Works which the Contractor is required to execute, or (ii) for the purposes of Clause 12 [Measurement and Evaluation]; and</li><li>(d) the Contractor shall submit to the Project Manager, within 28 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Project Manager may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.</li></ul>
14.2 Advance Payment	14.2.1	<p>The Employer shall make an advance payment, as an interest-free loan for mobilisation and cash flow support, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the <b>SCC</b>.</p>
	14.2.2	<p>Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the <b>SCC</b>, this Sub-Clause shall not apply.</p>
	14.2.3	<p>The Project Manager shall deliver to the Employer and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the <b>SCC</b> or in another form approved by the Employer.</p>
	14.2.4	<p>The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.</p>
	14.2.5	<p>Unless stated otherwise in the <b>SCC</b>, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Project Manager in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:</p> <ul style="list-style-type: none"><li>(a) deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent of the Accepted Contract Amount Less Provisional Sums; and</li><li>(b) deductions shall be made at the amortisation rate stated in the <b>SCC</b> of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment</li></ul>

has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 per cent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment.

**14.2.6** If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Employer] and Sub-Clause 19.6 [Optional Termination, Payment and Release], payable by the Contractor to the Employer.

### **14.3 Application for Interim Payment Certificates**

**14.3.1** The Contractor shall submit a Statement in six copies to the Project Manager after the end of each month, in a form approved by the Project Manager, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the report on the progress during this month in accordance with Sub- Clause 4.21 [Progress Reports].

**14.3.2** The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in subparagraphs (b) to (g) below);
- b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
- c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the **SCC** to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the **SCC**;
- d) any amounts to be added for the advance payment and (if more than one instalment) and to be deducted for its repayments in accordance with Sub-Clause 14.2 [Advance Payment];
- e) any amounts to be added and deducted for Plant and Materials in accordance with Sub- Clause 14.5 [Plant and Materials intended for the Works];
- f) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- g) (g) the deduction of amounts certified in all previous Payment Certificates.

#### **14.4 Schedule of Payments**

##### **14.4.1**

If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:

- (a) the instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub- Clause 14.3 [Application for Interim Payment Certificates];
- (b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
- (c) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less or more than that on which this schedule of payments was based, then the Project Manager may proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less or more than that on which the instalments were previously based.

##### **14.4.2**

If the Contract does not include a schedule of payments, the Contractor shall submit non- binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

#### **14.5 Plant and Materials intended for the Works**

##### **14.5.1**

If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph(e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub- Clause 14.3 [Application for Interim Payment Certificates].

##### **14.5.2**

If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the SCC, this Sub-Clause shall not apply. The Project Manager shall determine and certify each addition if the following conditions are satisfied:

- (a) the Contractor has:
  - (i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
  - (ii) submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence; and either:
- (b) the relevant Plant and Materials:
  - (i) are those listed in the Schedules for payment when shipped,
  - (ii) have been shipped to Tanzania, en route to the Site, in accordance with the Contract; and
  - (iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Project Manager together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to the amount due under this Sub- Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration; or
- (c) the relevant Plant and Materials: (i) are those listed in the Schedules for payment when delivered to the Site, and have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the

<b>14.6 Issue of Interim Payment Certificates</b>	<b>14.5.3</b>	The additional amount to be certified shall be the equivalent of eighty percent of the Project Manager's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.
	<b>14.5.4</b>	The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.
	<b>14.6.1</b>	No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Project Manager shall, within 28 days after receiving a Statement and supporting documents, deliver to the Employer and to the Contractor an Interim Payment Certificate which shall state the amount which the Project Manager fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Project Manager on the Statement.
	<b>14.6.2</b>	However, prior to issuing the Taking-Over Certificate for the Works, the Project Manager shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the <b>SCC</b> . In this event, the Project Manager shall give notice to the Contractor accordingly.
	<b>14.6.3</b>	An Interim Payment Certificate shall not be withheld for any other reason, although: (a) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Project Manager, the value of this work or obligation may be withheld until the work or obligation has been performed. (c) if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Engineer, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Project Manager, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following: (i) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g. from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or

inefficient combustion; (ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts; (iii) failure to implement the C-ESMP e.g. failure to provide required training or sensitization; (iv) failing to have appropriate consents/permits prior to undertaking Works or related activities; (v) failure to submit ES report/s, or failure to submit such reports in a timely manner; (vi) failure to implement remediation as instructed by the Project Manager within the specified timeframe (e.g. remediation addressing non-compliance/s).”

	<b>14.6.4</b>	The Project Manager may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Project Manager’s acceptance, approval, consent or satisfaction.
<b>14.7 Payment</b>	<b>14.7.1</b>	<p>The Employer shall pay to the Contractor:</p> <ul style="list-style-type: none"> <li>(a) the first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub- Clause 4.2 [Performance Security] and Sub- Clause 14.2 [Advance Payment], whichever is later;</li> <li>(b) the amount certified in each Interim Payment Certificate within 56 days after the Project Manager receives the Statement and supporting documents, and</li> <li>(c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate</li> </ul>
	<b>14.7.2</b>	Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.
<b>14.8 Delayed Payment</b>	<b>14.8.1</b>	If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub- Clause 14.7 [Payment], irrespective (in the case of its sub- paragraph (b)) of the date on which any Interim Payment Certificate is issued.
	<b>14.8.2</b>	Unless otherwise stated in the <b>SCC</b> , these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, or if not available, the interbank offered rate, and shall be paid in such currency.
	<b>14.8.3</b>	The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy.
<b>14.9 Payment of Retention Money</b>	<b>14.9.1</b>	When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Project Manager for payment to the Contractor.

	<b>14.9.2</b>	If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.
	<b>14.9.3</b>	Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Project Manager for payment to the Contractor. If a Taking- Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.
	<b>14.9.4</b>	However, if any work remains to be executed under Clause 11 [Defects Liability], the Project Manager shall be entitled to withhold certification of the estimated cost of this work until it has been executed.
	<b>14.9.5</b>	When calculating these proportions, no account shall be taken of any adjustments under Sub- Clause 13.7 [Adjustments for Changes in Legislation] and Sub- Clause 13.8 [Adjustments for Changes in Cost].
	<b>14.9.6</b>	<p>When the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, in the form annexed to the Particular Conditions or in another form approved by the Employer and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security and, if applicable, an ES Performance Security in Sub-Clause 4.2.</p> <p>On receipt by the Employer of the required guarantee, the Engineer shall certify and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release after the latest of the expiry dates of the Defects Notification Periods. The Employer shall return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.</p>
	<b>14.9.7</b>	If the Performance Security and, if applicable, an ES Performance Security required under Sub- Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under them when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Security and, if applicable, an ES Performance Security, when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if applicable, an ES Performance Security
<b>14.10 Statement at Completion</b>	<b>14.10.1</b>	<p>Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Project Manager six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:</p> <ul style="list-style-type: none"> <li>(a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,</li> <li>(b) any further sums which the Contractor considers to be due, and</li> <li>(c) an estimate of any other amounts which the Contractor considers will</li> </ul>

become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

<b>14.11 Application for Final Payment Certificate</b>	<b>14.10.2</b>	The Project Manager shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].
	<b>14.11.1</b>	<p>Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Project Manager, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Project Manager:</p> <p>(a) the value of all work done in accordance with the Contract, and</p> <p>(b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.</p>
	<b>14.11.2</b>	If the Project Manager disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Project Manager may reasonably require within 28 days from receipt of the said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Project Manager the final statement as agreed. This agreed statement is referred to in these Conditions as the “Final Statement”.
<b>14.12 Discharge</b>	<b>14.11.3</b>	However, if, following discussions between the Project Manager and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Project Manager shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Avoidance and Resolution Board’s Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Employer (with a copy to the Project Manager) a Final Statement.
	<b>14.12.1</b>	When submitting the Final Statement, the Contractor shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.
<b>14.13 Issue of Final Payment Certificate</b>	<b>14.13.1</b>	<p>Within 28 days after receiving the Final Statement and discharge in accordance with Sub- Clause 14.11 [Application for Final Payment Certificate] and Sub- Clause 14.12 [Discharge], the Project Manager shall deliver to the Employer and to the Contractor, the Final Payment Certificate which shall state:</p> <p>(a) the amount which he fairly determines is finally due, and</p> <p>(b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be.</p>
	<b>14.13.2</b>	If the Contractor has not applied for a Final Payment Certificate in accordance with Sub- Clause 14.11 [Application for Final Payment

		<p>Certificate] and Sub- Clause 14.12 [Discharge], the Project Manager shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 28 days, the Project Manager shall issue the Final Payment Certificate for such amount as he fairly determines to be due.</p>
<b>14.14 Cessation of Employer's Liability</b>	<b>14.14.1</b>	<p>The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:</p> <ul style="list-style-type: none"> <li>(a) in the Final Statement and also</li> <li>(b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].</li> </ul>
	<b>14.14.2</b>	<p>However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.</p>
<b>14.15 Currencies of Payment</b>	<b>14.15.1</b>	<p>The Contract Price shall be paid in the currency or currencies named in the Schedule of Payment Currencies. If more than one currency is so named, payments shall be made as follows:</p> <ul style="list-style-type: none"> <li>(a) if the Accepted Contract Amount was expressed in Local Currency only: (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Schedule of Payment Currencies, except as otherwise agreed by both Parties; (ii) payments and deductions under Sub- Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and (iii) other payments and deductions under sub- paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above;</li> <li>(b) payment of the damages specified in the SCC, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;</li> <li>(c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;</li> <li>(d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and</li> <li>(e) if no rates of exchange are stated in the Schedule of Payment Currencies, they shall be those prevailing on the Base Date and determined by the central bank of Tanzania.</li> </ul>



<b>15. Termination by Employer</b>		
<b>15.1 Notice to Correct</b>	15.1.1	If the Contractor fails to carry out any obligation under the Contract, the Project Manager may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.
<b>15.2 Termination by Employer</b>	15.2.1	The Employer shall be entitled to terminate the Contract if the Contractor: [Notice to Correct], (a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 (b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract, (c) without reasonable excuse fails: (i) to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or (ii) to comply with a notice issued under Sub- Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work], within 28 days after receiving it, (d) subcontracts the whole of the Works or assigns the Contract without the required agreement, (e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or (f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward: (i) for doing or forbearing to do any action in relation to the Contract, or (ii) for showing or for bearing to show favour or disfavor to any person in relation to the Contract, (g) or if any of the Contractor's Personnel, agents or Subcontractors (f) gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination. (h) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1
	15.2.2	In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (e) or (f), the Employer may by notice terminate the Contract immediately.
	15.2.3	The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.
	15.2.4	The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Project Manager. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.
	15.2.5	After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.
	15.2.6	The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.
<b>15.3 Valuation at Date of Termination</b>	15.3.1	As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine the value of the Works, Goods

		and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.
<b>15.4 Payment after Termination</b>	15.4.1	After a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Employer may: (a) proceed in accordance with Sub-Clause 2.4 [Employer's Claims], (b) withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.
<b>15.5 Employer's Entitlement to Termination for Convenience</b>	15.5.1	The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The
	15.5.2	After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release].
<b>15.6 Corrupt or Fraudulent Practices</b>	15.6.1	If the Employer determines that the Contractor has engaged in corrupt, fraudulent, coercive practices or Collusive Practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 15 shall apply as if such expulsion had been made under Sub-Clause 6.9 [Contractor's Personnel].
	15.6.2	For the purposes of this Sub-Clause: (i) <b>"corrupt practice"</b> means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution; (ii) <b>"fraudulent practice"</b> means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract; (iii) <b>"coercive practices"</b> means harming or threatening to harm, directly or indirectly, persons, or their property to influence their participation in a procurement process, or affect the execution of a contract. (iv) <b>Collusive Practices</b> is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

## 16. Suspension and Termination by Contractor

### 16.1 Contractor's Entitlement to Suspend Work

- 16.1.1 If the Project Manager fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or Sub-Clause 14.7 [Payment], the Contractor may, after giving not less than 21 days' notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.
- 16.1.2 Notwithstanding the above, if the Government has suspended disbursements, which finances in whole or in part the execution of the Works, and no alternative funds are available, the Contractor may by notice suspend work or reduce the rate of work at any time, but not less than 7 days after the Employer having received the suspension notification from the Government.
- 16.1.3 The Contractor's action shall not prejudice his entitlements to financing charges under Sub- Clause 14.8 [Delayed Payment] and to termination under Sub-Clause 16.2 [Termination by Contractor].
- 16.1.4 If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.
- 16.1.5 If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub- Clause 20.1 [Contractor's Claims] to:
- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - (b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

### 16.2 Termination by Contractor

- 16.1.6 After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these matters.
- 16.2.1 The Contractor shall be entitled to terminate the Contract if:
- (a) the Project Manager fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
  - (b) the Contractor does not receive the amount due under an Interim Payment Certificate within 42 days after the expiry of the time stated in Sub-Clause 14.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub- Clause 2.4 [Employer's Claims]),
  - (c) the Employer substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract,
  - (d) the Employer fails to comply with Sub-Clause 1.7 [Assignment],
  - (e) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or
  - (f) the Employer becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.
  - (g) In the event the Government suspends the funds from which part of the payments to the Contractor are being made, if the Contractor has

not received the sums due to him upon expiration of the 14 days referred to in Sub-Clause 14.7 for payments under Interim Payment certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause 14.8 [Delayed Payment], immediately take one or both of the following actions, namely (i) suspend work or reduce the rate of work, and (ii) terminate his employment under the Contract by giving notice to the Employer, with a copy to the Project Manager, such termination to take effect 14 days after the giving of the notice.

- (h) the Contractor does not receive the Project Manager's instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works].

16.2.2 In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub- paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.

16.2.3 The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.

### **16.3 Cessation of Work and Removal of Contractor's Equipment**

16.3.1 After a notice of termination under Sub-Clause 15.5 [Employer's Entitlement to Termination for Convenience], Sub-Clause 16.2 [Termination by Contractor] or Sub- Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

- (a) cease all further work, except for such work as may have been instructed by the Project Manager for the protection of life or property or for the safety of the Works,
- (b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
- (c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

### **16.4 Payment on Termination**

16.4.1 After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Employer shall promptly:

- (a) return the Performance Security to the Contractor,
- (b) pay the Contractor in accordance with Sub- Clause 19.6 [Optional Termination, Payment and Release], and
- (c) pay to the Contractor the amount of any loss or damage sustained by the Contractor as a result of this termination.

## **17. Risk and Responsibility**

### **17.1 Indemnities**

#### **17.1.1**

The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- (a) bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and
- (b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

#### **17.1.2**

The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property].

### **17.2 Contractor's Care of the Works**

#### **17.2.1**

The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.

#### **17.2.2**

After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

#### **17.2.3**

If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Employer's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

#### **17.2.4**

The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has

been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

<b>17.3 Employer's Risks</b>	<b>17.3.1</b>	<p>The risks referred to in Sub-Clause 17.4 below, insofar as they directly affect the execution of the Works in the Country, are:</p> <ul style="list-style-type: none"> <li>(a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,</li> <li>(b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war, within the Country,</li> <li>(c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel,</li> <li>(d) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio- activity,</li> <li>(e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,</li> <li>(f) use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract,</li> <li>(g) design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, and</li> <li>(h) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions.</li> </ul>
<b>17.4 Consequences of Employer's Risks</b>	<b>17.4.1</b>	<p>If and to the extent that any of the risks listed in Sub- Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Project Manager and shall rectify this loss or damage to the extent required by the Employer</p>
	<b>17.4.2</b>	<p>If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:</p> <ul style="list-style-type: none"> <li>(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and</li> <li>(b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (f) and (g) of Sub-Clause 17.3 [Employer's Risks], Cost plus profit shall be payable.</li> </ul>
	<b>17.4.3</b>	<p>After receiving this further notice, the Project Manager shall proceed in accordance with Sub- Clause 3.6 [Determinations] to agree or determine these matters.</p>
<b>17.5 Intellectual and Industrial Property Rights</b>	<b>17.5.1</b>	<p>In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.</p>
	<b>17.5.2</b>	<p>Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.</p>
	<b>17.5.3</b>	<p>The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:</p> <ul style="list-style-type: none"> <li>(a) an unavoidable result of the Contractor's compliance with the Contract, or</li> <li>(b) a result of any Works being used by the Employer: (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or (ii) in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to</li> </ul>

the Base Date or is stated in the Contract.

	<b>17.5.4</b>	The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.
	<b>17.5.5</b>	If a Party is entitled to be indemnified under this Sub- Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.
<b>17.6 Limitation of Liability</b>	<b>17.6.1</b>	Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub- Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4 (b) [Consequences of Employer's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].
	<b>17.6.2</b>	The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub- Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer's Equipment and Free-Issue Material], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in the SCC, or (if such multiplier or other sum is not so stated), the Accepted Contract Amount.
	<b>17.6.3</b>	This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.
<b>17.7 Use of Employer's Accommodation/Facilities</b>	<b>17.7.1</b>	The Contractor shall take full responsibility for the care of the Employer provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).
	<b>17.7.2</b>	If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Project Manager.
	<b>18. Insurance</b>	
<b>18.1 General Requirements for</b>	<b>18.1.1</b>	In this Clause, "insuring Party" means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified

- 18.1.2** Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Employer. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.
- 18.1.3** Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.
- 18.1.4** If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause,  
(i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Employer shall act for Employer's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.
- 18.1.5** Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.
- 18.1.6** The relevant insuring Party shall, within the respective periods stated in the SCC (calculated from the Commencement Date), submit to the other Party:  
(a) evidence that the insurances described in this Clause have been effected, and  
(b) (b) copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].
- 18.1.7** When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Project Manager.
- 18.1.8** Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.
- 18.1.9** Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.
- 18.1.10** If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall



		pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.
	<b>18.1.10</b>	Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Employer in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party
	<b>18.1.11</b>	Payments by one Party to the other Party shall be subject to Sub-Clause 2.4 [Employer's Claims] or Sub-Clause 20.1 [Contractor's Claims], as applicable.
	<b>18.1.12</b>	The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 18) with insurers from any eligible source country.
<b>18.2 Insurance for Works and Contractor's Equipment</b>	<b>18.2.1</b>	The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.
	<b>18.2.2</b>	The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability]).
	<b>18.2.3</b>	The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.
	<b>18.2.4</b>	Unless otherwise stated in the <b>SCC</b> , insurances under this Sub-Clause: <ul style="list-style-type: none"> <li>(a) shall be effected and maintained by the Contractor as insuring Party,</li> <li>(b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage,</li> <li>(c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Employer's Risks],</li> <li>(d) shall also cover, to the extent specifically required in the Tendering documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Employer of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Employer's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated in the <b>SCC</b> (if an amount is not so stated, this sub-paragraph</li> <li>(e) shall not apply), and</li> <li>(f) may however exclude loss of, damage to, and reinstatement of:</li> <li>(g) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),</li> <li>(h) a part of the Works which is lost or damaged in order to reinstate any</li> </ul>

		<p>other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,</p> <p>(i) a part of the Works which has been taken over by the Employer, except to the extent that the Contractor is liable for the loss or damage, and</p> <p>(j) Goods while they are not in the Country, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].</p>
	<b>18.2.5</b>	<p>If, more than one year after the Base Date, the cover described in subparagraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.4 [Employer's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].</p>
<b>18.3 Insurance against Injury to Persons and Damage to Property</b>	<b>18.3.1</b>	<p>The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.</p>
	<b>18.3.2</b>	<p>This insurance shall be for a limit per occurrence of not less than the amount stated in the <b>SCC</b>, with no limit on the number of occurrences. If an amount is not stated in the <b>SCC</b>, this Sub-Clause shall not apply.</p>
	<b>18.3.3</b>	<p>Unless otherwise stated in the <b>SCC</b>, the insurances specified in this Sub-Clause:</p> <p>(a) shall be effected and maintained by the Contractors insuring Party,</p> <p>(b) shall be in the joint names of the Parties,</p> <p>(c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and</p> <p>(d) may however exclude liability to the extent that it arises from: (i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works, (ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and (iii) a cause listed in Sub-Clause 17.3 [Employer's Risks], except to the extent that cover is available at commercially reasonable terms.</p>
<b>18.4 Insurance for Contractor's Personnel</b>	<b>18.4.1</b>	<p>The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.</p>
	<b>18.4.2</b>	<p>The insurance shall cover the Employer and the Project Manager against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.</p>

**18.4.3**

The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.

## 19. Force Majeure

### 19.1 Definition of Force Majeure

19.1.1

In this Clause, “Force Majeure” means an exceptional event or circumstance:

- (a) which is beyond a Party’s control,
- (b) which such Party could not reasonably have provided against before entering into the Contract,
- (c) which, having arisen, such Party could not reasonably have avoided or overcome, and
- (d) which is not substantially attributable to the other Party.

19.1.2

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, (ii) rebellion, terrorism, sabotage by persons other than the Contractor’s Personnel, revolution, insurrection, military or usurped power, or civil war, (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor’s Personnel, (iv) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor’s use of such munitions, explosives, radiation or radio-activity, and (v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

### 19.2 Notice of Force Majeure

19.2.1

If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

19.2.2

The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

19.2.3

Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

### 19.3 Duty to Minimize Delay

19.3.1

Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure.

19.3.2

A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

### 19.4 Consequences of Force Majeure

19.4.1

If the Contractor is prevented from performing its substantial obligations under the Contract by Force Majeure of which notice has been given under Sub- Clause 19.2 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor’s Claims] to: (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and (b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in the case of sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 18.2 [Insurance for Works

	19.4.2	and Contractor's Equipment]. After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine these matters.
<b>19.5 Force Majeure Affecting Subcontractor</b>	19.5.1	If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non- performance or entitle him to relief under this Clause.
<b>19.6 Optional Termination, Payment and Release</b>	19.6.1	If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub- Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].
	19.6.2	Upon such termination, the Project Manager shall determine the value of the work done and issue a Payment Certificate which shall include: <ul style="list-style-type: none"> <li>(a) the amounts payable for any work carried out for which a price is stated in the Contract;</li> <li>(b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal;</li> <li>(c) other Costs or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;</li> <li>(d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and</li> <li>(e) the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.</li> </ul>
<b>19.7 Release from Performance</b>	19.7.1	Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance: <ul style="list-style-type: none"> <li>(a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and</li> <li>(b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.</li> </ul>



## 20. Claims, Disputes and Arbitration

20.1 Contractor's Claims	20.1.1	If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.
	20.1.2	If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.
	20.1.3	The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.
	20.1.4	The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Employer's liability, the Project Manager may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Project Manager to inspect all these records, and shall (if instructed) submit copies to the Project Manager.
	20.1.5	Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect: (a) this fully detailed claim shall be considered as interim; (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Project Manager may reasonably require; and (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Project Manager.
	20.1.6	Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Project Manager and approved by the Contractor, the Project Manager shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.
	20.1.7	Within the above defined period of 42 days, the Project Manager shall proceed in accordance with Sub-Clause 3.6 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.
	20.1.8	Each Payment Certificate shall include such additional payment for any

claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

## 20.2 Appointment of the Dispute Avoidance and Resolution Board

- 20.1.9 If the Project Manager does not respond within the timeframe defined in this Clause, either Party may consider that the claim is rejected by the Project Manager and any of the Parties may refer it to the Dispute Avoidance and Resolution Board in accordance with Sub- Clause 20.4 [Obtaining Dispute Avoidance and Resolution Board’s Decision].
- 20.1.10 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.
- 20.2.1 Disputes shall be referred to a DARB for decision in accordance with Sub-Clause 20.4 [Obtaining Dispute Avoidance and Resolution Board’s Decision]. The Parties shall appoint a DARB by the date stated in the **SCC**.
- 20.2.2 The DARB shall comprise, as stated in the **SCC**, either one or three suitably qualified persons (“the members”), each of whom shall be fluent in the language for communication defined in the Contract and shall be a professional experienced in the type of construction involved in the Works and with the interpretation of contractual documents. If the number is not so stated and the Parties do not agree otherwise, the DARB shall comprise three persons, one of whom shall serve as chairman.
- 20.2.3 If the Parties have not jointly appointed the DARB 21 days before the date stated in the **SCC** and the DARB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The first two members shall recommend and the Parties shall agree upon the third member, who shall act as chairman.
- 20.2.4 The agreement between the Parties and either the sole member or each of the three members shall incorporate by reference the General Conditions of Dispute Avoidance and Resolution Board Agreement contained in the **Appendix B** to these General Conditions, with such amendments as are agreed between them.
- 20.2.5 The terms of the remuneration of either the sole member or each of the three members, including the remuneration of any expert whom the DARB consults, shall be mutually agreed upon by the Parties when agreeing the terms of appointment of the member or such expert (as the case may be). Each Party shall be responsible for paying one- half of this remuneration.
- 20.2.6 If a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.
- 20.2.7 The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DARB (including each member) shall expire when the discharge referred to in Sub-Clause 14.12 [Discharge] shall have become effective.



**20.3 Failure to Agree on the Composition of the Dispute Avoidance and Resolution Board**

20.3.1

If any of the following conditions apply, namely:

(a) the Parties fail to agree upon the appointment of the sole member of the DARB by the date stated in the first paragraph of Sub-Clause 20.2, [Appointment of the Dispute Avoidance and Resolution Board],

(b) either Party fails to nominate a member (for approval by the other Party) or fails to approve a member nominated by the other Party, of a DARB of three persons by such date,

(c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DARB by such date, or

(d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, then the Appointing Entity or official named in the SCC shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DARB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

**20.4 Obtaining Dispute Avoidance and Resolution Board's Decision**

20.4.1

If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Project Manager, either Party may refer the dispute in writing to the DARB for its decision, with copies to the other Party and the Project Manager. Such reference shall state that it is given under this Sub- Clause.

20.4.2

For a DARB of three persons, the DARB shall be deemed to have received such reference on the date when it is received by the chairman of the DARB.

20.4.3

Both Parties shall promptly make available to the DARB all such additional information, further access to the Site, and appropriate facilities, as the DARB may require for the purposes of making a decision on such dispute. The DARB shall be deemed to be not acting as arbitrator(s).

20.4.4

Within 84 days after receiving such reference, or within such other period as may be proposed by the DARB and approved by both Parties, the DARB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

20.4.5

If either Party is dissatisfied with the DARB's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction and intention to commence arbitration. If the DARB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction and intention to commence arbitration.

20.4.6

In either event, this notice of dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in Sub-Clause 20.7 [Failure to Comply with Dispute Avoidance and Resolution Board's Decision] and Sub-Clause 20.8 [Expiry of Dispute Avoidance and Resolution Board's Appointment], neither Party shall be entitled to commence arbitration of a dispute unless a notice of dissatisfaction has been given in accordance with this Sub-Clause.

20.4.7

If the DARB has given its decision as to a matter in dispute to both

<b>20.5 Amicable Settlement</b>	20.5.1	<p>Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the DARB's decision, then the decision shall become final and binding upon both Parties.</p> <p>Where notice of dissatisfaction has been given under Sub-Clause 20.4 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which a notice of dissatisfaction and intention to commence arbitration was given, even if no attempt at amicable settlement has been made.</p>
<b>20.6 Arbitration</b>	20.6.1	<p>Unless indicated otherwise in the SCC, any dispute not settled amicably and in respect of which the DARB's decision (if any) has not become final and binding shall be finally settled by arbitration with proceedings conducted in accordance with an institution whose rules shall be used.</p>
	20.6.2	<p>The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, and any decision of the DARB, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Project Manager from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.</p>
	20.6.3	<p>Neither Party shall be limited in the proceedings before the arbitrators to the evidence or arguments previously put before the DARB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DARB shall be admissible in evidence in the arbitration.</p>
	20.6.4	<p>Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Project Manager and the DARB shall not be altered by reason of any arbitration being conducted during the progress of the Works.</p>
<b>20.7 Failure to Comply with Dispute Avoidance and Resolution Board's Decision</b>	20.7.1	<p>In the event that a Party fails to comply with a DARB decision which has become final and binding, then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub- Clause 20.6 [Arbitration]. Sub-Clause 20.4 [Obtaining Dispute Avoidance and Resolution Board's Decision] and Sub-Clause 20.5 [Amicable Settlement] shall not apply to this reference.</p>
<b>20.8 Expiry of Dispute Avoidance and Resolution Board's Appointment</b>	20.8.1	<p>If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DARB in place, whether by reason of the expiry of the DARB's appointment or otherwise:</p>
		<p>(a) Sub-Clause 20.4 [Obtaining Dispute Avoidance and Resolution Board's Decision] and Sub- Clause 20.5 [Amicable Settlement] shall not apply, and</p> <p>(b) the dispute may be referred directly to arbitration under Sub-Clause 20.6 [Arbitration].</p>

## APPENDIX A

### Environmental, Social, Health and Safety (ESHS)

### Metrics for Progress Reports

*[Note to Employer: the following metrics may be amended to reflect the specifics of the Contract. The Employer shall ensure that the metrics provided are appropriate for the Works and impacts/key issues identified in the environmental and social assessment]*

Metrics for regular reporting:

- a) environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;
- b) health and safety incidents, accidents, injuries that require treatment and all fatalities;
- c) interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);
- d) status of all permits and agreements:
  - i). work permits: number required, number received, actions taken for those not received;
  - ii). status of permits and consents:
    - list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);
    - list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);
    - identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);
    - for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).
- e) health and safety supervision:
  - i). safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;
  - ii). number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
- f) worker accommodations:
  - i). number of expats housed in accommodations, number of locals;
  - ii). date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;
  - iii). actions taken to recommend/require improved conditions, or to improve conditions.
- g) Health services: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);
- h) gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);
- i) training:
  - i). number of new workers, number receiving induction training, dates of induction training;
  - ii). number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
  - iii). number and dates of communicable diseases (including STDs) sensitization and/or training, no. workers receiving training (in the reporting period and in the past); same questions for gender sensitization, flag person training.
  - iv). number and date of SEA and SH prevention sensitization and/or training events, including number of workers receiving training on Code of Conduct for Contractor's Personnel (in the reporting period and in the past), etc.
- j) environmental and social supervision:

- i) environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
  - ii) sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and
  - iii) community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.
- k) Grievances: list new grievances (e.g. number of allegations of SEA and SH) received in the reporting period and number of unresolved past grievances by date received, complainant's age and sex, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed).
- i. Worker grievances;
  - ii. Community grievances
- l) Traffic, road safety and vehicles/equipment:
- i) traffic and road safety incidents and accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
  - ii) traffic and road safety incidents and accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
  - iii) overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
- m) Environmental mitigations and issues (what has been done):
- i) dust: number of working bowsters, number of watering /day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;
  - ii) erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
  - iii) quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;
  - iv) blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);
  - v) spill cleanups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination);
  - vi) waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
  - vii) details of tree plantings and other mitigations required undertaken in the reporting period;
  - viii) details of water and swamp protection mitigations required undertaken in the reporting period.
- n) compliance:
- i) compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
  - ii) compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
  - iii) compliance status of SEA and SH prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

- iv) compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
- v) other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

## APPENDIX B

### A General Conditions of Dispute Avoidance and Resolution Board Agreement

<b>1. Definitions</b>	<p>Each "Dispute Avoidance and Resolution Board Agreement" is a tripartite agreement by and between:</p> <ul style="list-style-type: none"> <li>(a) the "Employer";</li> <li>(b) the "Contractor"; and</li> <li>(c) the "Member" who is defined in the Dispute Avoidance and Resolution Board Agreement as being <ul style="list-style-type: none"> <li>i). the sole member of "Dispute Avoidance and Resolution Board" and, where this is the case, all references to the "Other Members" do not apply, or</li> <li>ii). one of the three persons who are jointly called the "DARB" (or "Dispute Avoidance and Resolution Board") and, where this is the case, the other two persons are called the "Other Members."</li> </ul> </li> </ul>
	<p>The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Avoidance and Resolution Board Agreement, which incorporates this Appendix. In the DARB Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.</p>
<b>2. General Provisions</b>	<p>Unless otherwise stated in the DARB Agreement, it shall take effect on the latest of the following dates:</p> <ul style="list-style-type: none"> <li>(a) the Commencement Date defined in the Contract,</li> <li>(b) when the Employer, the Contractor and the Member have each signed the DARB Agreement, or</li> <li>(c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a Dispute Avoidance and Resolution Board agreement.</li> </ul> <p>This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days' notice of resignation to the Employer and to the Contractor, and the Dispute Agreement shall terminate upon the expiry of this period.</p>
<b>3. Warranties</b>	<p>The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Project Manager. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.</p>
	<p>When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:</p> <ul style="list-style-type: none"> <li>(a) experienced in the work which the Contractor is to carry out under the Contract,</li> <li>(b) experienced in the interpretation of contract documentation, and</li> </ul>
	<ul style="list-style-type: none"> <li>(c) fluent in the language for communications defined in the Contract.</li> </ul>
<b>4. General Obligations of the Member</b>	<p>The Member shall:</p> <ul style="list-style-type: none"> <li>(a) have no interest financial or otherwise in the Employer, the Contractor or Project Manager, nor any financial interest in the Contract except for payment under the</li> </ul>

	DARB Agreement;
	(b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Project Manager, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the DARB Agreement;
	(c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the DARB Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Project Manager, and any previous involvement in the overall project of which the Contract forms part;
	(d) not, for the duration of the DARB Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Project Manager, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
	(e) comply with the annexed procedural rules and with Sub-Clause 20.4 of the Conditions of Contract;
	(f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
	(g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Project Manager regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the DARB Agreement;
	(h) ensure his/her availability for all site visits and hearings as are necessary;
	(i) become conversant with the Contract and with the progress of the Works (and of any other parts of the project of which the Contract forms part) by studying all documents received which shall be maintained in a current working file;
	(j) treat the details of the Contract and all the DARB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any); and
	(k) be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).

<b>5. General Obligations of the Employer and the Contractor</b>	The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DARB's activities under the Contract and the DARB Agreement. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.
	The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):

	<p>(a) be appointed as an arbitrator in any arbitration under the Contract;</p> <p>(b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or</p> <p>(c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.</p>
	The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he is relieved from liability under the preceding paragraph.
	Whenever the Employer or the Contractor refers a dispute to the DARB under Sub-Clause 20.4 of the Conditions of Contract, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.
<b>6. Payment</b>	<p>The Member shall be paid as follows, in the currency named in the DARB Agreement:</p> <p>(a) a retainer fee per calendar month, which shall be considered as payment in full for:</p> <ul style="list-style-type: none"> <li>(i) being available on 28 days' notice for all site visits and hearings;</li> <li>(ii) becoming and remaining conversant with all project developments and maintaining relevant files;</li> <li>(iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and</li> <li>(iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause.</li> </ul>
	The retainer fee shall be paid with effect from the last day of the calendar month in which the Adjudication Panel Board Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which the Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by one third. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the DARB Agreement is otherwise terminated.

(b) a daily fee which shall be considered as payment in full for:

- (i) each day or part of a day up to a maximum of two days' travel time in each direction for the journey between the Member's home and the site, or another location of a meeting with the Other Members (if any);
- (ii) each working day on Site visits, hearings or preparing decisions; and
- (iii) each day spent reading submissions in preparation for a hearing.

(c) all reasonable expenses including necessary travel expenses (air fare in less than first class, hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, faxes and telexes: a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (b) of this Clause;

(d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.



The retainer and daily fees shall be as specified in the DARB Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the DARB Agreement became effective.	
If the parties fail to agree on the retainer fee or the daily fee, the appointing entity or official named in the <b>SCC</b> shall determine the amount of the fees to be used.	
The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.	
The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.	
If the Contractor fails to pay to the Member the amount to which he/she is entitled under the DARB Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DARB; and	
	without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.
	If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.
<b>7. Termination</b>	At any time: (i) the Employer and the Contractor may jointly terminate the DARB Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.
	If the Member fails to comply with the DARB Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.
	If the Employer or the Contractor fails to comply with the DARB Agreement, the

	Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.
	Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.
<b>8. Default of the Member</b>	If the Member fails to comply with any of his obligations under Clause 4 (a) - (d) above, he shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DARB which are rendered void or ineffective by the said failure to comply.
	If the Member fails to comply with any of his obligations under Clause 4 (e) - (k) above, he shall not be entitled to any fees or expenses hereunder from the date and to the extent of the non-compliance and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses already received by the Member, for proceedings or decisions (if any) of the DARB which are rendered void or ineffective by the said failure to comply.
<b>9. Disputes</b>	Any dispute or claim arising out of or in connection with this DARB Agreement, or the breach, termination or invalidity thereof, shall be finally settled by Arbitration.

## PROCEDURAL RULES

Unless otherwise agreed by the Employer and the Contractor, the DARB shall visit the site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DARB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.

The timing of and agenda for each site visit shall be as agreed jointly by the DARB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DARB. The purpose of site visits is to enable the DARB to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims, and, as far as reasonable, to endeavour to prevent potential problems or claims from becoming disputes.

Site visits shall be attended by the Employer, the Contractor and the Project Manager and shall be co-ordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each site visit and before leaving the site, the DARB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.

The Employer and the Contractor shall furnish to the DARB one copy of all documents which the DARB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DARB and the Employer or the Contractor shall be copied to the other Party. If the DARB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.

If any dispute is referred to the DARB in accordance with Sub-Clause 20.4 of the Conditions of Contract, the DARB shall proceed in accordance with Sub-Clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DARB shall:

- (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
- (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.

The DARB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

Except as otherwise agreed in writing by the Employer and the Contractor, the DARB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Project Manager, and to proceed in the absence of any party who the DARB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.

The Employer and the Contractor empower the DARB, among other things ,to:

- (a) establish the procedure to be applied in deciding a dispute,
- (b) decide upon the DARB's own jurisdiction, and as to the scope of any dispute referred to it,
- (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,
- (d) take the initiative in ascertaining the facts and matters required for a decision,
- (e) make use of its own specialist knowledge ,if any,
- (f) decide upon the payment of financing charges in accordance with the Contract,
- (g) decide upon any provisional relief such as interim or conservatory measures, and
- (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute.

The DARB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DARB shall make and give its decision in accordance with Sub-Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DARB comprises three persons:

- (a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;
- (b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
- (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision ,unless:
  - (i) either the Employer or the Contractor does not agree that they do so, or
  - (ii) the absent Member is the chairman and he/she instructs the other Members not to make a decision.

## **SECTION IX: SPECIAL CONDITIONS OF CONTRACT**

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### Special Condition of Contract

The following Special Conditions of Contract (SCC) shall supplement the General Conditions of the Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

SCC No.	Conditions	GCC Sub-Clause	Data
1.	Employer's name and address	1.1.2	BANK OF TANZANIA P. O. BOX 2939 DAR ES SALAAM
2.	Project Manager's name and address	1.1.2	Name of Project Manager: EDGE Engineering and Consulting Limited Address of the Project Manager: P. O. BOX 2939 DAR ES SALAAM
3.	Time for Completion	1.1.3	1278 days from commencement date.
4.	Defects Notification Period	1.1.3	28 days.
5.	Sections of the Works and Completion date	1.1.5	Not Applicable.
6.	Governing Law	1.4.1	Laws of Tanzania
7.	Address for Communication	1.3.1	Employer: BANK OF TANZANIA P. O. BOX 2939 DAR ES SALAAM
8.	Ruling language and Language for communication	1.4.2 & 1.4.3	ENGLISH
9.	Other Documents Forming the Contract	1.5.1 (j)	Not Applicable.
10.	Conditions Precedent	1.7.1	Submission of Insurance policy/cover.
11.	The date the Contract shall not come into effect	1.7.2	20/06/2025.
12.	Compliance with the	1.14.1	The Laws of United Republic of Tanzania..

	Laws		
13.	Time for access to the Site	2.1.1	1 days after Commencement Date.
14.	Project Manager's Duties and Authority	3.1.3	The Project Manager shall obtain employers approval to exercise authority on the following: As per signed contract with Project Manager
15.	Contractor's General Obligations	4.1.8	The Contractor shall be responsible for his design work as specified in the contract, except for the following; Reference to be made to the contract document.
16.	Performance Security	4.2.1	Performance Security type will be in the form of a Performance Security - Bank Guarantee of 10.00 percent of the contract price.
17	Other form of Performance Security	4.2.2	Other form of Performance Security Not Applicable.
18.	Subcontractors	4.4.2	Responsibility for the acts of subcontractors shall be borne by the Contractor except for the following acts: Not Applicable. Not Applicable.
19.	Responsibility for Transport of Goods	4.16.1	Not Applicable.
20.	Progress Reports	4.21.1	Not Applicable.
21.	Normal working hours	6.5.1	As per Labour Law applicable in Tanzania. hrs local time.
22.	Schedule of Key Personnel	6.12.1	1. Project Manager: To be either Professional Engineer, Architect or Quantity Surveyor Registered with respective Registration Boards 2. At least one (1) Site Agent: To be

			Professional Structural/Civil Engineer or Construction Manager Registered with respective registration boards 3. At least one (1) Health and Safety Officer: To be certified by Occupational Safety and Health Authority (OSHA) of Tanzania 4. At least one (1) Social Officer: Degree in Social Sciences, Development Studies, Community Development or related fields (registered by the recognized board) 5. At least one (1) Site Quantity Surveyor: To be a Graduate in Building Economics, Construction Management, Building Survey or Quantity Surveying. 6. At least one (1) Site Structural/Civil Engineer: to be a Graduate in Structural/Civil Engineering 7. General Foreman i. At least one (1) Structural /Civil Technicians ii. At least one (1) Electrical Engineering Technician iii. At least one (1) Mechanical (Air Conditioning, Plumbing and Lift) Installation Technician iv. At least one (1) ICT and Security Installation Technician.
23.	Commencement of Works	8.1.1	28 days.
24.	Site possession Date	8.1.1(a)	From the date of site handover.
25.	Delay damages for the Works	8.7.1& 14.15.1(b)	0.1 percent of the Contract Price per day.
26.	Maximum amount of delay damages	8.7.1	10.00 percent of the final Contract Price.
27.	Provisional Sums	13.5.1.(b)(ii)	0 percent.
28.	Adjustments for Changes in Cost	13.8.1	Not Applicable
29.	The Contract Price	14.1.1	Not Applicable.
30.	Total advance payment	14.2.1	Advance Payment shall be 15 percent. Timings of Advance payment are: 20.
31.	Form of Advance Payment Guarantee	14.2.3	Unconditional and irrevocable Advance Payment Bank Guarantee.
32.	Repayment of advance payment	14.2.5	20 instalments.
33.	Advance payment amortization	14.2.5(b)	0 Percent of the Contract Amount.
34.	Percentage of	14.3.2	10 Percent of Interim Payment Certificate.

	Retention		
35.	Limit of Retention Money	14.3.2	5 Percent of the Accepted Contract Amount.
36.	Plant and Materials	14.5.2(b)(i)	Not Applicable.
37.	Minimum Amount of Interim Payment Certificates	14.6.2	2 percent of the accepted contract amount.
38.	Interest on Delayed Payment	14.8.2	0.1 percent.
39.	Currency of Payment	14.15.1(d)	European Euro, United Kingdom Pound Sterling, The Tanzanian Shilling and The United States dollar.
40.	Damages		
40.	Maximum total liability of the Contractor to the Employer	17.6.2	TZS 100.
41.	Periods for submission of insurance:	18.1.6	Periods for submission of evidence of insurance : 7 days.
	a. evidence of insurance.		Periods for submission of insurance relevant policies : 14 days
	b. relevant policies		
42.	Maximum amount of deductibles for insurance of the Employer's risks	18.2.4(d)	TZS 10,000,000.00
43.	Minimum amount of third party Insurance	18.3.2	TZS 10,000,000.00
44.	Amount of third party Insurance exemptions	18.3.3	TZS 5000000
45.	Date by which the DARB shall be appointed	20.2.1	To be Known after Award.
46.	DARB composition	20.2.2	Three DARB



47.	List of proposed members of DARB	20.2.2	Three Members To be Known after Award. members.
48.	Appointment (if not agreed) to be made by Appointing Authority	20.3.1	National Construction Council
49.	Rules of arbitration	20.6.1	As published by the National Construction Council

## **SECTION X: CONTRACT FORMS**

This Section contains forms which, once completed and submitted, will form part of the Contract. The forms for Performance Security or Securing Declaration shall be completed and submitted by the successful Tenderer before signing of the contract, and when advance payment is required, Advance Payment Security shall be completed and submitted after contract signature. The Section also contains the Letter of Intention to Award the Contract, which shall not form part of the contract

**THE UNITED REPUBLIC OF TANZANIA**  
**(PE NAME)**

**NOTICE OF INTENTION TO AWARD A CONTRACT**

**Ref: (REFERENCE\_NUMBER)**

**To: (CONTRACTOR'S/SUPPLIER'S NAME AND ADDRESS)**

**RE: NOTIFICATION OF THE INTENTION TO AWARD CONTRACT FOR (TENDER NUMBER) FOR (TENDER\_DESCRIPTION)**

Reference is made to the above subject matter.

The submitted tenders were evaluated according to the criteria stated in the tender documents. In accordance with the requirements of Public Procurement Act, Cap 410, we announce our intention to award a contract to M/s (NAME OF TENDERER] for a contract price of (CONTRACT AMOUNT) for a completion period/delivery period of (COMPLETION OR DELIVERY DURATION).

Your tender was not considered for award of the contract due to (REASONS FOR NON RESPONSIVENESS).

Be informed that, you have five (5) calendar days from the date of this letter, within which to submit for administrative review any complaints you may have regarding this award decision and/or circumstances surrounding the non responsiveness of your tender. The complaints must be in writing, clearly identifying the tender in question, detailing ground(s) of the complaint and should be submitted to (TITLE OF ACCOUNTING OFFICER) through NeST.

We appreciate your interest in doing business with us and encourage you to participate in our future tenders.

(AUTHORIZED SIGNATURE)  
(NAME OF SIGNATORY)  
(TITLE OF ACCOUNTING OFFICER)



## FORM OF AGREEMENT

THIS AGREEMENT (hereinafter called the “Contract”) is made this [ day of month] day of [insert a month],[insert a year] between [insert name and address of Employer (hereinafter called the “Employer”) and [insert name and address of Contractor](hereinafter called the “Contractor”) of the other part.

[Note: In the text below, text in brackets is optional; all notes should be deleted in final text. If the Contractor consists of more than one Entity, the above should be partially amended to read as follows:]

“[insert the name of “PE”] (hereinafter called “the Employer”) and, on the other hand, a joint venture/consortium/association consisting of the following entities namely, [insert of name of entity] and [insert name of entity] and [etc.] (hereinafter called “the Contractor”) each of which shall be jointly and severally liable to the Employer for all the Contractor’s obligations under this Contract.

WHEREAS,

- a) the Employer desires that the Works known as *[name of the Contract]*.should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects therein,
- b) the Contractor having represented to the Employer that they have the required professional skills, and personnel and technical resources, have agreed to construct the works on the terms and conditions set forth in this Contract at a contract price of [insert the figures and words and the currency];
- c) the Employer has set aside committed funds towards the cost of the works and intends to apply a portion of the proceeds of these funds to eligible payments under this Contract, it being understood that such payments will be subject, in all respects, to the terms and conditions of the Contract providing for the funds and that no party other than the Contractor shall derive any rights from the Contract providing for the funds or have any claim to the funds proceeds;
- d) the Employer invited Tenders for the works, viz., [insert brief description of works] and has accepted a Tender by the Contractor for execution of the works in the sum of[insert currency, contract price in words and figures] (hereinafter called “the Contract Price”).

**NOW THEREFORE**, the parties hereto hereby agree as follows

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

- (i) Letter of Acceptance;
- (ii) Form of Tender;
- (iii) Addenda (if any);
- (iv) Special Conditions of Contract;
- (v) General Conditions of Contract;
- (vi) Specification;
- (vii) Drawings;
- (viii) Bills of Quantities;
- (ix) Contractor’s Tender; *[Qualification information such as documents such as: evidence of compliance with statutory requirements (TIN,VAT, Business licences, BRELA); financial capability; current commitments; information on average annual construction turnover; information on General construction experience; Information on Specific Construction & Contract Management Experience; Information on Construction Experience in key activities; Information on Specific Experience in managing ES aspects; Information on Proposed Key Personnel; and Information Equipment proposed for the works];*
- (x) The following Appendices: [Note: If any of these Appendices are not used, the words “Not Used” should be inserted below next to the title of the Appendix and on the sheet attached hereto carrying the title of that Appendix.]

Appendix A: Description of Works and Services

Appendix B: Schedule of Payments

Appendix C: Key Personnel and Subcontractors

Appendix D: Breakdown of Contract Price in Foreign Currency

Appendix E: Breakdown of Contract Price in Local Currency

Appendix F: ES Management Strategies and Implementation Plans

Appendix G: Code of Conduct for Contractor's Personnel(ES)

Appendix H:Services and Facilities Provided by the Contractor; and

(xii) Other relevant document(s): [List if any].

3. Inconsideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

**IN WITNESS WHEREOF** the Employer and the Contractor have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

**SIGNED, SEALED AND DELIVERED FOR AND ON BEHALF OF:**

**THE PROCURING ENTITY**

**THE CONTRACTOR**

**Name:** .....

**Name:**.....

*(Authorized Representative) (Authorized Representative)*

**Designation:** .....

**Designation:** .....

**Signature:** .....

**Signature:** .....

**Date:**.....

**Date:**.....

**WITNESS**

**WITNESS**

**Name:** .....

**Name:** .....

**Designation:** .....

**Designation:** .....

**Signature:**..... **Signature:** .....

## PERFORMANCE BANKGUARANTEE [UNCONDITIONAL]

[The **bank/successful Tenderer** providing the Guarantee shall fill in this form in accordance with the instructions indicated in brackets, if the Employer requires this type of security.]

*[insert bank's name, and address of issuing branch or office]*

**Beneficiary:** *[insert name and address of Employer]*

**Date:** *[insert date]*

**PERFORMANCE GUARANTEE No.:** *[insert Performance Guarantee number]*

We have been informed that *[insert name of Contractor]* (hereinafter called "the Contractor") has been awarded Contract No. *[insert reference number of the Contract]* dated *[insert date]* with you, for the execution of *[insert name of Contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we *[insert name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire no later than twenty-eight days from the date of issuance of the Taking-Over Certificate, calculated based on a copy of such Certificate which shall be provided to us, or on the *[insert number]* day of *[insert month]*, *[insert year]*, whichever occurs first. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

*[signature(s) of an authorized representative(s) of the Bank]*

*[seal of the Bank]*

**Note:** *All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

## PERFORMANCE BOND

*[The Surety/successful Tenderer providing the Bond shall fill in this form in accordance with the instructions indicated in brackets, if the Employer requires this type of security]*

By this Bond, *[insert name and address of Contractor]* as Principal (hereinafter called "the Contractor") and *[insert name, legal title, and address of surety, bonding company, or insurance company]* as Surety (hereinafter called "the Surety"), are held and firmly bound unto *[insert name and address of Employer]* as Obligee (hereinafter called "the Employer") in the amount of *[insert amount of Bond]* *[insert amount of Bond in words]*, for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

Whereas the Contractor has entered into a Contract with the Employer dated the *[insert number]* day of *[insert month]*, *[insert year]* for *[insert name of Contract]* in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

Now, therefore, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Employer to be, in default under the Contract, the Employer having performed the Employer's obligations there under, the Surety may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a Tender or Tenders from qualified Tenderers for submission to the Employer for completing the Contract in accordance with its terms and conditions, and upon determination by the Employer and the Surety of the lowest responsive Tenderer, arrange for a Contract between such Tenderer and Employer and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "Balance of the Contract Price," as used in this paragraph, shall mean the total amount payable by the Employer to the Contractor under the Contract, less the amount properly paid by the Employer to the Contractor; or
- (3) pay the Employer the amount required by the Employer to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of one year from the date of issuance of the Certificate of Completion.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Employer named herein or the heirs, executors, administrators, successors, and assigns of the Employer.

In testimony whereof, the Contractor has hereunto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its legal representative, this *[insert day]* day of *[insert month]*, *[insert year]*.

Signed by *[insert signature(s) of authorized representative(s)]*

on behalf of *[name of Contractor]* in the capacity of *[insert title(s)]*

In the presence of *[insert name and signature of witness]*

Date *[insert date]*

Signed by *[insert signature(s) of authorized representative(s) of Surety]*

on behalf of *[name of Surety]* in the capacity of *[insert title(s)]*

In the presence of *[insert name and signature of witness]*

Date *[insert date]*



# ENVIRONMENTALAND SOCIAL (ES) PERFORMANCE SECURITY

## ESDemand Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** *[insert name and Address of Employer]*

**Date:** *\_ [Insert date of issue]*

**ES PERFORMANCE GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that \_\_\_\_\_ (hereinafter called "the Applicant") has entered into Contract No. \_\_\_\_\_ dated \_\_\_\_\_ with the Beneficiary, for the execution of \_\_\_\_\_ (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (1), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its Environmental and/or Social, (ES) obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the .... Day of ....., 2... 2, and any demand for payment under it must be received by us at this office indicated above on or before that date.

Yours truly,

Signature and seal:

Name of Bank/Financial Institution:

Address:

Date:

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1 The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency (ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

2 Insert the date twenty-eight days after the expected completion date as described in CC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

## BANK GUARANTEE FOR ADVANCE PAYMENT

*[Bank's Name, and Address of Issuing Branch or Office]*

**Beneficiary:** \_\_\_\_\_ *[Name and Address of Employer]*

**Date:** \_\_\_\_\_

**ADVANCE PAYMENT GUARANTEE No.:** \_\_\_\_\_

We have been informed that *[name of Contractor]* (hereinafter called "the Contractor") has been awarded Contract No. *[reference number of the contract]* dated \_\_\_\_\_ with you, for the execution of *[name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[amount in figures]* () *[amount in words]* is to be made against an advance payment guarantee.

At the request of the Contractor, we *[name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[amount in figures]* () *[amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number \_\_\_\_\_ at \_\_\_\_\_ *[name and address of Bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the \_\_\_\_ day of \_\_\_\_, 2\_\_\_\_, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

Yours truly,

Signature and seal:

Name of Bank/Financial Institution:

Address:

Date:

## RETENTION MONEY SECURITY

### Demand Guarantee

\_\_\_\_\_ [Guarantor letterhead or SWIFT identifier code]

**Beneficiary:** \_\_\_\_\_ [Insert name and Address of Employer]

**Date:** \_\_\_\_\_ [Insert date of issue]

**RETENTION MONEY GUARANTEE No.:** [Insert guarantee reference number]

**Guarantor:** [Insert name and address of place of issue, unless indicated in the letterhead]

We have been informed that \_\_\_\_\_ [insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture] (hereinafter called "the Applicant") has entered into Contract No. \_\_\_\_\_ [insert reference number of the contract] dated \_\_\_\_\_ with the Beneficiary, for the execution of \_\_\_\_\_ [insert name of contract and brief description of Works] (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, payment of [insert] the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if required, the ES Performance Security is to be made against a Retention Money guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ [insert amount in figures] () [amount in words] 1 upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Applicant on its account number \_\_\_\_\_ at \_\_\_\_\_ [insert name and address of Applicant's bank].

This guarantee shall expire no later than the .... day of ....., 2... 2, and any demand for payment under it must be received by us at the office indicated above on or before that date.

Yours truly,

Signature and seal:

Name of Bank/Financial Institution:

Address:

Date:

**Note:** All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

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1 The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and denominated either in the currency(ies) of the second half of the Retention Money as specified in the Contract, or in a freely convertible currency acceptable to the Beneficiary.

2 Insert the same expiry date as set forth in the performance security, representing the date twenty-eight days after the completion date described in CC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."