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THE STUDENT HOSTEL PHASE II AT KIBABII UNIVERSITY.

TENDER NO. KIBU/15/2019-20

SPECIFICATIONS AND BILLS OF QUANTITIES

FOR

**SUPPLY, INSTALL, TEST AND COMMISSION OF STRUCTURED CABLING &
CCTV SURVEILLANCE WORKS AT THE STUDENTS HOSTEL PHASE II AT
KIBABII UNIVERSITY**

CLIENT:

The Vice Chancellor,
Kibabii University,
P.O. Box 1699-50200
Bungoma.

MARCH, 2020

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INTRODUCTION

- 1.1 This standard tender document for procurement of works has been prepared for use by procuring entities in Kenya in the procurement of works (i.e. Buildings and associated Civil Engineering Works).
- 1.2 The following guidelines should be observed when using the document:-
- (a) Specific details should be furnished in the Invitation to tender and in the special conditions of contract (where applicable). The tender document issued to tenderers should not have blank spaces or options.
 - (b) The instructions to tenderers and the General Conditions of Contract should remain unchanged. Any necessary amendments to these parts should be made through Appendix to instructions to tenderers and special conditions of contract respectively.
- 1.3
- a) Information contained in the invitation to tender shall conform to the data and information in the tender documents to enable prospective tenderers to decide whether or not to participate in the tender and shall indicate any important tender requirements
 - b) The invitation to tender shall be as an advertisement in accordance with the regulations or a letter of invitation addressed to tenderers who have been prequalified following a request for prequalification.
- 1.4 The cover of the document shall be modified to include:-
- I. Tender number.
 - II. Tender name.
 - III. Name of procuring entity.
 - IV. Delete name and address of PPOA.

SECTION I

INVITATION FOR TENDERS

Kibabii University invites eligible contractors to tender for the works as indicated and as per the requirements stated in the table below.

Tender Number	Tender Description	Class of Registration by NCA	Tender Security	Tender Closing Date
KIBU/15/2019-20	Supply, Install, Test and Commission of Structured Cabling & CCTV Surveillance Works at The Students Hostel Phase II at Kibabii University	NCA 5 and above	2% of Tender Sum	16/4/2020

- Interested eligible contractors may obtain complete set of tender documents by downloading form the Kibabii University website (www.kibu.ac.ke) or the PPIP portal free of charge. Applicant who download the tender documents shall immediately email their details and tender number to procurement@kibu.ac.ke
- Completed Tender Documents in soft copy, (CD or Flash disc) together with original bid security and original Form of Tender shall to be enclosed in size A5 plain sealed envelopes marked with the **Tender. No. KIBU/15/2019-20 SUPPLY, INSTALL, TEST AND COMMISSION OF STRUCTURED CABLING & CCTV SURVEILLANCE WORKS AT THE STUDENTS HOSTEL PHASE II AT KIBABII UNIVERSITY** shall be deposited in the Tender Box B at the Administration Block, Main Campus OR send by registered mail to be received on or before the tender closing time, all addressed to:

Vice Chancellor,
Kibabii University,
P.O Box 16699-50200
BUNGOMA

So as to be received on or before **Thursday, 16th April, 2020 at 12.00 noon**

Tenders will be opened immediately thereafter in the Senate Boardroom in the presence of bidders who choose to attend physically but will have to register with the Procurement Officer or through video link for bidders who choose to attend electronically, but they need also to register with the Procurement

Officer for purposes of linking them. All registration should be prior to tender opening day.

NOTE:

- i. Only ONE representative shall be allowed per bidder to physically witness tender opening exercise to avoid crowding in line with Government directive on spread of COVID-19.
- ii. Tenderer/bidders must serialize/number all the pages and copies of documents attached and indicate the documents submitted on their own attached table of contents.
- iii. All attachments shall be from the last page of this document, all paged in the order defined in the tender document.

SECTION II

INSTRUCTIONS TO TENDERERS

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INSTRUCTIONS TO TENDERERS.

1. General/Eligibility/Qualifications/Joint venture/Cost of tendering.

1.1 The Employer as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The

successful tenderer will be expected to complete the Works by the Intended Completion Date specified in the tender documents.

- 1.2 All tenderers shall provide the Qualification Information, a statement that the tenderer (including all members of a joint venture and subcontractors) is not associated, or has not been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the Works, and any of its affiliates, shall not be eligible to tender.
- 1.3 All tenderers shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 1.4 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 submit with their tenders any information updating their original pre-qualification applications or, alternatively, confirm in their tenders that the originally submitted pre-qualification information remains essentially correct as of the date of tender submission.
- 1.5 Where no pre-qualification of potential tenderers has been done, all tenderers shall include the following information and documents with their tenders , unless otherwise stated:
 - (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the tender to commit the tenderer:
 - (b) total monetary value of construction work performed for each of the last five years:
 - (c) experience in works of a similar nature and size for each of the last five years, and details of work under way or contractually committed; and names and addresses of clients who may be contacted for further information on these contracts;
 - (d) Major items of construction equipment proposed to carry out the Contract and an undertaking that they will be available for the Contract.
 - (e) Qualifications and experience of key site management and technical personnel proposed for the Contract and an undertaking that they shall be available for the Contract.

- (f) Reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the past five years;
- (g) Evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
- (h) Authority to seek references from the tenderer's bankers;
- (i) Information regarding any litigation, current or during the last five years, in which the tenderer is involved, the parties concerned and disputed amount; and
- (j) Proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

1.6 Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated:

- (a) the tender shall include all the information listed in clause 1.5 above for each joint venture partner;
- (b) the tender shall be signed so as to be legally binding on all partners;
- (c) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
- (d) one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of all partners of the joint venture; and
- (e) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

1.7 To qualify for award of the Contract, tenderers shall meet the following minimum qualifying criteria;

- (a) annual volume of construction work of at least 2.5 times the estimated annual cashflow for the Contract;
- (b) experience as main contractor in the construction of at least
- (c) two works of a nature and complexity equivalent to the Works over the last 10 years (to comply with this requirement, works cited should be at least 70 percent complete);
- (d) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed as required for the Works;

- (e) a Contract manager with at least five years' experience in works of an equivalent nature and volume, including no less than three years as Manager; and
 - (f) liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than 4 months of the estimated payment flow under this Contract.
- 1.8 The figures for each of the partners of a joint venture shall be added together to determine the tenderer's compliance with the minimum qualifying criteria of clause 1.7 (a) and (e); however, for a joint venture to qualify, each of its partners must meet at least 25 percent of minimum criteria 1.7 (a), (b) and (e) for an individual tenderer, and the partner in charge at least 40 percent of those minimum criteria. Failure to comply with this requirement will result in rejection of the joint venture's tender. Subcontractors' experience and resources will not be taken into account in determining the tenderer's compliance with the qualifying criteria, unless otherwise stated.
- 1.9 Each tenderer shall submit only one tender, either individually or as a partner in a joint venture. 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 proposals with the tenderer's participation to be disqualified.
- 1.10 The tenderer shall bear all costs associated with the preparation and submission of his tender, and the Employer will in no case be responsible or liable for those costs.
- 1.11 The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine the Site of the Works and its surroundings, and obtain 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.
- 1.12 The procuring entity's employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the tender.
- 1.13 The price to be charged for the tender document shall not exceed Kshs.5,000/=
- 1.14 The procuring entity shall allow the tenderer to review the tender document free of charge before purchase.

2. Tender Documents

- 2.1 The complete set of tender documents comprises the documents listed below and any addenda issued in accordance with Clause 2.4.

- (a) These Instructions to Tenderers
- (b) Form of Tender and Qualification Information
- (c) Conditions of Contract
- (d) Appendix to Conditions of Contract
- (e) Specifications
- (f) Drawings
- (g) Bills of Quantities
- (h) Forms of Securities

2.2 The tenderer shall examine all Instructions, Forms to be filled and Specifications in the tender documents. Failure to furnish all information required by the tender documents, or submission of a tender not substantially responsive to the tendering documents in every respect will be at the tenderer's risk and may result in rejection of his tender.

2.3 A prospective tenderer making an inquiry relating to the tender documents may notify the Employer in writing or by cable, telex or facsimile at the address indicated in the letter of invitation to tender. The Employer will only respond to requests for clarification received earlier than seven days prior to the deadline for submission of tenders. Copies of the Employer's response will be forwarded to all persons issued with tendering documents, including a description of the inquiry, but without identifying its source.

2.4 Before the deadline for submission of tenders, the Employer may modify the tendering documents by issuing addenda. Any addendum thus issued shall be part of the tendering documents and shall be communicated in writing or by cable, telex or facsimile to all tenderers. Prospective tenderers shall acknowledge receipt of each addendum in writing to the Employer.

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2.5 To give prospective tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Employer shall extend, as necessary, the deadline for submission of tenders, in accordance with Clause 4.2 here below.

3. Preparation of Tenders

3.1 All documents relating to the tender and any correspondence shall be in English language.

3.2 The tender submitted by the tenderer shall comprise the following:

- (a) These Instructions to Tenderers, Form of Tender, Conditions of Contract, Appendix to Conditions of Contract and Specifications;
- (b) Tender Security;

- (c) Priced Bill of Quantities ;
 - (d) Qualification Information Form and Documents;
 - (e) Alternative offers where invited; and
 - (f) Any other materials required to be completed and submitted by the tenderers.
- 3.3 The tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the tenderer will not be paid for when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause relevant to the Contract, as of 30 days prior to the deadline for submission of tenders, shall be included in the tender price submitted by the tenderer.
- 3.4 The rates and prices quoted by the tenderer shall only be subject to adjustment during the performance of the Contract if provided for in the Appendix to Conditions of Contract and provisions made in the Conditions of Contract.
- 3.5 The unit rates and prices shall be in Kenya Shillings.
- 3.6 Tenders shall remain valid for a period of sixty (60) days from the date of submission. However in exceptional circumstances, the Employer may request that the tenderers extend the period of validity for a specified additional period. The request and the tenderers' responses shall be made in writing. A tenderer may refuse the request without forfeiting the Tender Security. A tenderer agreeing to the request will not be required or permitted to otherwise modify the tender, but will be required to extend the validity of Tender Security for the period of the extension, and in compliance with Clause 3.7 - 3.11 in all respects.
- 3.7 The tenderer shall furnish, as part of the tender, a Tender Security in the amount and form specified in the appendix to invitation to tenderers. This shall be in the amount not exceeding 2 percent of the tender price.
- 3.8 The format of the Tender Security should be in accordance with the form of Tender Security included in Section G - Standard forms or any other form acceptable to the Employer. Tender Security shall be valid for 30 days beyond the validity of the tender.
- 3.9 Any tender not accompanied by an acceptable Tender Security shall be rejected. The Tender Security of a joint venture must define as "Tenderer" all joint venture partners and list them in the following manner: a joint venture consisting of".....", ".....", and ".....".
- 3.10 The Tender Securities of unsuccessful tenderers will be returned within 28 days of the end of the tender validity period specified in Clause 3.6.

- 3.11 The Tender Security of the successful tenderer will be discharged when the tenderer has signed the Contract Agreement and furnished the required Performance Security.
- 3.12 The Tender Security may be forfeited
- (a) if the tenderer withdraws the tender after tender opening during the period of tender validity;
 - (b) if the tenderer does not accept the correction of the tender price, pursuant to Clause 5.7;
 - (c) in the case of a successful tenderer, if the tenderer fails within the specified time limit to
 - (i) sign the Agreement, or
- (ii) furnish the required Performance Security.
- 3.13 Tenderers shall submit offers that comply with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered, unless specifically allowed in the invitation to tender. If so allowed, 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, 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 tender conforming to the basic technical requirements shall be considered.
- 3.14 The tenderer shall prepare one original of the documents comprising the tender documents as described in Clause 3.2 of these Instructions to Tenderers, bound with the volume containing the Form of Tender, and clearly marked "ORIGINAL". In addition, the tenderer shall submit copies of the tender, in the number specified in the invitation to tender, and clearly marked as "COPIES". In the event of discrepancy between them, the original shall prevail.
- 3.15 The original and all copies of the tender shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to sign on behalf of the tenderer, pursuant to Clause 1.5 (a) or 1.6 (b), as the case may be. All pages of the tender where alterations or additions have been made shall be initialled by the person or persons signing the tender.

- 3.16 Clarification of tenders shall be requested by the tenderer to be received by the procuring entity not later than 7 days prior to the deadline for submission of tenders.
- 3.17 The procuring entity shall reply to any clarifications sought by the tenderer within 3 days of receiving the request to enable the tenderer to make timely submission of its tender.
- 3.18 The tender security shall be in the amount of 0.5 – 2 per cent of the tender price.

4. Submission of Tenders

- 4.1 The tenderer shall seal the original and all copies of the tender in two inner envelopes and one outer envelope, duly marking the inner envelopes as “**ORIGINAL**” and “**COPIES**” as appropriate. The inner and outer envelopes shall:
- (a) be addressed to the Employer at the address provided in the invitation to tender;
 - (b) bear the name and identification number of the Contract as defined in the invitation to tender; and
 - (c) provide a warning not to open before the specified time and date for tender opening.
- 4.2 Tenders shall be delivered to the Employer at the address specified above not later than the time and date specified in the invitation to tender. However, the Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with Sub-Clause 2.5 in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline will then be subject to the new deadline.
- 4.3 Any tender received after the deadline prescribed in clause 4.2 will be returned to the tenderer un-opened.
- 4.4 Tenderers may modify or withdraw their tenders by giving notice in writing before the deadline prescribed in clause 4.2. Each tenderer’s modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with clause 3.13 and 4.1, with the outer and inner envelopes additionally marked “**MODIFICATION**” and “**WITHDRAWAL**”, as appropriate. No tender may be modified after the deadline for submission of tenders.
- 4.5 Withdrawal of a tender between the deadline for submission of tenders and the expiration of the period of tender validity specified in the invitation to tender or as extended pursuant to Clause 3.6 may result in the forfeiture of the Tender Security pursuant to Clause 3.11.

- 4.6 Tenderers may only offer discounts to, or otherwise modify the prices of their tenders by submitting tender modifications in accordance with Clause 4.4 or be included in the original tender submission.

5. Tender Opening and Evaluation

- 5.1 The tenders will be opened by the Employer, including modifications made pursuant to Clause 4.4, in the presence of the tenderers' representatives who choose to attend at the time and in the place specified in the invitation to tender. Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Tenderers' and Employer's representatives who are present during the opening shall sign a register evidencing their attendance.
- 5.2 The tenderers' names, the tender prices, the total amount of each tender and of any alternative tender (if alternatives have been requested or permitted), any discounts, tender modifications and withdrawals, the presence or absence of Tender Security, and such other details as may be considered appropriate, will be announced by the Employer at the opening. Minutes of the tender opening, including the information disclosed to those present will be prepared by the Employer.
- 5.3 Information relating to the examination, clarification, evaluation, and comparison of tenders and recommendations for the award of 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. Any effort by a tenderer to influence the Employer's officials, processing of tenders or award decisions may result in the rejection of his tender.
- 5.4 To assist in the examination, evaluation, and comparison of tenders, the Employer at his discretion, may ask any tenderer for clarification of the tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, telex or facsimile but no change in the price or substance of the tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered in the evaluation of the tenders in accordance with Clause 5.7.
- 5.5 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender (a) meets the eligibility criteria defined in Clause 1.7;(b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the tendering documents. A substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tendering documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the works; (b) which limits in any substantial way, inconsistent with the tendering documents, the Employer's rights or the tenderer's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders.

- 5.6 If a tender is not substantially responsive, it will be rejected, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.
- 5.7 Tenders determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows:
- (a) where there is a discrepancy between the amount in figures and the amount in words, the amount in words will prevail; and
 - (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer, there is an obvious typographical error, in which case the adjustment will be made to the entry containing that error.
 - (c) In the event of a discrepancy between the tender amount as stated in the Form of Tender and the corrected tender figure in the main summary of the Bill of Quantities, the amount as stated in the Form of Tender shall prevail.
 - (d) The Error Correction Factor shall be computed by expressing the difference between the tender amount and the corrected tender sum as a percentage of the corrected Builder's Work (i.e. Corrected tender sum less P.C. and Provisional Sums)
 - (e) The Error Correction Factor shall be applied to all Builder's Work (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.
 - (f) the amount stated in the tender will be adjusted in accordance with the above procedure for the correction of errors and, with concurrence of the tenderer, shall be considered as binding upon the tenderer. If the tenderer does not accept the corrected amount, the tender may be rejected and the Tender Security may be forfeited in accordance with clause 3.11.
- 5.8 The Employer will evaluate and compare only the tenders determined to be substantially responsive in accordance with Clause 5.5.
- 5.9 In evaluating the tenders, the Employer will determine for each tender the evaluated tender price by adjusting the tender price as follows:
- (a) making any correction for errors pursuant to clause 5.7;
 - (b) excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Dayworks where priced competitively.

- (c) making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with clause 3.12; and
 - (d) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with clause 4.6
- 5.10 The Employer 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 tender documents or otherwise result in unsolicited benefits for the Employer will not be taken into account in tender evaluation.
- 5.11 The tenderer shall not influence the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. Any effort by the Tenderer to influence the Employer or his employees in his decision on tender evaluation, tender comparison or Contract award may result in the rejection of the tender.
- 5.12 Firms incorporated in Kenya where indigenous Kenyans own 51% or more of the share capital shall be allowed a 10% preferential bias provided that they do not sub-contract work valued at more than 50% of the Contract Price excluding Provisional Sums to a non-indigenous sub-contractor.

6. Award of Contract

- 6.1 Subject to Clause 6.2, the award of the Contract will be made 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 provision of Clauses 1.2, and (b) qualified in accordance with the provisions of clause 1.7 and 1.8.
- 6.2 Notwithstanding clause 6.1 above, the Employer 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 of the grounds for the action.
- 6.3 The tenderer whose tender has been accepted will be notified of the award prior to expiration of the tender validity period in writing or by cable, telex or facsimile. This notification (hereinafter and in all Contract documents called the "Letter of Acceptance") will state the sum (hereinafter and in all Contract documents called the "Contract Price") that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract. At the same time the other tenderers shall be informed that their tenders have not been successful.

The contract shall be formed on the parties signing the contract.

- 6.4 The Agreement will incorporate all agreements between the Employer and the successful tenderer. Within 14 days of receipt the successful tenderer will sign the Agreement and return it to the Employer.
- 6.5 Within 21 days after receipt of the Letter of Acceptance, the successful tenderer shall deliver to the Employer a Performance Security in the amount stipulated in the Appendix to Conditions of Contract and in the form stipulated in the Tender documents. The Performance Security shall be in the amount and specified form
- 6.6 Failure of the successful tenderer to comply with the requirements of clause 6.5 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Tender Security.
- 6.7 Upon the furnishing by the successful tenderer of the Performance Security, the Employer will promptly notify the other tenderers that their tenders have been unsuccessful.
- 6.8 Preference where allowed in the evaluation of tenders shall not be allowed for contracts not exceeding one year (12 months)
- 6.9 The tender evaluation committee shall evaluate the tender within 30 days of the validity period from the date of opening the tender.
- 6.10 The parties to the contract shall have it signed within 30 days from the date of notification of contract award unless there is an administrative review request.
- 6.11 Contract price variations shall not be allowed for contracts not exceeding one year (12 months)
- 6.12 Where contract price variation is allowed, the valuation shall not exceed 15% of the original contract price.
- 6.13 Price variation request shall be processed by the procuring entity within 30 days of receiving the request.
- 6.14 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.
- 6.15 The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 days of receiving the request from any tenderer.
- 6.16 A tenderer who gives false information in the tender document about its qualification or who refuses to enter into a contract after notification of contract award shall be considered for debarment from participating in future public procurement.

7. Corrupt and Fraudulent practices

7.1 The procuring entity requires that tenderers observe the highest standards of ethics during procurement process and execution of contracts. A tenderer shall sign a declaration that he has not and will not be involved in corrupt and fraudulent practices.

SECTION III
CONDITIONS OF CONTRACT

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CONDITIONS OF CONTRACT

1. Definitions

1.1 In this Contract, except where context otherwise requires, the following terms shall be interpreted as indicated;

“Bill of Quantities” means the priced and completed Bill of Quantities forming part of the tender.

“Compensation Events” are those defined in Clause 24 hereunder.

“The Completion Date” means the date of completion of the Works as certified by the Project Manager, in accordance with Clause 31.

“The Contract” means the agreement entered into between the Employer and the Contractor as recorded in the Agreement Form and signed by the parties including all attachments and appendices thereto and all documents incorporated by reference therein to execute, complete, and maintain the Works,

“The Contractor” refers to the person or corporate body whose tender to carry out the Works has been accepted by the Employer.

“The Contractor’s Tender” is the completed tendering document submitted by the Contractor to the Employer.

“The Contract Price” is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

“Days” are calendar days; **“Months”** are calendar months.

“A Defect” is any part of the Works not completed in accordance with the Contract.

“The Defects Liability Certificate” is the certificate issued by Project Manager upon correction of defects by the Contractor.

“The Defects Liability Period” is the period named in the Contract Data and calculated from the Completion Date.

“Drawings” include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

“Dayworks” are Work inputs subject to payment on a time basis for labour and the associated materials and plant.

“Employer”, or the **“Procuring entity”** as defined in the Public Procurement Regulations (i.e. Central or Local Government administration, Universities, Public Institutions and Corporations, etc) is the party who employs the Contractor to carry out the Works.

“Equipment” is the Contractor’s machinery and vehicles brought temporarily to the Site for the execution of the Works.

“The Intended Completion Date” is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

“Materials” are all supplies, including consumables, used by the Contractor for incorporation in the Works.

“Plant” is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

“Project Manager” is the person named in the Appendix to Conditions of Contract (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract and shall be an “Architect” or a “Quantity Surveyor” registered under the Architects and Quantity Surveyors Act Cap 525 or an “Engineer” registered under Engineers Registration Act Cap 530.

“Site” is the area defined as such in the Appendix to Condition of Contract.

“Site Investigation Reports” are those reports that may be included in the tendering documents which are factual and interpretative about the surface and subsurface conditions at the Site.

“Specifications” means the Specifications of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

“Start Date” is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with the Site possession date(s).

“A Subcontractor” is a person or corporate body who has a Contract with the Contractor to carry out a part of the Work in the Contract, which includes Work on the Site.

“Temporary works” are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

“A Variation” is an instruction given by the Project Manager which varies the Works.

“The Works” are what the Contract requires the Contractor to construct, install, and turnover to the Employer, as defined in the Appendix to Conditions of Contract.

2. Interpretation

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning in English Language unless specifically defined. The Project Manager will provide instructions clarifying queries about these Conditions of Contract.
- 2.2 If sectional completion is specified in the Appendix to Conditions of Contract, reference in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any section of the Works (other than references to the Intended Completion Date for the whole of the Works).
- 2.3 The following documents shall constitute the Contract documents and shall be interpreted in the following order of priority;
 - (1) Agreement,
 - (2) Letter of Acceptance,
 - (3) Contractor’s Tender,
 - (4) Appendix to Conditions of Contract,
 - (5) Conditions of Contract,
 - (6) Specifications,
 - (7) Drawings,
 - (8) Bill of Quantities,
 - (9) Any other documents listed in the Appendix to Conditions of Contract as forming part of the Contract.

Immediately after the execution of the Contract, the Project Manager shall furnish both the Employer and the Contractor with two copies each of all the Contract documents. Further, as and when necessary the Project Manager shall furnish the Contractor [always with a copy to the Employer] with three [3] copies of such further drawings or details or descriptive schedules as are reasonably necessary either to explain or amplify the Contract drawings or to enable the Contractor to carry out and complete the Works in accordance with

these Conditions.

3. Language and Law

3.1 Language of the Contract and the law governing the Contract shall be English language and the Laws of Kenya respectively unless otherwise stated.

4 Project Manager's Decisions

4.1 Except where otherwise specifically stated, the Project Manager will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5 Delegation

5.1 The Project Manager may delegate any of his duties and responsibilities to others after notifying the Contractor.

6 Communications

6.1 Communication between parties shall be effective only when in writing. A notice shall be effective only when it is delivered.

7 Subcontracting

7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

8 Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities etc. as listed in the Appendix to Conditions of Contract and also with the Employer, as per the directions of the Project Manager. The Contractor shall also provide facilities and services for them. The Employer may modify the said List of Other Contractors etc., and shall notify the Contractor of any such modification.

9 Personnel

9.1 The Contractor shall employ the key personnel named in the Qualification Information, to carry out the functions stated in the said Information or other personnel approved by the Project Manager. The Project Manager will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are substantially equal to or better

than those of the personnel listed in the Qualification Information. If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the Work in the Contract.

10 Works

- 10.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings. The Works may commence on the Start Date and shall be carried out in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

11 Safety and Temporary Works

- 11.1 The Contractor shall be responsible for the design of temporary works. However before erecting the same, he shall submit his designs including specifications and drawings to the Project Manager and to any other relevant third parties for their approval. No erection of temporary works shall be done until such approvals are obtained.
- 11.2 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary works and all drawings prepared by the Contractor for the execution of the temporary or permanent Works, shall be subject to prior approval by the Project Manager before they can be used.
- 11.3 The Contractor shall be responsible for the safety of all activities on the Site.

12. Discoveries

- 12.1 Anything of historical or other interest or of significant value unexpectedly discovered on Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.

13. Work Program

- 13.1 Within the time stated in the Appendix to Conditions of Contract, the Contractor shall submit to the Project Manager for approval a program showing the general methods, arrangements, order, and timing for all the activities in the Works. An update of the program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Work, including any changes to the sequence of the activities.

The Contractor shall submit to the Project Manager for approval an updated program at intervals no longer than the period stated in the Appendix to Conditions of Contract. If the Contractor does not submit an updated program within this period, the Project Manager may withhold the amount stated in the said Appendix from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted. The Project Manager's approval of the program shall not alter the Contractor's obligations. The Contractor may revise the program and submit it to the Project Manager again at any time. A revised program shall show the effect of Variations and Compensation Events.

14. Possession of Site

14.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Appendix to Conditions of Contract, the Employer will be deemed to have delayed the start of the relevant activities, and this will be a Compensation Event.

15. Access to Site

15.1 The Contractor shall allow the Project Manager and any other person authorised by the Project Manager, access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

16. Instructions

16.1 The Contractor shall carry out all instructions of the Project Manager which are in accordance with the Contract.

17. Extension or Acceleration of Completion Date

17.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining Work, which would cause the Contractor to incur additional cost. The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager in writing for a decision upon the effect of a Compensation Event or variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay caused by such failure shall not be considered in assessing the new (extended) Completion Date.

17.2 No bonus for early completion of the Works shall be paid to the Contractor by the Employer.

18. Management Meetings

18.1 A Contract management meeting shall be held monthly and attended by the Project Manager and the Contractor. Its business shall be to review the plans for the remaining Work and to deal with matters raised in accordance with the early warning procedure. The Project Manager shall record the minutes of management meetings and provide copies of the same to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

19. Early Warning

19.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the Work, increase the Contract Price or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

19.2 The Contractor shall cooperate with the Project Manager in making and considering proposals on how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the Work and in carrying out any resulting instructions of the Project Manager.

20. Defects

20.1 The Project Manager shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a defect and to uncover and test any Work that the Project Manager considers may have a defect. Should the defect be found, the cost of uncovering and making good shall be borne by the Contractor, However, if there is no defect found, the cost of uncovering and making good shall be treated as a variation and added to the Contract Price.

20.2 The Project Manager shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the Appendix to Conditions of Contract. The Defects Liability Period shall be extended for as long as defects remain to be corrected.

20.3 Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Project Manager's

notice. If the Contractor has not corrected a defect within the time specified in the Project Manager's notice, the Project Manager will assess the cost of having the defect corrected by other parties and such cost shall be treated as a variation and be deducted from the Contract Price.

21. Bills Of Quantities

- 21.1 The Bills of Quantities shall contain items for the construction, installation, testing and commissioning of the Work to be done by the Contractor. The Contractor will be paid for the quantity of the Work done at the rate in the Bills of Quantities for each item.
- 21.2 If the final quantity of the Work done differs from the quantity in the Bills of Quantities for the particular item by more than 25 percent and provided the change exceeds 1 percent of the Initial Contract price, the Project Manager shall adjust the rate to allow for the change.
- 21.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bills of Quantities.

22. Variations

- 22.1 All variations shall be included in updated programs produced by the Contractor.
- 22.2 The Contractor shall provide the Project Manager with a quotation for carrying out the variations when requested to do so. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period as may be stated by the Project Manager and before the Variation is ordered.
- 22.3 If the work in the variation corresponds with an item description in the Bills of Quantities and if in the opinion of the Project Manager, the quantity of work is not above the limit stated in Clause 21.2 or the timing of its execution does not cause the cost per unit of quantity to change, the rate in the Bills of Quantities shall be used to calculate the value of the variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the variation does not correspond with items in the Bills of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.
- 22.4 If the Contractor's quotation is unreasonable, the Project Manager may order the variation and make a change to the Contract price, which shall be based on the Project Manager's own forecast of the effects of the variation on the Contractor's costs.
- 22.5 If the Project Manager decides that the urgency of varying the Work would prevent a quotation being given and considered without delaying the Work,

no quotation shall be given and the variation shall be treated as a Compensation Event.

22.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

22.7 When the Program is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

23. Payment Certificates, Currency of Payments and Advance Payments

23.1 The Contractor shall submit to the Project Manager monthly applications for payment giving sufficient details of the Work done and materials on Site and the amounts which the Contractor considers himself to be entitled to. The Project Manager shall check the monthly application and certify the amount to be paid to the Contractor within 14 days. The value of Work executed and payable shall be determined by the Project Manager.

23.2 The value of Work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed, materials delivered on Site, variations and compensation events. Such materials shall become the property of the Employer once the Employer has paid the Contractor for their value. Thereafter, they shall not be removed from Site without the Project Manager's instructions except for use upon the Works.

23.3 Payments shall be adjusted for deductions for retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of issue of each certificate. If the Employer makes a late payment, the Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at a rate three percentage points above the Central Bank of Kenya's average rate for base lending prevailing as of the first day the payment becomes overdue.

23.4 If an amount certified is increased in a later certificate or as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

23.5 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

23.6 The Contract Price shall be stated in Kenya Shillings. All payments to the Contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the execution of the Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Contract. If the Contractor indicated foreign currencies for payment other than the

currencies of the countries of origin of related goods and services the Employer reserves the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services. The Employer and the Project Manager shall be notified promptly by the Contractor of an changes in the expected foreign currency requirements of the Contractor during the execution of the Works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Contract Price shall then be amended by agreement between Employer and the Contractor in order to reflect appropriately such changes.

23.7 In the event that an advance payment is granted, the following shall apply:-

- a) On signature of the Contract, the Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the Contract. The advance shall not be subject to retention money.
- b) No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.
- c) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the Contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the Contract. It shall have been completed by the time 80% of this amount is reached.

The amount to be repaid by way of successive deductions shall be calculated by means of the formula:

$$R = \frac{A(x^1 - x^{11})}{80 - 20}$$

Where:

- R = the amount to be reimbursed
- A = the amount of the advance which has been granted
- X¹ = the amount of proposed cumulative payments as a percentage of the original amount of the Contract. This figure will exceed 20% but not exceed 80%.
- X¹¹ = the amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 80%but not less than 20%.

- d) with each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

24. Compensation Events

24.1 The following issues shall constitute Compensation Events:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Appendix to Conditions of Contract.
- (b) The Employer modifies the List of Other Contractors, etc., in a way that affects the Work of the Contractor under the Contract.
- (c) The Project Manager orders a delay or does not issue drawings, specifications or instructions required for execution of the Works on time.
- (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon the Work, which is then found to have no defects.
- (e) The Project Manager unreasonably does not approve a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to tenderers (including the Site investigation reports), from information available publicly and from a visual inspection of the Site.
- (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (i) The effects on the Contractor of any of the Employer's risks.
- (j) The Project Manager unreasonably delays issuing a Certificate of Completion.
- (k) Other compensation events described in the Contract or determined by the Project Manager shall apply.

24.2 If a compensation event would cause additional cost or would prevent the Work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much

the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

- 24.3 As soon as information demonstrating the effect of each compensation event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager will assume that the Contractor will react competently and promptly to the event.
- 24.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having co-operated with the Project Manager.
- 24.5 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the Appendix to Conditions of Contract.
- 24.6 The Contractor shall give written notice to the Project Manager of his intention to make a claim within thirty days after the event giving rise to the claim has first arisen. The claim shall be submitted within thirty days thereafter.

Provided always that should the event giving rise to the claim of continuing effect, the Contractor shall submit an interim claim within the said thirty days and a final claim within thirty days of the end of the event giving rise to the claim.

25. Price Adjustment

- 25.1 The Project Manager shall adjust the Contract Price if taxes, duties and other levies are changed between the date 30 days before the submission of tenders for the Contract and the date of Completion. The adjustment shall be the change in the amount of tax payable by the Contractor.
- 25.2 The Contract Price shall be deemed to be based on exchange rates current at the date of tender submission in calculating the cost to the Contractor of materials to be specifically imported (by express provisions in the Contract Bills of Quantities or Specifications) for permanent incorporation in the Works. Unless otherwise stated in the Contract, if at any time during the period of the Contract exchange rates shall be varied and this shall affect the cost to the Contractor of such materials, then the Project Manager shall assess the net difference in the cost of such materials. Any amount from time to time so assessed shall be added to or deducted from the Contract Price, as the case may be.
- 25.3 Unless otherwise stated in the Contract, the Contract Price shall be deemed to have been calculated in the manner set out below and in sub-clauses 25.4 and 25.5 and shall be subject to adjustment in the events specified thereunder;

- (i) The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the rates of wages and other emoluments and expenses as determined by the Joint Building Council of Kenya (J.B.C.) and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.
 - (ii) Upon J.B.C. determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of labour incorporated within the amount of Work remaining to be executed at the date of publication of such increase or decrease.
 - (iii) No adjustment shall be made in respect of changes in the rates of wages and other emoluments and expenses which occur after the date of Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.
- 25.4 The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the basic prices of materials to be permanently incorporated in the Works as determined by the J.B.C. and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.
- 25.5 Upon the J.B.C. determining that any of the said basic prices are increased or decreased then the Contract Price shall be increased or decreased by the amount to be assessed by the Project Manager based upon the difference between the price set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of the relevant materials which have not been taken into account in arriving at the amount of any interim certificate under clause 23 of these Conditions issued before the date of publication of such increase or decrease.
- 25.6 No adjustment shall be made in respect of changes in basic prices of materials which occur after the date for Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.
- 25.7 The provisions of sub-clause 25.1 to 25.2 herein shall not apply in respect of any materials included in the schedule of basic rates.

26. Retention

26.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the Appendix to Conditions of Contract until Completion of the whole of the Works. On Completion of the whole of the Works, half the total amount retained shall be repaid to the Contractor and the remaining half when the Defects Liability Period has passed and the Project Manager has certified that all defects notified to the Contractor before the end of this period have been corrected.

27. Liquidated Damages

27.1 The Contractor shall pay liquidated damages to the Employer at the rate stated in the Appendix to Conditions of Contract for each day that the actual Completion Date is later than the Intended Completion Date. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not alter the Contractor's liabilities.

27.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rate specified in Clause 23.30

28. Securities

28.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a reputable bank acceptable to the Employer, and denominated in Kenya Shillings. The Performance Security shall be valid until a date 30 days beyond the date of issue of the Certificate of Completion.

29. Dayworks

29.1 If applicable, the Dayworks rates in the Contractor's tender shall be used for small additional amounts of Work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

- 29.2 All work to be paid for as Dayworks shall be recorded by the Contractor on Forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the Work being done.
- 29.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

30. Liability and Insurance

- 30.1 From the Start Date until the Defects Correction Certificate has been issued, the following are the Employer's risks:
- (a) The risk of personal injury, death or loss of or damage to property (excluding the Works, Plant, Materials and Equipment), which are due to;
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or
 - (ii) negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
 - (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in Employer's design, or due to war or radioactive contamination directly affecting the place where the Works are being executed.
- 30.2 From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is the Employer's risk except loss or damage due to;
- (a) a defect which existed on or before the Completion Date.
 - (b) an event occurring before the Completion Date, which was not itself the Employer's risk
 - (c) the activities of the Contractor on the Site after the Completion Date.
- 30.3 From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to

property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risk are Contractor's risks.

The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts stated in the Appendix to Conditions of Contract for the following events;

- (a) loss of or damage to the Works, Plant, and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract, and
- (d) personal injury or death.

30.4 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation required to rectify the loss or damage incurred.

30.5 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

30.6 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager. Both parties shall comply with any conditions of insurance policies.

31. Completion and taking over

31.1 Upon deciding that the Works are complete, the Contractor shall issue a written request to the Project Manager to issue a Certificate of Completion of the Works. The Employer shall take over the Site and the Works within seven [7] days of the Project Manager's issuing a Certificate of Completion.

32. Final Account

32.1 The Contractor shall issue the Project Manager with a detailed account of the total amount that the Contractor considers payable to him by the Employer under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 30 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 30 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a Payment Certificate. The Employer shall pay the Contractor the amount due in the Final Certificate within 60 days.

33. Termination

- 33.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. These fundamental breaches of Contract shall include, but shall not be limited to, the following;
- (a) the Contractor stops work for 30 days when no stoppage of work is shown on the current program and the stoppage has not been authorised by the Project Manager;
 - (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;
 - (c) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
 - (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 30 days (for Interim Certificate) or 60 days (for Final Certificate) of issue.
 - (e) the Project Manager gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
 - (f) the Contractor does not maintain a security, which is required.
- 33.2 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under Clause 33.1 above, the Project Manager shall decide whether the breach is fundamental or not.
- 33.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.
- 33.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible. The Project Manager shall immediately thereafter arrange for a meeting for the purpose of taking record of the Works executed and materials, goods, equipment and temporary buildings on Site.

34. Payment Upon Termination

- 34.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the Work done and materials ordered and delivered to Site up to the date of the issue of the certificate. Additional liquidated damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable by the Contractor.

- 34.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the Work done, materials ordered, the reasonable cost of removal of equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works.
- 34.3 The Employer may employ and pay other persons to carry out and complete the Works and to rectify any defects and may enter upon the Works and use all materials on the Site, plant, equipment and temporary works.
- 34.4 The Contractor shall, during the execution or after the completion of the Works under this clause remove from the Site as and when required, within such reasonable time as the Project Manager may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to or hired by him, and in default the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, holding the proceeds less all costs incurred to the credit of the Contractor.
- Until after completion of the Works under this clause the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefore the Project Manager shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract the difference shall be a debt payable to the Employer by the Contractor; and if the said amount added to the said money be less than the said total amount, the difference shall be a debt payable by the Employer to the Contractor.

35. Release from Performance

- 35.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop Work as quickly as possible after receiving this certificate and shall be paid for all Work carried out before receiving it.

36. Corrupt gifts and payments of commission

The Contractor shall not;

- (a) Offer or give or agree to give to any person in the service of the

Employer any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act

in relation to the obtaining or execution of this or any other Contract for the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract for the Employer.

- (b) Enter into this or any other contract with the Employer in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer.

Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the provisions of the Public Procurement Regulations issued under The Exchequer and Audit Act Cap 412 of the Laws of Kenya.

37. Settlement Of Disputes

37.1 In case any dispute or difference shall arise between the Employer or the Project Manager on his behalf and the Contractor, either during the progress or after the completion or termination of the Works, such dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed by the Chairman or Vice Chairman of any of the following professional institutions;

- (i) Architectural Association of Kenya
- (ii) Institute of Quantity Surveyors of Kenya
- (iii) Association of Consulting Engineers of Kenya
- (iv) Chartered Institute of Arbitrators (Kenya Branch)
- (v) Institution of Engineers of Kenya

On the request of the applying party. The institution written to first by the aggrieved party shall take precedence over all other institutions.

37.2 The arbitration may be on the construction of this Contract or on any matter or thing of whatsoever nature arising thereunder or in connection therewith, including any matter or thing left by this Contract to the discretion of the Project Manager, or the withholding by the Project Manager of any certificate to which the Contractor may claim to be entitled to or the measurement and valuation referred to in clause 23.0 of these conditions, or the rights and liabilities of the parties subsequent to the termination of Contract.

- 37.3 Provided that no arbitration proceedings shall be commenced on any dispute or difference where notice of a dispute or difference has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.
- 37.4 Notwithstanding the issue of a notice as stated above, the arbitration of such a dispute or difference shall not commence unless an attempt has in the first instance been made by the parties to settle such dispute or difference amicably with or without the assistance of third parties. Proof of such attempt shall be required.
- 37.5 Notwithstanding anything stated herein the following matters may be referred to arbitration before the practical completion of the Works or abandonment of the Works or termination of the Contract by either party:
- 37.5.1 The appointment of a replacement Project Manager upon the said person ceasing to act.
 - 37.5.2 Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.
 - 37.5.3 Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
 - 37.5.4 Any dispute or difference arising in respect of war risks or war damage.
- 37.6 All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Employer and the Contractor agree otherwise in writing.
- 37.7 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.
- 37.8 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision requirement or notice had been given.
- 37.9 The award of such Arbitrator shall be final and binding upon the parties.

Limit of certified value retained : **5%**
Period between program updates is: **7 days**

The amount to be withheld for late submission of an updated program is **1% of certified amount to be paid to the contractor.**

The Price Adjustment clause **SHALL NOT** apply

Advance payment **SHALL NOT be** granted

The rate of exchange for calculation of foreign currency payment is – **Not applicable**
The schedule of basic rates used in pricing by the contractor is as attached (contractor to attach).

Other contractors, utilities etc to be engaged by the employer on the site include those for the execution of:

- 1.....
- 2.....
- 3.....
- 4.....

The minimum insurance covers shall be:

1. Minimum cover for insurance of the works, plant and material in respect of the contractor's faulty design is.....
2. The minimum cover for loss or damage to equipment is.....
3. The minimum for insurance of other property is.....
4. The minimum cover for personal injury or death insurance
 - For the contractor's employee is.....
 - And for other people is.....

The following events shall also be compensation events:

1. Nil
2. Nil
3. Nil
4. Nil

SECTION V

GENERAL SPECIFICATIONS

OF

MATERIALS AND WORKS

PARTICULAR SPECIFICATIONS

TELECOMMUNICATIONS DISTRIBUTION SYSTEM – STRUCTURED CABLING

PART 1/1

A. GENERAL TECHNICAL SPECIFICATIONS.

a. Section Includes:

Equipment, materials, labour, and services to provide telephone and data distribution system including but not limited to:

- 1) *Telephone and data cabling terminations*
- 2) *Optical fiber and terminations*
- 3) *Data/voice outlets*
- 4) *Terminal blocks/cross-connect systems*
- 5) *Equipment racks and cabinets*
- 6) *System testing*
- 7) *Documentation and submission*
- 8) *Surface trunking, cable ladder,*
- 9) *Core switch, edge switches*

- b. Provide all equipment, materials, labour, and services, not specifically mentioned or shown, which may be necessary to complete or perfect all parts of the installation. Ensure that they are in compliance with requirements stated or reasonably inferred by the contract documents.

1.0 REFERENCES

- a. Design, manufacture, test, and install telecommunications cabling networks per manufacturer's requirements and in accordance with NFPA-70 (*National Electrical Code®*)/IEE Regulations, state codes, local codes, requirements of authorities having jurisdiction, and particularly the following standards: ANSI/NECA/BICSI-568 -- Standard for Installing Commercial Building Telecommunications Cabling ANSI/TIA/EIA Standards.

- 1) ANSI/TIA/EIA-568-B.1 -- Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
- 2) ANSI/TIA/EIA-568-B.2 -- Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted Pair Cabling Components

- 3) ANSI/TIA/EIA-568-B.3 -- Optical Fiber Cabling Components Standard
 - 4) ANSI/TIA/EIA-569-A -- Commercial Building Standard for Telecommunications Pathways and Spaces
 - 5) ANSI/TIA/EIA-606(A) -- The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
 - 6) ANSI/TIA/EIA-607(A) -- Commercial Building Grounding and Bonding Requirements for Telecommunications
 - 7) ANSI/TIA/EIA-526-7 -- Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
 - 8) ANSI/TIA/EIA-526-14A -- Measurement of Optical Power Loss of Installed Multimode Fiber Cable Plant
 - (9) ANSI/TIA/EIA-758(A) -- Customer-Owned Outside Plant Telecommunications Cabling Standard
 - (10) ISO/IEC 1101 Amendment 2
- b. Local codes, rules, regulations, and ordinances governing the work, are as fully part of the specifications as if herein repeated or hereto attached. If the contractor should note items in the drawings or the specifications, construction of which would be code violations, promptly call them to the attention of the Project Manager in writing. Where the requirements of other sections of the specifications are more stringent than applicable codes, rules, regulations, and ordinances, the specifications shall apply.

2.0 PERMITS, FEES, AND CERTIFICATES OF APPROVAL

- a. The Contractor to include the cost of application and pay for building permit.
- b. As prerequisite to final acceptance, supply to the client certificates of inspection from an inspection agency acceptable to the owner and approved by local municipality and utility company serving the Project Manager.

3.0 SYSTEM DESCRIPTION

A telecommunications cabling system generally consists of one telecommunications outlet in each workstation, wall telephones in common and power socket outlet.

The typical work area consists of a single-gang plate with two standards compliant work area outlets.

One work area outlet consists of one (1) four-pair data Category 6 cable or above, installed from work area outlet to the data cabinet. Terminate data cables on modular patch panels located in the appropriate data cabinet.

One work area outlet consists of one (1) four-pair screened (ScTP) cable installed from work area outlet to the data termination rack in the cabinet. Terminate data cables on rack mounted modular patch panels.

Vertical/horizontal copper backbone cabling consists of multiple pair unshielded twisted-pair installed from the main cross-connect (MC) to the horizontal cross-connect (HC) and/or from the MC to the intermediate cross-connect (IC) to the HC.

Vertical/horizontal backbone cabling consists of 62.5/125 μ m multimode optical fiber cable installed from the MC to the HC and/or from the MC to the IC to the HC. *Specification Note: State what this backbone will be utilized for. Examples are voice telecommunications service, premises switching equipment, data communications, etc.*

4.0 SUBMITTALS

Submit to the P.M shop drawings, product data (including cut sheets and catalog information), and samples required by the contract documents. Submit shop drawings, product data, and samples with such promptness and in such sequence as to cause no delay in the work or in the activities of separate contractors. The engineer will indicate approval of shop drawings, product data, and samples submitted to the engineer by stamping such submittals "APPROVED" with a stamp. Submitted shop drawings shall be initialed or signed by the contractor, showing the date and the contractor's legitimate firm name.

1) By submitting shop drawings, product data, and samples, the contractor represents that he or she has carefully reviewed and verified materials, quantities, field measurements, and field construction criteria related thereto. It also represents that the contractor has checked, coordinated, and verified that information contained within shop drawings, product data, and samples conform to the requirements of the work and of the contract documents. The engineer/designer remains responsible for the design concept expressed in the contract documents as defined herein.

2) The P.M approval of shop drawings, product data, and samples submitted by the contractor shall not relieve the contractor of responsibility for deviations from requirements of the contract documents, unless the contractor has specifically

informed the engineer/designer in writing of such deviation at time of submittal, and the engineer/designer has given written approval of the specific deviation. The contractor shall continue to be responsible for deviations from requirements of the contract documents not specifically noted by the contractor in writing, and specifically approved by the engineer in writing.

3) The P.M approval of shop drawings, product data, and samples shall not relieve the contractor of responsibility for errors or omissions in such shop drawings, product data, and samples.

4) The P.M review and approval, or other appropriate action upon shop drawings, product data, and samples, is for the limited purpose of checking for conformance with information given and design concept expressed in the contract documents. The engineer's review of such submittals is not conducted for the purpose of determining accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the contractor as required by the contract documents.

The review shall not constitute approval of safety precautions or of construction means, methods, techniques, sequences, or procedures. The P.M approval of a specific item shall not indicate approval of an assembly of which the item is a component.

5) Shop drawings: Submit the following:

Coordinate with Part 2.

- 1) Backbone (riser) diagrams
- 2) System block diagram, indicating interconnection between system components and subsystems
- 3) Interface requirements, including connector types and pin-outs, to external systems and systems or components not supplied by the contractor
- 4) Fabrication drawings for custom-built equipment

c. Product Data -- Provide catalog cut sheets and information for the following: *Coordinate with Part 2..*

- 1) Wire, cable, and optical fiber
- 2) Outlets, jacks, faceplates, and connectors
- 3) All metallic and nonmetallic raceways, including surface raceways, outlet boxes, and fittings
- 4) Terminal blocks and patch panels
- 5) Enclosures, racks, and equipment housings
- 6) Over-voltage protectors
- 7) Splice housings

- d. Samples -- Submit samples as required
- 6) Submit project record drawings at conclusion of the project and include:
- (a) Approved shop drawings
 - (b) Plan drawings indicating locations and identification of work area outlets, nodes, data cabinet rooms, and backbone (riser) cable runs
 - (c) Cross-connect schedules including entrance point, main cross-connects, intermediate cross-connects, and horizontal cross-connects.
 - (d) Labeling and administration documentation.
 - (e) Warranty documents for equipment.
 - (f) Copper certification test result printouts and diskettes.
 - (g) Optical fiber power meter/light source test results.
 - (h) Operation and maintenance manuals:

5.0 QUALITY ASSURANCE

- a) The contractor shall have worked satisfactorily for a minimum of five (5) years on systems of this type and size.
- b) Upon request by the P.M, furnish a list of references with specific information regarding type of project and involvement in providing of equipment and systems.
- c) Equipment and materials of the type for which there are independent standard testing requirements, listings, and labels, shall be listed and labeled by the independent testing laboratory.
- d) Where equipment and materials have industry certification, labels, or standards (i.e., NEMA - National Electrical Manufacturers Association), this equipment shall be labeled as certified or complying with standards.
- e) Material and equipment shall be new, and conform to grade, quality, and standards specified. Equipment and materials of the same type shall be a product of the same manufacturer throughout.
- f) Subcontractors shall assume all rights and obligations toward the contractor that the contractor assumes toward the client and P.M.

6.0 WARRANTY

Unless otherwise specified, unconditionally guarantee in writing the materials, equipment, and workmanship for a period of not less than fifteen (15) years from date of commissioning of the project for active components.

Transfer manufacturer's warranties to the owner in addition to the General System Guarantee. Submit these warranties on each item in list form with shop drawings. Detail specific parts within equipment that are subject to separate conditional warranty. Warranty proprietary equipment and systems involved in this contract during the guarantee period. Final payment shall not relieve you of these obligations.

7.0 DELIVERY, STORAGE, AND HANDLING

Protect equipment during transit, storage, and handling to prevent damage, theft, soiling, and misalignment. Coordinate with the client for secure storage of equipment and materials. Do not store equipment where conditions fall outside manufacturer's recommendations for environmental conditions. Do not install damaged equipment; remove from site and replace damaged equipment with new equipment.

8.0 SEQUENCE AND SCHEDULING

Submit schedule for installation of equipment and cabling. Indicate delivery, installation, and testing for conformance to specific job completion dates. As a minimum, dates are to be provided for bid award, installation start date, completion of station cabling, completion of riser cabling, completion of testing and labeling, cutover, completion of the final punch list, start of demolition, owner acceptance, and demolition completion.

10.0 USE OF THE SITE

Access to building wherein the work is performed shall be as directed by the P.M. Cooperate with the client to minimize conflict and to facilitate the owner's operations.

Schedule necessary shutdowns of plant services with the main contractor, and obtain written permission from the client.

Proceed with the work without interfering with ordinary use of streets, aisles, passages, exits, and operations of the client.

PART 2/1 - PRODUCTS

1. MANUFACTURERS

Provide products of manufacturers as named in individual articles. Where no manufacturer is specified, provide products of manufacturers in compliance with requirements.

2. FABRICATION

Fabricate custom-made equipment with careful consideration given to aesthetic, technical, and functional aspects of equipment and its installation.

3. SUITABILITY

Provide products that are suitable for intended use, including, but not limited to environmental, regulatory, and electrical.

4. VOICE/DATA TELECOMMUNICATIONS SERVICE BACKBONE CABLE

- a. Solid copper, 24 AWG, 100 \square balanced twisted-pair (UTP) backbone cable, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.2
- b. Multimode 62.5/125 μm diameter tight-buffered optical fiber, with fiber counts as indicated on drawings, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.3

5. VOICE TELECOMMUNICATIONS STATION CABLE

a. Solid copper, 24 AWG, 100 \square balanced twisted-pair (UTP) Category 6e cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 up to 100 MHz.

6. DATA STATION CABLE (Copper)

- a. Solid copper, 24 AWG, 100 \square balanced twisted-pair (UTP) Category 6e cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 up to 100 MHz.
- c. Solid copper, 24 AWG, 100 \square balanced twisted-pair, screened (ScTP) cables with four individually twisted-pairs, which meet or exceed the mechanical and transmission performance specifications in ANSI/TIA/EIA-568-B.2 (Annex K) up to 100 MHz.

7. DATA STATION CABLE (Optical Fiber)

- a. Multimode 62.5/125 μm diameter tight-buffered optical fiber, with the required number of fiber counts, with mechanical and transmission performance specifications that meet or exceed ANSI/TIA/EIA-568-B.3

8. UNDERGROUND TELECOMMUNICATIONS CABLE (Copper)

If you have copper cables installed outside between buildings, be certain to specify overvoltage protectors on both ends of the cable. See article, OVERVOLTAGE PROTECTORS.

Solid copper, 24 AWG 100 \square balanced twisted-pair, gel-filled duct cable, in sizes as indicated on the drawings, which meet or exceed the mechanical and transmission performance specifications listed in ANSI/TIA/EIA-568-B.2 and ANSI/TIA/EIA-758(A).

9. UNDERGROUND TELECOMMUNICATIONS CABLE (Optical Fiber)

Singlemode 8.7 μm to 10 μm diameter, armored, gel-filled optical fiber, with number of usable fibers as shown on drawings, which meet or exceed the mechanical and transmission performance specifications listed in ANSI/TIA/EIA-568-B.3 and ANSI/TIA/EIA-758(A).

10. VOICE/DATA – COPPER & OPTICAL FIBER WORK AREA

OUTLETS Edit for items that will actually be used on the project.

Pick a color for the faceplate and each type of jack, or make them all one color.

Determine which pinning standard is to be used, T568A, T568B, or USOC. If not otherwise specified, specify T568A. Use either 10c with SC connectors or 10d (1) for ST connectors. SC connectors are preferred. Use ST connectors to match existing cable plant if required.

Single-gang mounting plate with two (2) openings containing the following devices:

- a. Data Outlet - 8-pin modular, category 6e, unkeyed, black, pinned to either T568 (A or B) standards.
- b. Optical Fiber Connectors – simplex ST - ST adapter.

Provide two optical fiber adapters for each faceplate

11. VOICE/DATA WORK AREA OUTLETS (Copper only)

Single-gang mounting plate with four (4) openings containing the following devices: Data Outlet - 8-pin modular, Category 6e, unkeyed, black, pinned to either T568 (A or B) standards.

12. VOICE ONLY WORK AREA OUTLET

Single-gang faceplate with 8-pin modular, category 6e, unkeyed, ivory telephone jack, pinned to either T568 (A or B) standards

13. TERMINATION BLOCKS

For items that will actually be used on the project: Coordinate with MC, IC and HC layout drawing.

- a. Product(s) as approved by the P.M: Wiring blocks are to be in following configurations:
 - 1) List dimensional configurations
 - 2) ER – List pairs categorized for PBX portion of ER and pairs field terminated for backbone and CO portion of ER

Provide wiring troughs between ER frame sections.

14. PATCH PANELS

Specification Note: Alter quantities to match job requirements.

19 in. rack mountable, 24-port 8-pin modular to insulation displacement connector (IDC) meeting Category 6e performance standards, and pinned to either T568 (A or B) standards. Typical examples of IDC connections are the 110, BIX, and Krone.

15. WALL MOUNTED OPTICAL FIBER PATCH

PANELS Specification Note: Alter quantities to match job requirements

Wall-mounted optical fiber termination panel with 12-fiber capacity, hinged door, cable strain relief, slack storage, and two 6-port SC or approved alternative connector panels with adapters and provisions for two splice trays.

16. RACK MOUNTED OPTICAL FIBER TERMINATION PANEL

Specification Note: Alter size to match job requirements. Coordinate with connector type.

19 in. rack mounted 72-port rack-mounted optical fiber termination panel with cable strain relief, grounding lugs, slack storage and three 12-port duplex SC or approved alternative connector panels with adapters and provisions for six (6) splice trays.

17. SPLICE TRAYS *Sized for single mode and multimode fibers, nonmetallic with clear plastic cover, 12-fiber splice capacity, compatible with splice enclosure and splicing method.*

18. OPTICAL FIBER CONNECTORS

Ceramic tipped field installed 568SC connectors, which meet or exceed the performance specifications in ANSI/TIA/EIA-568-B.3. Various alternative field installed connector designs, which meet or exceed the performance specifications in ANSI/TIA/EIA-568-B.3 (Annex A).

19. OPTICAL FIBER JUMPERS

Dual 62.5/125- μm (*and/or single mode*) optical fiber jumper cable, 1 m long with 3.0 mm Duplex 568SC optical fiber connectors on each end.

Dual 62.5/125- μm (*and/or single mode*) optical fiber jumper cable, 1 m long with approved alternative duplex optical fiber connectors on each end.

20. OPTICAL FIBER PIGTAILS

62.5/125 μm (*and/or single mode*) optical fiber pigtail 1 m long with 3.0 mm single 568 SC optical fiber connectors on one end

21. OPEN FRAME EQUIPMENT RACK

Open frame, 19 in. equipment rack, 7 foot 6 in. overall height with flange base, mounting rails drilled front and back and tapped to EIA standards, and a front-rack mountable 10 outlet multiple outlet electrical strip or 42u enclosed glazed.

22. EQUIPMENT RACKS/CABINETS

Specification Note: Use 19 in. or change to 23 in. as required. If using wall-mounted racks or cabinets, add required specifications here. Add and delete features as required.

a. The 19 in. equipment rack shall have the following minimum requirements:

- 77 in. (44 rack spaces) of panel space
- Welded frame construction
- Locking front and rear doors
- Adjustable front and back equipment mounting rails drilled and tapped to EIA standards
- 10 position electrical outlet strip
- Removable side panels
- Top mounted, thermostatically controlled exhaust fan
- Smoked acrylic front door.

23. LISTED BUILDING ENTRANCE PROTECTORS

Use when copper cables are run outside of building. Use appropriate protector modules.

Building entrance terminal utilizing a two (2) foot fuse link between the outside cable plant splice and the protector module with IDC type input and output terminals, 100-pair capacity and female mounting base, equipped with 230 volt solid state protector modules. Provide sufficient protector modules to completely populate all building entrance terminals.

24. SPLICE HOUSING

Use this or something else. Delete splice modules if used for optical fiber cables.

- a. Encapsulated, re-enterable splice housing, sized as required with bonding straps, accessories, end caps and encapsulant as required
- b. Splice modules (such as 710 series or MS²) for use within splice housing

25. SPARES

Change quantities to suit job size. Edit to match that which is actually specified.

- a. Furnish the following spare equipment and parts:

Terminal block connectors, if required

Test set cords, if required

Install one test cord set in each telecommunications closet

Five (5) percent of base bid quantity of each type of jack shall be provided

Five (5) percent of base bid quantity of each type of outlet

Five thousand (5000) ft of each type of station cable

One thousand (1000) ft of one-pair cross-connect wire for each telecommunications closet

One thousand (1000) ft of two-pair cross-connect wire for each telecommunications closet

Five (5) percent of base bid quantity of protector modules

EXECUTION

1. PRE-INSTALLATION SITE SURVEY

- a. Prior to start of systems installation, meet at the project site with the P.M and representatives of trades performing related work to coordinate efforts. Review areas of potential interference and resolve conflicts before proceeding with the work. Facilitation with the Client will be necessary to plan the crucial scheduled completions of the equipment room and telecommunications closets.
- b. Examine areas and conditions under which the system is to be installed. Do not proceed with the work until satisfactory conditions have been achieved.

2. HANDLING AND PROTECTION OF EQUIPMENT AND MATERIALS

Be responsible for safekeeping of your own, such as equipment and materials, on the job site. The client assumes no responsibility for protection of above named property against fire, theft, and environmental conditions.

3. PROTECTION OF OWNER'S FACILITIES

- a. Effectively protect the client's facilities, equipment, and materials from dust, dirt, and damage during construction.
- b. Remove protection at completion of the work.

4. INSTALLATION

Receive, check, unload, handle, store, and adequately protect equipment and materials to be installed as part of the contract. Store in areas as directed by the owner's representative. Include delivery, unloading, setting in place,

fastening to walls, floors, ceilings, or other structures where required, interconnecting wiring of system components, equipment alignment and adjustment, and other related work whether or not expressly defined herein. Install materials and equipment in accordance with applicable standards, codes, requirements, and recommendations of national, state, and local authorities having jurisdiction, and *National Electrical Code*® (NEC) and with manufacturer's printed instructions. Adhere to manufacturer's published specifications for pulling tension, minimum bend radii, and sidewall pressure when installing cables. Where manufacturer does not provide bending radii information, minimum-bending radius shall be 15 times cable diameter. Arrange and mount equipment and materials in a manner acceptable to the P.M and the client.

Penetrations through floor and fire-rated walls shall utilize intermediate metallic conduit (IMC) or galvanized rigid conduit (GRC) sleeves and shall be fire stopped after installation and testing, utilizing a fire stopping assembly approved for that application.

Install station cabling to the nearest telecommunications room (TR), unless otherwise noted.

Installation shall conform to the following basic guidelines:

Use of approved wire, cable, and wiring devices

Neat and uncluttered wire termination

Attach cables to permanent structure with suitable attachments at intervals of 1200-1500mm. Support cables installed above removable ceilings.

Install adequate support structures for 10 foot of service slack at each TR. Support riser cables every floor and at top of run with cable grips.

Limit number of four-pair data riser cables per grip to fifty (50)

Install cables in one continuous piece. Splices shall not be allowed except as indicated on the drawings or noted below:

Provide over voltage protection on both ends of cabling exposed to lightning or accidental contact with power conductors.

Specification Note: Insert any other specific installation requirements here, such as hook and latch fasteners instead of cable ties, etc.

5. GROUNDING

Edit as required.

- a. Grounding shall conform to ANSI/TIA/EIA 607(A) - *Commercial Building Grounding and Bonding Requirements for Telecommunications, National Electrical Code®*, ANSI/NECA/BICSI-568 and manufacturer's grounding requirements as minimum.
- b. Bond and ground equipment racks, housings, messenger cables, and raceways.
- c. Connect cabinets, racks, and frames to single-point ground which is connected to building ground system via #6 AWG green insulated copper grounding conductor.

6. LABELING

Use 6d if the type of termination block permits labels. Otherwise use 6e.

Use 6g if the owner does not have a standard for outlet numbering.

Use 6h if required. Alter time as requested.

Labeling shall conform to ANSI/TIA/EIA-606(A) standards. In addition, provide the following:

- a. Label each outlet with permanent self-adhesive label with minimum 3/16 in. high characters.
- b. Label each cable with permanent self-adhesive label with minimum, 1/8 in. high characters, in the following locations:
 - 1) Inside receptacle box at the work area.
 - 2) Behind the communication closet patch panel or punch block.
- c. Use labels on face of data patch panels. Provide facility assignment records in a protective cover at each telecommunications closet location that is specific to the facilities terminated therein.
- d. Use color-coded labels for each termination field that conforms to ANSI/TIA/EIA-606(A) standard color codes for termination blocks.
- e. Mount termination blocks on color-coded backboards.
- f. Labels shall be machine-printed. Hand-lettered labels shall not be acceptable.
- g. Label cables, outlets, patch panels, and punch blocks with room number in which outlet is located, followed by a single letter suffix to indicate particular outlet within room, i.e., S2107A, S2107B.
Indicate riser cables by an R then pair or cable number.
- h. Mark up floor plans showing outlet locations, type, and cable marking of cables. Turn these drawings over to the owner two (2) weeks prior to move in to allow the owner's personnel to connect and test owner-provided equipment in a timely fashion.
- i. Three (3) sets of as-built drawing shall be delivered to the owner within four (4) weeks of acceptance of project by the owner. A set of as-built drawings shall be provided to the owner in magnetic media form (3.5" floppy disks) and utilizing CAD software that is acceptable to the owner. The magnetic media shall be delivered to the owner within six (6) weeks of acceptance of project by owner.

7. TESTING

Testing shall conform to ANSI/TIA/EIA-568-B.1 standard. Testing shall be accomplished using level IIe or higher field testers.

Test each pair and shield of each cable for opens, shorts, grounds, and pair reversal. Correct grounded, and reversed pairs. Examine open and shorted pairs to determine if problem is caused by improper termination. If termination is proper, tag bad pairs at both ends and note on termination sheets.

- 1) Perform testing of copper cables with tester meeting ANSI/TIA/EIA-568-B.1 requirements.
- 2) If copper backbone cable contains more than one (1) percent bad pairs, remove and replace entire cable.

Use 2 or 3 as required.

- 3) If copper cables contain more than the following quantity of bad pairs, or if outer sheath damage is cause of bad pairs, remove and replace the entire cable:

CABLE SIZE	MAXIMUM BAD PAIRS
<100	1
101 to 300	1- 3
301 to 600	3- 6
>601	6

- 4) If horizontal cable contains bad conductors or shield, remove and replace cable. Initially test optical cable with a light source and power meter utilizing procedures as stated in ANSI/TIA/EIA-526-14A: *OFSTP-14A Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant* and ANSI/TIA/EIA-526-7 *Measurement of Optical Power Loss of Installed Single mode Fiber Cable Plant*. Measured results shall be plus/minus 1 dB of submitted loss budget calculations. If loss figures are outside this range, test cable with optical time domain reflectometer to determine cause of variation. Correct improper splices and replace damaged cables at no charge to the owner.

- 1) Cables shall be tested at 850 and 1300 nm for multimode optical fiber cables. Cables shall be tested at 1310 and 1550 nm for single mode optical fibers.
- 2) Testing procedures shall utilize "Method B" – One jumper reference.
- 3) Bi-directional testing of optical fibers is required.

- c. Perform optical time domain reflectometer (OTDR) testing on each fiber optic conductor. Measured results shall be plus/minus 1 dB of submitted loss budget calculations.
 - 1) Submit printout for each cable tested.
 - 2) Submit 3.5 in. disks with test results and program to view results.
- e. Where any portion of system does not meet the specifications, correct deviation and repeat applicable testing at no additional cost.

FIELD QUALITY CONTROL

- a. Employ job superintendent during the course of the installation to provide coordination of work of this specification and of other trades, and provide technical information when requested by other trades. This person shall maintain current RCDD® (Registered Communications Distribution Designer) registration and shall be responsible for quality control during installation, equipment set-up, and testing.
- b. At least 30 percent of installation personnel shall be *BICSI Registered Telecommunications Installers*. Of that number, at least 15 percent shall be registered at the *Technician Level*, at least 40 percent shall be registered at the *Installer Level 2*, and the balance shall be registered at the *Installer Level 1*.
Specification Note: Use this or insert manufacturer's requirements for installer qualifications to meet extended warranty program requirements.
- c. Installation personnel shall meet manufacturer's training and education requirements for implementation of extended warranty program.

1.0 SITE LOCATION

The site of the proposed works is in **Bungoma; within Kibabii University,**

2.0 DESCRIPTION OF THE PROJECT

The works to be carried out comprise the following;

- i) Proposed supply, installation, testing and commissioning of a structured cabling system to cater for computer data points and telephone points.
- ii) Configure and set up the structured cabling system to be used on LAN,
- iii) Produce test result, warranty certification, reports and as installed drawings. The Network will be capable of supporting approximately **120 data/voice/camera points.**

- iii) Supply, install 100 pair and 50 pair telephone cables to interconnect the data cabinets to the existing PABX located on first floor. The works shall include inter-wiring, programming and activating all voice points.

3.0 REGULATIONS

The contractor shall, in execution and completion of the works in the detailed design for which he is responsible, comply with the provisions of the following as necessary and relevant;

- a) ISO/IEC, CCK, ATM CENELEC 11801
- b) ANSI/EIA/TIA 56
- c) Latest Edition of IEE Regulation
- d) Kenya Bureau of Standards
- e) Electric Power Act and Rules made there under.

4.0 WORKING DRAWINGS

The Contractor shall submit to the Project Manager working drawings for the proposed system for approval. The drawings will show the locations of and identifiers for all cable routing and terminations, telecommunication outlets/connectors. Location of core switch and Edge switches.

5.0 NETWORK CABINETS

- a) To be located on each floor in designated rooms as indicated in the electrical drawings.
- b) Must be metallic (appropriately sized as specified in the BQ) with a front clear glass, free standing, complete with lock and key and the following accessories;
 - o Cable Management channel rack
 - o Cable support hooks
 - o Cable support rings and straps
 - o Cable duct cover
 - o Feed through cable panels
 - o Vented equipment shelving
 - o Blank filler panels
 - o Hinged wall mounted brackets
 - o Glass viewing window
 - o Colored Designation strips
 - o Management lock and key
 - o Cooling extractor fans
 - o Caster wheels
 - o Inbuilt 2-gang power socket outlet

6.0 ACTIVE CONTROL EQUIPMENTS AT THE NETWORK CORE

The active control equipment at the core should have the following features:

- a. IEEE 802.3 compliant for power over Ethernet
- b. IEEE 802.1 based security compliant
- c. SNMP compliant for security
- d. Layer 2/3/4 switch
- e. Should have at least 12 slots
- f. Should support Gigabit Ethernet to the desktop
- g. Should have at least 10-slots or higher chassis
- h. The core switches should have two links to each floor configured in active/active configuration. The links should deliver 2GBPS throughput when all ports are active.
- i. The core switch should have redundant power supply, redundant fan tray and redundant CPU/ supervisor engine installed
- j. Fiber cable linking stacks on each floor to the core should be connected to
1000Base X (GBIC) port on the core switch.
- k. Should be installed with the latest version of system software at the time of delivery.
- l. Should support Quality of service for various applications.

7.0 ACTIVE CONTROL EQUIPMENTS AT THE LAN EDGE

Active control equipment at the LAN Edge should have the following features

- a) Active control equipment at the LAN Edge should support 10/100/1000 MBPS on all ports (RJ45) and Gigabit to the desktop connectivity
- b) The equipment should have at least two 1000BaseXGigabit uplink ports for terminating backbone Fiber.
- c) The equipment should support layer 3 routing.
- d) Should support IEEE 802.1, SSH, SNMP.
- e) More than 12,000MAC addresses should be available on each switch.
- f) The switches should have 24/48 ports of 10/100/1000 MBPS.
- g) Each stack on the edge will have two links of Fiber to the core switch, totaling two fiber terminations from the core switch to the stack.
- h) Should support Jumbo frames.
- i) Active Equipment at the LAN Edge should be quoted with a minimum of **Fifteen years of warranty** covering free replacement of parts and units.
- j) Active equipment must be stackable

k) All ports must support power over Ethernet

8.0 ROUTER

The router shall have the following as the minimum specifications

Memory:	256MB expandable to 512MB
Flash Memory:	64MB
Interfaces:	2 x Fast Ethernet LAN Ports 1 x Serial WAN Port Auxiliary Port Console Port
Expansion Slots:	1 Network Module Slot
Software:	Latest Software release
Installation:	Standard 19" Rack Mount Kit

9.0 NTU SPECIFICATIONS

Type:	HDSL
Max Data Transfer Rate:	2Mbps
Mode of Operation:	DCE
Connector:	DB37
Interface Cable:	DB37-DB15

10.0 NETWORK MANAGEMENT SYSTEM

Bidders must propose the manufacturers Network Management system for centralized configuration, maintenance and trouble shooting of active equipments. Third party stand alone systems should not be offered as part of the solution. Features and functionalities of the system should include the following:

- a) Should be compatible with Microsoft windows/Linux operating systems
- b) Graphical User Interface for central Management and network viewing
- c) Network discovery and inventory management
- d) VLAN, multicast, security and load-balancing/fail over configuration
- e) Downloading and saving of log file from the device flash memory
- f) Centralized upgrade/backup and archiving of active devices
- g) Export of network topology to JPEG or other standard formats.

11.0 CABLE

i) UTP CABLE

The UTP cable must be category 6 compliant UTP cable, with the following specifications;

- a) 4-pair cables with 100 Ohm impedance.
- b) Compliant to standards such as TIA/EIA – 268-B. 2-1 and IEC 61156-5
- c) Made of polyethylene insulation
- d) Pulling force should support up to 50N/mm²
- e) Low Smoke Zero Halogen outer sheath

ii) OPTICAL FIBRE CABLE

The fibre cable must be 8 core multimode fibre with the following specifications: -

- a) Cable size: 8 core.
- b) Termination: SC Duplex connectors.
- c) Graded Index: Nominal 62.5/125 micro. m

12.0 CAT 6 PATCH PANELS

The Contractor shall provide factory made patch panels, cat 6 complete with cable management and front designation strips, 110 PCB mounted connectors and integral RJ mounted jack sockets.

13.0 FIBER PATCH PANELS

All Backbone Fiber links to individual floors should be terminated on Fiber Patch Panels.

Connector interfaces should support ST, Sc simplex, Sc duplex, FC, LC or MT-RJ.

14.0 BACK BONE

Backbone cabling inclusive of switches and all necessary accessories shall be carried out in readiness for the termination of edge switches.

The Backbone cabling shall be flexible and allow for easy 'add on's' for future expansions.

Hence enough capacity shall be allowed for future expansion.

15.0 EDGE/FLOOR SWITCHES

These shall be per floor/wing and have enough capacity for expansion

16.0 COMPLETION COMMISSIONING OF STRUCTURED CABLING WORKS

16.1 Upon completion of the installation, all cabling links must be tested for the following parameters, using Level Three testers: -

a) Category 6 Cable Tests

1. Wire Map
2. Length
3. Insertion Loss (Attenuation)
4. NEXT Loss
5. PSNEXT Loss
6. ELFEXT Loss, pair-to-pair
7. PSELFEXT Loss
8. Return Loss
9. ACR (Attenuation to crosstalk ratio)
10. PSACR
11. Propagation Delay
12. Delay Skew

b) Fibre Optic Cable Tests

1. Link attenuation (insertion loss)
2. Length

Any failing link must be diagnosed and corrected. The corrective action shall be followed with a new test to prove that the corrected link meets the performance requirements.

The results should be recorded in one or several measure books showing test results of the cable components. In addition, the measurements must be recorded on two soft copies (CD-ROM).

16.2 All components must be tested and a Completion Certificate issued stating the following:

- a. Number of outlets
- b. Type of cable
- c. Date completed
- d. Type of Warranty

In addition, an "as-built" package must be submitted with the following information

- a. Updated floor plans
- b. Wire/cable routing schematic
- c. Facility assignment records
- d. Horizontal cable test results
- e. Fibre Backbone test results

17.0 Documentation

The contractor shall avail documentation (2 copies) detailing the layout and devices or components of the system and must include all information for maintenance technicians to run, service, extend or maintain the network. In particular, the documentation must be structured and contain the following:

- a. Synopsis of the cabling (primary and secondary)
- b. Charts of the distribution highlighting the details of the elements that have been installed
- c. Detailed map of socket layout (2 Soft copies on CD-ROM should be availed)
- d. Reports on measurements (2 Soft copies on CD-ROM should be availed)

The CD-ROMs provided shall include the software tools required to view, inspect and print any selection of test reports.

18.0 Warranty and Support

3.1 The Contractor will be required to give a per link warranty of at least fifteen (15) years for the structured cabling infrastructure and must provide a site certification certificate from the manufacturer of the cabling infrastructure not more than 30 days after completion of tests.

3.2 In the event of failure of the core switch, the contractor will be required to deliver any necessary parts on the next business day after determining that parts replacement is required, during the standard work week (8 hours a day, 5 days a week). This support will be carried out by a field engineer and will run for a period of Twenty-Four months from the date of commissioning of the LAN.

3.3 The contractor will be required to provide a sixty-months warranty on the edge switches from the date of commissioning of the LAN.

19.0 ADDITIONAL NOTES

Tenderers should take note of the following

- a) The network should be capable of carrying data, voice and video. QOS should be considered as part of installation and configuration of the network.
- b) All active LAN equipments should be from the same manufacturer for seamless integration, management and maintenance.
- c) Each floor should have a telecommunication Closet to house the necessary structured cabling components and active equipments.

**PARTICULAR AND TECHNICAL
SPECIFICATIONS FOR CCTV SURVEILLANCE.**

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1.5.1	GENERAL SPECIFICATIONS FOR CAMERAS
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1.5.3	EXVIEW VIDEO COLOR CAMERA
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1.6	VIDEO MONITORS
1.7	COLOUR DIGITAL VIDEO MULTIPLEXING RECORDER
1.8	CABLES AND CONNECTORS.
1.9	UNINTERRUPTIBLE POWER SUPPLY

PARTICULAR SPECIFICATIONS OF MATERIALS AND WORKS

I.I Location of site

The location of the proposed works is in **Bungoma; within Kibabii University**

1. Climate Conditions

The following climate conditions can apply at the site of the sub-contract works and all the plant, equipment, apparatus, materials and installations shall be suited for these conditions:

Mean maximum temperature	26.9	°C D.B.
Mean minimum temperature	14.6	°C D.B.
Range of relative humidity	49% - 83%	
Salt content in the atmosphere	0.2%	
Altitude	1088 metres above sea level	
Latitude	01' 22S	
Solar radiation, February	652 mean max.	Langleys.

Extremely heavy rains fall at certain periods of the year and the sub-contractor shall be deemed to have taken account of this factor both in his process and in his planning of the execution of the contract works.

Equipment de-rating factors for the temperature and altitude shall be stated.

It is intended that ventilation and air filtration, if any shall be provided by others.

It is not intended that the accommodation shall be air conditioned. Any requirements of this nature upon which the tender is conditional shall be clearly stated in the tender.

1.2 Extent of the Works

○ The works to be carried out include the supply, delivery, installation, testing, commissioning and leaving in servicing condition the Closed Circuit TV network as herein described in this specification. The works shall include, but not limited to the supply and installation of the following: -

- Fixed Digital Signal Processing Camera
- Color TV Monitors
- Color Digital Video Recorder
- Control Equipment (Multiplexer)
- The Digital Surveillance system shall support the following
 - Digital based recording system with motion detection.
 - Support analogue cameras through video servers' adapters

- Digital zooming into recorded images
- Recording resolution: 1280 x 1024 pixels for J-PEG, M-PEG and wavelet images.
- Multi-level password protection and logging facilities
- Integrates with access control, burglar control, burglar alarms and fire alarm system
- Image compression for remote web live and playback viewing incase of IP.
- Multi display monitors
- Automatic daily archiving to hard drive or optical drive.
- Fully adjustable digital video motion detection with exclusion /inclusion multi regions per camera.
- Efficient video collection, storage and retrieval.
- Advanced and instant search capability
- Digitally signed recordings, with audit trails of all operator actions and system events.
- Duplex Multiplexer
- At least one Terabyte DVR space to provide back up and redundancy
- Infra red illuminators in poor lighting conditions
- Able to interface with other systems on the ground
- Support various alarm and subnet options including VSAT, IP, GSM/GPRS and Radio.

ELECTRICAL REQUIREMENTS

The equipment to be supplied shall be capable of being operated from 240V AC 50Hz power supply.

1.5 MINIMUM TECHNICAL SPECIFICATIONS FOR CLOSED CIRCUIT COLOUR TELEVISION SYSTEM

1.5.1 GENERAL SPECIFICATIONS FOR CAMERAS

The cameras shall be indoor type and out door type for 240V main supply and operating according to the CCIR standard with 480 lines, 50Hz field frequency.

The camera shall be equipped with a mains lock board for automatic switching at the control room. It shall have a motorized 200mm lens F1.2/125-75mm used with an auto iris light control connected to the lens control output signal of the camera.

Its pan movement shall be such that it can be manually tilted as well as automatically panned.

The camera shall be fixed on sliding rail track on the ceiling slab or walls as directed by the Electrical Engineer with an appropriate bracket.

It shall be possible to control the lens and the pan only head remote via a remote control box at the control room.

They shall be linked to the Television Monitors and the Control Equipment through a high power video link, antennas and coaxial low loss multistride RG 59U cable/Cat 6 UTP as appropriate and according to the project Engineers instructions.

The mounting height and position of cameras shall be such that the desired coverage shall be achieved as distinctly as possible.

The digital signal processing (DSP) camera shall be aesthetically styled. The DSP chip will enable advanced video processing and manipulation to be carried out in the camera head.

The camera shall be capable of operating at all times, i.e. 24 hours a day.

1.5.2 Dome type Video color camera

Type:	Varifocal Fixed Dome.
Lens sensor:	1/3"
Signal system:	PAL Standard.
Lens focal length	4-9mm DD F 1.6-2.4
Line resolution:	480 TV Lines
Backlight Compensation Maximum illumination:	on/off switch 1.2 Lux
Video output:	1 V peak-peak PAL compatible
Shutter speed:	Automatic, 1/60 to 1/100,000s
Tolerance:	Bright tolerant with minimum blooming and transfer smear
White balance:	Automatic.
Operational temperature	-10°C to -45°C
ATW range	3000K – 9000K

Signal to Noise ratio:	More than 50 dB
Auto Gain Control:	On 32dB, off 8dB
Aperture correction:	Horizontal and vertical

Contrast: Shall feature automatic white balance capable of adjusting for variations in scene lighting for consistent time colors from one scene to the other.

Picture quality: The picture produced shall have minimum lag and image Retention

A continual adjustment feature to facilitate C or CS mount lenses will be incorporated, together with a side mount plug for direct drive Lenses and screw terminals for auto iris lenses. The camera shall be capable of being line locked with phase adjustment.

Contained under a flap will be a bank of switches which will enable the selection of the following features:

- Electronic iris · AGC on/off
- Back light compensation
- Gamma correction select between 0.45 and 1.0

1.5.3 Exview Video color camera

Type: Solid state color coupled charged device (CCD)

Lens sensor: 1/3" Interline image format

Line resolution: 480 TV Lines

Signal system: PAL Standard.

Maximum illumination: 0.5 Lux

Video output: 1 V peak-peak PAL compatible

Shutter speed: Automatic, 1/60 to 1/100,000s

Tolerance: Bright tolerant with minimum blooming and transfer smear

Signal to Noise ratio: More than 50 dB

Auto Gain Control: On 32dB, off 8dB

Aperture correction: Horizontal and vert

Contrast: Shall feature automatic white balance capable of adjusting for variations in scene lighting for consistent time colors from one scene to the other.

Picture quality: The picture produced shall have minimum lag and image Retention

A continual adjustment feature to facilitate C or CS mount lenses will be incorporated, together with a side mount plug for direct drive Lenses and screw terminals for auto iris lenses. The camera shall be capable of being line locked with phase adjustment.

Contained under a flap will be a bank of switches which will enable the selection of the following features:

- Electronic iris · AGC on/off
- Back light compensation
- Gamma correction select between 0.45 and 1.0

1.5.4 Lens

The lens shall:

- Be glass optical vertical 1/3" format with direct driver operation.
- Have a standard CS mount.
Have variable focal length of between 4mm and 9 mm and aperture of F 1.6 – 2.4

1.5.5 Mounting Brackets

The Brackets shall:

- Be suitable for wall or ceiling mounting of a single camera.
- Be at least 5.5" length
- Have an auto lock facility.

1.5.6 Camera Housing

The camera housing shall:

- Be IP66 rated with integral cable management.
- Be Weatherproof.
- Be constructed from Aluminium with epoxy coating.

1.6 VIDEO MONITORS

The monitor shall be capable of providing high levels of picture quality 10MHz bars visible at low brightness and reliability stable synchronization, black level clamping, low sensitivity and high stability.

The monitors shall be high performance color video monitors for monitoring scenes from the above cameras and viewing playback scenes from the video cassette recorders. The monitors shall be located at places to be shown on site by the project manager.

The monitor shall give stable and interference free pictures of scenes being viewed. It shall also conform to the following specifications:

Color system	PAL
Screen size	32"
Resolution	Minimum of 550 TV Lines
Video input signal	1.0 V pk-pk
Power consumption	Not more than 75W
Power input	240V 50HZ

The unit will be dual standard and be capable of using audio and SVHS in. Full loop through connectors to be provided and monitor to have a metal enclosure for reduced RF interference.

1.7 COLOUR DIGITAL VIDEO MULTIPLEXING RECORDER

The multiplexing recorder shall be used to record events from the Surveillance TV cameras. It shall have the following a) a high performance video multiplexer and digital video recorder. b) Operate, record, playback and multi-screen viewing with at least 50 PPS. c) With a wave reader software. d) Provide multi user remote access including remote control of fully functional cameras.

The multiplexing recorder shall have the following minimum requirements:

- Ethernet: 10BaseT/ 100BaseT supplied complete with wave reader software.
- Should be rack mounted for security
- Shall feature time base correction, eliminating the need for external camera synchronization.
- Have an Internal CD-writer for archiving purposes
- Recording: - Automatic Priority Control, Interleaved or exclusive, or none; Programmable
 - (Video Motion Detection) VMD Zones Per camera
 - :256,16x16 grid.
 - Multi-screen Full PIP, Quad, 6, 9, 16
 - Display way
 - Camera Inputs :16
- Fully multitasking - simultaneous recording whilst playing back
- To incorporate four removable hard disk drives, allowing upto 3-months storage at 24- hour record rates S-VHS quality without additional equipment.
 - Alarm handling inputs 16 N/O or N/C
 - Hard disk capacity of 300 GB expandable to 2TB using 250 GB HDD'S
 - 2 RS485 ports.
 - Resolution: 700(h) x 550(v)
 - Time and Date display.
 - False alarm rejection: 3 levels
 - Power supply: 240 V AC, 50 HZ.

1.8 CABLES AND CONNNECTIORS

All the cabling shall be carried out in conduits or trunking. Basically cables carrying video signal between cameras and TV monitoring via video control multiplexer equipment shall be Cat6 UTP/coaxial multistride low loss RG59U cables. Cable connectors shall be RJ45/BNC connectors. The positions for connectors and the equipments shall be directed and identified by the Project Manager on site. Bidders shall be required to visit the proposed site to ascertain cable routes and cable lengths before pricing the Bills of Quantities in this document. In this regard, the bidders shall be required to get in touch with the Project Manager, during official working hours. It shall be the responsibility of the contractor to provide wiring and connection diagrams for approval by the Project Manager.

1.9 UNINTERRUPTIBLE POWER SUPPLY (UPS)

This shall be an on-line Un-interruptible power supply with output rating of 2KVA, 240V, 50HZ single-phase supply. It shall provide power to the security surveillance system.

It shall be microprocessor- based so that both output voltage and frequency are closely regulated and continuously monitored and also provide system diagnostic and shut down protection functions. It shall feature a maintenance by-pass to enable normal routine maintenance operations to be performed without interruptions to the system.

It shall be fitted with both visual and audible alarms to indicate any change in equipment status such as:

- input power problems
- ups faults
- ups overload
- battery discharging

Other parameters are:

Input supply:	240V AC 50Hz
Power factor:	0.7 lag at full load
Current limit:	125% of the normal
Output voltage:	240V AC 50 Hz
Output voltage tolerance:	2%
Output frequency tolerance	:0.05%

SECTION VI – DRAWINGS

Drawings shall be issued once the contract agreement has been signed.

SECTION VII – STANDARD FORM

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FORM OF TENDER

To: The Vice Chancellor,
Kibabii University,
P.O. Box 1699-50200
Bungoma.

Dear Sir,

**Supply, Install, Test and Commission of Structured Cabling & CCTV
Surveillance Works at the Students Hostel Phase II at Kibabii University.**

In accordance with the Instructions to Tenderers, Conditions of Contract,
Specifications and Bills of Quantities for the execution of the above named Works,
we, the undersigned offer to construct, install and complete such Works and
remedy any defects therein for the sum of:

Kshs.....[Amount in figures]

Kenya Shillings.....

.....

.....[Amount in words]

We undertake, if our tender is accepted, to commence the Works as soon as is
reasonably possible after the receipt of the Employer’s notice to commence, and to



complete the whole of the Works comprised in the Contract within a period of forty (40) Weeks.

We agree to abide by this tender for a period of 120 days from the date of tender opening and shall remain binding upon us and may be accepted at any time before that date.

Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall not constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this day of20.....

Signature Name;

in the capacity of

duly authorized to sign tenders for and on behalf of:

.....[Name of Tenderer]

of.....[Address of Tenderer]

PIN No.

VAT CERTIFICATE No.

Witness: Name

Address

Signature



FORM OF AGREEMENT

THIS AGREEMENT is made theday of
Between (hereafter called “the Employer”) of the one part and of **P.O. BOX** (hereafter referred to as “the Contractor”) of other part.

WHEREAS the Employer is desirous that the Contractor executes(hereinafter called “the Works”) located in the, and the Employer has accepted the tender submitted by the Contractor for the execution and completion of such works and the remedying of any defects therein for the fixed Contract Price of Kshs..... (Kenya Shillings)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

2. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and shall be read and construed as part of this agreement i.e.
 - i. Letter of Notification of Award
 - ii. Letter of Acceptance
 - iii. Form of Tender
 - iv. Conditions of Contract and Appendix to Conditions of Contract.
 - v. Specifications
 - vi. Drawings
 - vii. Priced Bills of Quantities.
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the works and remedy any defects therein conformity to 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 sums as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties herein have caused this Agreement to be executed the day and year first before written.

The common seal of.....
Was hereunto affixed in the presence of.....
Signed sealed, and delivered by the said.....
Binding signature of Employer.....

Binding signature of the Contractor.....

In the presence of

(i) Name

Address.....

Signature.....

(ii) Name.....

Address.....

Signature.....

FORM OF TENDER SECURITY

WHEREAS(hereinafter called “the Tenderer”) has submitted his tender dated **For Supply, Install, Test and Commission of Structured Cabling & CCTV Surveillance Works at the Students Hostel Phase II at Kibabii University.**

KNOW ALL PEOPLE by these presents that WE Having our registered office at (hereinafter called “the Bank”), are bound unto (hereinafter called “the Employer”) in the sum of Kshs..... for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents sealed with the Common Seal of the said Bank thisDay of20

THE CONDITIONS of this obligation are:

If after tender opening the Tenderer withdraws his tender during the period of tender validity specified in the instructions to Tenderers

Or

If the Tenderer, having been notified of the acceptance of his tender by the Employer during the period of tender validity: fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required, or fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by

his is due to him, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including Thirty (30) days after the period of tender validity, and any demand in respect thereof should reach the Bank not later than the said date.

.....
(Date)

.....
(Signature of the Bank)

.....
(Witness)

.....
(Seal)

PERFORMANCE BANK GUARANTEE

To: The Vice Chancellor,
Kibabii University,
P.O. Box 1699-50200,
Bungoma.

Dear Sir,
WHEREAS(hereinafter called “the Contractor”) has undertaken, in pursuance of Contract No. dated to execute (hereinafter called “the Works”);

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of:

Kshs. (amount of Guarantee in figures)

Kenya Shillings
.....(amount of Guarantee in words),

and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Kenya Shillings

..... (amount of Guarantee in words)

as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change, addition or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any change, addition, or modification.

This guarantee shall be valid until the date of issue of the Certificate of Completion.

SIGNATURE AND SEAL OF THE GUARANTOR

Name of Bank

Address

Date

QUALIFICATION INFORMATION

1. Individual Tenderers or Individual Members of Joint Ventures

1.1 LEGAL STATUS OF TENDERER

Constitution or legal status of tenderer (attach copy of Incorporation Certificate or registration of business);

Place of registration: _____

Principal place of business _____

Power of attorney of signatory of tender _____

1.2 TOTAL ANNUAL VOLUME OF CONSTRUCTION WORK PERFORMED IN THE LAST FIVE YEARS

YEAR	VOLUME		
	Currency	Value	

1.3 CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

KIBABII UNIVERSITY HOSTELS

Work performed on works of a similar nature (Electrical, Structured Cabling and or CCTV or Electronic Works), complexity and volume over the last 5 years. (Copies of Completion Certificates and contacts of Project Manager **MUST** be attached)

PROJECT NAME	NAME OF CLIENT AND PROJECT MANAGER	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

I certify that the above works were successfully carried out and completed by ourselves.

.....
Title

.....
Signature

.....
Date

SCHEDULE OF ON-GOING PROJECTS

Details of on-going or committed projects, including expected completion date.(Copies of Notification of Award and or Contract Agreements and name and contact of the Project Manager **MUST** be attached)

PROJECT NAME	NAME OF CLIENT AND PROJECT MANAGER	CONTRACT SUM (KSHS)	% COMPLETION	COMPLETION DATE

I certify that the above works are currently being carried out by ourselves.

.....
Title

.....
Signature

.....
Date

1.1 SCHEDULE OF MAJOR ITEMS OF CONTRACTOR'S EQUIPMENT PROPOSED FOR CARRYING OUT THE WORKS

Details of contractor's equipment to be used in carrying out the works. (Attach copies of Log books, Lease agreements or and other Valid documentary evidence)

ITEM OF EQUIPMENT	DESCRIPTION, MAKE AND AGE (Years)	CONDITION (New, good, poor) and number available	OWNED, LEASED (From whom?), or to be purchased (From whom?)

1.2 KEY PERSONNEL

Qualifications and experience of key personnel proposed for administration and execution of the Contract. (Attach CV, copies of letter of engagement to

the bidding company and copies of Academic and Professional certificates which **MUST** be signed by owners of the certificates in blue ink with telephone contact for them to be valid)

(Note: The persons herein indicated shall be subject to approval by the Project Manager to administer the project.)

POSITION	NAME	HIGHEST ACADEMIC AND PROFESSIONAL QUALIFICATION	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION

I certify that the above information is correct.

.....
Title

.....
Signature

.....
Date

1.6 FINANCIAL REPORTS FOR THE LAST THREE YEARS (2017, 2018 and 2019)
(Balance sheets, Profits and Loss Statements, Auditor’s reports, etc.)



List below and attach copies)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

1.7 EVIDENCE OF ACCESS TO FINANCIAL RESOURCES TO MEET QUALIFICATION REQUIREMENTS.

(Cash in Hand, Lines of credit, etc. List below and attach copies of supportive documents.)

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.
6. _____.
7. _____.

1.8 NAME, ADDRESS AND TELEPHONE, EMAILS OF BANKS

(This should be for banks that may provide reference if contacted by the Employer)

NAME	ADDRESS	TELEPHONE	EMAIL

1.9 STATEMENT OF COMPLIANCE

- a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.
- b) I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed:*for and on behalf of the Tenderer*

Date:

Official Rubber Stamp:

**1.10 PROPOSED PROGRAM (WORK METHOD AND SCHEDULE) FOR
THE WHOLE OF THE WORKS.**

2. JOINT VENTURES

- 2.1** The information listed in 1.1 – 1.10 above shall be provided for each partner of the joint venture.
- 2.2** The information required in 1.11 above shall be provided for the joint venture.
- 2.3** Attach the power of attorney of the signatory(ies) of the tender authorizing signature of the tender on behalf of the joint venture

- 2.4** Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that:
- a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
 - b) one of the partners will be nominated as being in charge, authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture; and
 - c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

TENDER QUESTIONNAIRE

Please fill in block letters.

1. Full names of tenderer
.....
2. Full address of tenderer to which tender correspondence is to be sent
(unless an agent has been appointed below)
.....
3. Telephone number (s) of tenderer
.....
4. Telex address of tenderer
.....
5. Name of tenderer's representative to be contacted on matters of the tender
during the tender period
.....
6. Details of tenderer's nominated agent (if any) to receive tender notices. This
is essential if the tenderer does not have his registered address in Kenya
(name, address, telephone, telex)
.....
.....

Signature of Tenderer

Make copy and deliver to: _____ (*Name of Employer*)

CONFIDENTIAL BUSINESS QUESTIONNAIRE



You are requested to give the particulars indicated in Part 1 and either Part 2 (a), 2 (b) or 2 (c) and 2 (d) whichever applies to your type of business.

You are advised that it is a serious offence to give false information on this Form.

Part 1 – General

Business Name

Location of business premises; Country/Town.....

Plot No..... Street/Road

Postal Address..... Tel No.....

Nature of Business.....

Current Trade Licence No..... Expiring date.....

Maximum value of business which you can handle at any time:
Kshs.....

Name of your bankers.....

Branch.....

Part 2 (a) – Sole Proprietor

Your name in full..... Age.....

Nationality..... Country of Origin.....

*Citizenship details

Part 2 (b) – Partnership

Give details of partners as follows:

	<i>Name in full</i>	<i>Nationality</i>	<i>Citizenship Details</i>	<i>Shares</i>
1.....				
2.....				
3.....				

Part 2(c) – Registered Company:

Private or public.....

State the nominal and issued capital of the Company-

Nominal Kshs.....

Issued Kshs.....

Give details of all directors as follows:

Name in full. Nationality. Citizenship Details*. Shares.

1.
.....

2.
.....

3.
.....

4.
.....

Part 2(d) – Interest in the Firm:

Is there any person / persons in(Name of Employer) who has interest in this firm? Yes/No.....(Delete as necessary)

I certify that the information given above is correct.

.....
(Title)

.....
(Signature)

.....
(Date)

- Attach proof of citizenship

DETAILS OF SUB-CONTRACTORS

If the Tenderer wishes to sublet any portions of the Works under any heading, he must give below details of the sub-contractors he intends to employ for each portion.

Failure to comply with this requirement may invalidate the tender.

- (1) Portion of Works to be sublet:
 - [i] Full name of Sub-contractor and address of head office:
 - [ii] Sub-contractor's experience of similar works carried out in the last 3 years with Contract value:
-
- (2) Portion of Works to sublet:
 - (i) Full name of sub-contractor and address of head office:
 - [ii] Sub-contractor's experience of similar works carried out in the last 3 years with contract value:

[Signature of Tenderer)

Date

LETTER OF NOTIFICATION OF AWARD

Address of Procuring Entity

KIBABII UNIVERSITY HOSTELS

To: _____

RE: Tender No. _____

Tender Name _____

This is to notify that the contract/s stated below under the above mentioned tender have been awarded to you.

1. Please acknowledge receipt of this letter of notification signifying your acceptance.
2. The contract/contracts shall be signed by the parties within 30 days of the date of this letter but not earlier than 14 days from the date of the letter.
3. You may contact the officer(s) whose particulars appear below on the subject matter of this letter of notification of award.

(FULL PARTICULARS) _____

SIGNED FOR ACCOUNTING OFFICER

FORM RB 1

REPUBLIC OF KENYA
PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO.....OF.....20.....



BETWEEN

.....APPLICANT

AND

.....RESPONDENT (*Procuring Entity*)

Request for review of the decision of the..... (*Name of the Procuring Entity*) ofdated the...day of20.....in the matter of Tender No.....of20...

REQUEST FOR REVIEW

I/We.....,the above named Applicant(s), of address: Physical address.....Fax No.....Tel. No.....Email, hereby request the Public Procurement Administrative Review Board to review the whole/part of the above mentioned decision on the following grounds , namely:-

- 1.
- 2.
- etc.

By this memorandum, the Applicant requests the Board for an order/orders that: -

- 1.
- 2.
- etc

SIGNED(Applicant)

Dated on.....day of/...20...

FOR OFFICIAL USE ONLY

Lodged with the Secretary Public Procurement Administrative Review Board on day of20.....

SIGNED
Board Secretary

SECTION VIII:

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 3 stages, namely:

- 1. Preliminary Evaluation



2. Technical Evaluation
3. Financial Evaluation.

1. PRELIMINARY EVALUATION

This stage of evaluation shall involve examination of the pre-qualification conditions as set out in the Tender Advertisement Notice or Letter of Invitation to Tender and any other conditions stated in the bid document.

These conditions shall be the following:

- 1) Category of Registration with National Construction Authority in building works.
- 2) Current valid license issued by the National Construction Authority.
- 3) Certificate of incorporation of company or registration of Business
- 4) Single Business Permit with relevant County Government.
- 5) Current Valid Tax Compliance Certificate issued by Kenya Revenue Authority.
- 6) Provision of Valid bid security.
- 7) Dully filled Form of Tender.

The Employer may seek further clarification/confirmation if necessary to confirm authenticity/compliance of the information given as requested above.

The tenderers who do not satisfy any of the above requirements shall be considered Non-Responsive and their tenders will not be evaluated further.

2. TECHNICAL EVALUATION

The tender document shall be evaluated based on the Instruction to Tenderers which states as follows:

In accordance with Instruction to Tenderers, the tenderers will be required to provide evidence for eligibility of the award of the tender by satisfying the employer of their eligibility and adequacy of resources to effectively carry out the subject contract. The tenderers shall be required to fill the Standards Forms provided for

the purposes of providing the required information. The tenderers may also attach the required information if they so desire.

The award of points in this section shall be as shown below;

<u>PARAMETER</u>	<u>MAXIMUM POINTS</u>
1) Statement of Compliance -----	1
2) Tender Questionnaire - -----	2
3) Confidential Business Questionnaire -----	2
4) Key personnel - -----	37
5) Corrected tender sum and the tender sum difference-----	5
6) Contract Completed in the last Five (5) years - -----	10
7) Schedules of on-going projects -----	10
8) Schedules of contractors equipment -----	4
9) Audited Financial Report for the last 3 years-----	8
10) Evidence of Financial Resources -----	10
11) Name, Address and Telephone of Banks-----	1
12) Litigation History-----	2
13) Sanctity of the tender document -----	3
14) Arrangement of attached documents in prescribed order-----	5
TOTAL	100

The detailed scoring plan shall be as shown in table 1 below: -

Item	Description	Point Scored	Max. Point
i	Statement of Compliance Signed and stamped ----- 1 Signed but not stamped or vice versa or not filled ---0		1
ii	Tender Questionnaire Form Completely filled -----2 Partially filled or not filled -----0		2
iii	Confidential Business Questionnaire Form.		2

	Completely filled ----- 2 Partially filled or not filled----- 0			
iv	Key Personnel to be engaged on the project (Attach CV and copies of Academic and Professional certificates which all MUST be signed and contacts indicated in BLUE INK by the owners of the certificates to be Valid under this criteria)			37
	<ul style="list-style-type: none"> o Director of the firm who holds more than 50% shares is a Woman or Youth or Persons living with disabilities-----19 o None of the Director(s) of the firm who holds more than 50% shares is a Woman or Youth or Persons living with disabilities----- 0 		19	
	At least 1No. of directors with qualification in Electrical and Electronics Engineering, Computer Science, Computer Engineering <ul style="list-style-type: none"> o Degree holder..... 4 o Diploma holder 3 		4	
	At least 1 No. Key staff with degree in Electrical and Electronics Engineering, Computer Science, Computer Engineering <ul style="list-style-type: none"> o With over 10 years relevant experience ----- 4 o With over 5 years relevant experience ----- 3 o With under 5 years relevant experience -----2 		4	
	At least 2 No. key personnel with Diploma in Electrical and Electronics Engineering, Computer Science, Computer Engineering <ul style="list-style-type: none"> o With over 10 years relevant experience-----5 o With over 5 years relevant experience -----3 o With under 5 years relevant experience -----1 		10	

Item	Description	Point Scored	Max. Point
v	Calculated difference between the corrected tender sum and the tender sum on form of tender Difference below Kshs. 1,000-----5 Difference between Kshs. 10,000 to 50,000-----3 Difference between Kshs. 50,000 to 100,000----- 2 Difference above Kshs. 100,000----- 0		5
vi	At least 2No. Contracts in structured cabling and or CCTV installation Works completed in the last five (3) years (2017-2019). Completion Certificates or Hand over Certificates or letter from the Client for good performance of Works for each project MUST be attached for the project to be considered Valid under this criteria.		10

	<ul style="list-style-type: none"> ○ Project worth more than Kshs.10 Million-----5 ○ Project worth between Kshs.10 Million and Kshs. 5Million--- 4 ○ Project worth between Kshs. 5 Million and Kshs. 2Million --- 3 ○ Projects worth less than Kshs. 2 Million----- 1 		
vii	<p>At least 2 No. On-going projects in structured cabling and or CCTV installation works. Notification of award or Contract Agreement or Local service order of each project MUST be attached for the project to Valid under this criteria.</p> <ul style="list-style-type: none"> ○ Project worth more than Kshs.10 Million-----5 ○ Project worth between Kshs. 10 Million and Kshs. 5 Million - 4 ○ Project worth between Kshs. 5 Million and Kshs. 2 Million --- 3 ○ Projects worth less than Kshs. 2 Million ----- 1 		10
viii	<p>Schedules of contractors equipment and transport (proof of ownership by the company or Director MUST be attached.</p> <ul style="list-style-type: none"> ○ Pick Truck: ----- 2 ○ At least 2 No. Concrete Drill: ----- 2 		4
ix	<p>Annual audited financial reports for 2017, 2018& 2019 (copies of audited reports MUST be attached or January to December bank statements indicating turnover annually)</p> <ul style="list-style-type: none"> ○ At least one of the annual turnover greater than 10 Million -- 8 ○ At least one of the annual turnover less than Kshs. 10 Million but greater than Kshs. 5Million ----- 6 ○ At one of the annual turnover less than Kshs. 5 Million but greater than Kshs. 2 Million -----3 Annual turnover below 2 Million ----- 1 		8

Item	Description	Point Scored	Max. Point
-------------	--------------------	---------------------	-------------------

x	<p>Evidence of financial resources (evidence of cash in hand, lines of credit, overdraft facility MUST be provided) Cash in hand shall mean cash deposit turnover for the last 6 months evidenced from tenderer's bank statements from 1st September 2019 to 29th February 2020) Valid credit lines- letter by the tenderer's bank to support him for a sum of cash for purposes of executing the contract.</p> <p>Cash in hand of over 10Million ----- 7 Cash in hand of less than 10Million but more than 5Million----- 5 Cash in hand of less than 5Million but more than 2Million-----3 Cash in hand of less than 2Million-----1 Credit lines of more than 5Million-----3 Credit lines of less than 5Million but more than 2Million----- 2 Credit lines of less than 2Million -----1</p>		10
xi	<p>Name, address and telephone of Contractors banks</p> <ul style="list-style-type: none"> o Provided-----1 o Not provided----- 0 		1
xii	<p>Litigation History</p> <ul style="list-style-type: none"> o Full disclosure -----2 o Not fully disclosure----- 0 		2
xiii	<p>Sanctity of tender documents</p> <ul style="list-style-type: none"> o Having the document intact (not tampered with in any way and all pages serialized -----3 o Having mutilated or modified the tender document or not serialized some or all pages in tender document-----0 		3
xiv	<p>Arrangement of attached documents in prescribed order</p> <p>Arrangement as per required order-----5 Arrangement not as per required order-----0</p>		5
	TOTAL TECHNICAL SCORE		100

Any bidder who scores 65 points and above shall be considered for financial evaluation.

Any bidder scoring 64 points or less shall be disqualified at this point and SHALL NOT proceed for further evaluation.

1. FINANCIAL EVALUATION

The evaluation shall be in two sections

1. Arithmetic evaluation.
2. Tender sum comparisons

1. Preliminary examinations.

The preliminary examination in the Financial Evaluation shall be in accordance with the Instruction to Tenderers.

The parameter to be considered under this section shall be arithmetic errors.

The bid shall be checked for arithmetic errors based on the rates and the total sums indicated in the bills of quantities.

Confirmation shall be sought in writing from the tenderers whose tender sums will be determined to have a significant arithmetic error to their disadvantage, to confirm whether they stand by their tender sums. The error shall be treated as per **Instructions to Tenderers.**

Non compliance with the above shall lead to **automatic disqualification from further evaluation.**

Discount if any shall be treated as an error in pursuant to Instructions to tenderers.

1. Tender Sum Comparisons.

Item	Description
1	The tender sums shall be ranked from the lowest tender sum to the highest tender sum where the bidders with the lowest being ranked No.1

CONCLUSION

The tenderers shall be ranked from No.1 being the tenderer with the lowest tender sum.

RECOMMENDATION.

The evaluation committee shall carry out due diligence to establish authenticity of documents submitted for the tenderer ranked No.1. If the evaluation committee

establishes that the information given was authentic then shall recommend the bidder for award of tender. But if some information provided by the said bidder cannot be authenticated then the evaluation committee shall disqualify the bidder and proceed to carry out due diligence for the second lowest ranked bidder to authenticate the information submitted in his tender documents. If they committee finds the information given in document are authentic then shall recommend the tenderer for award of tender, but if the information cannot be authenticated then the evaluation committee shall recommend the tender to be re-advertised.

PRESCRIBED ORDER OF ARRANGEMENT OF ATTACHED DOCUMENTS

- 1) Copy Registration certificate of the tenderer with National Construction Authority in building works.

- 2) Copy of practicing License for the tenderer issued by the National Construction Authority for Building works.
- 3) Copy of Certificate of incorporation of company or registration of Business.
- 4) Copy of Single Business Permit issued by relevant County Government.
- 5) Copy of Tax Compliance Certificate issued by Kenya Revenue Authority.
- 6) Bid security.
- 7) Key personnel – Curriculum vitae, copies of academic and professional certificates for each staff.
- 8) Completed contracts- copies of Practical Completion certificates and or Handing over Certificates.
- 9) Ongoing projects- copies of Contract Agreements and or Letter of Awards.
- 10) Schedule of equipment- copies of Log books and Lease agreements
- 11) Copies of Audited accounts- 2017, 2018 and 2019
- 12) Copy of bank account statements from 1st September 2019 to 29th February 2020.
- 13) Copies of Letters of credit from bankers.

SECTION E:
BILL OF QUANTITIES

PREAMBLE AND NOTES TO BILLS OF QUANTITIES

1. These Bills of Quantities form part of the Contract Documents and are to be read in conjunction with the conditions of Contract, Standard and Special Specification and Drawings.
2. The quantities set forth in the Bills of Quantities are believed to represent the character of the work to be carried out. There is no guarantee to the Contractor that he will be required to carry out the quantities of work indicated under any one particular item or group of items in the Bills of Quantities, though on the Contract as a whole the quantities are believed to represent the overall value of the work to be carried out.
3. The prices and rates inserted in the Bills of Quantities will be used for valuing the work executed and the Engineer will measure the whole of the works executed in accordance with the Contract.
4. The prices and rates inserted in the bills of quantities are to be the full inclusive costs of the works described under the items, complete in place and in accordance with the Specification and Drawings including costs and expenses which may be required in and for the construction of the works described, together with any temporary works and installations which may be necessary and all general risks, liabilities and obligations set forth or implied in the Documents on which the Contract is based.
5. The brief description of the items given in the Bills of Quantities are purely for the purpose of identification and in no way modify or supersede the detailed descriptions given in the Conditions of the Contract, Specifications or Drawings and Special Specification for the full directions and descriptions of work and materials.
6. A price or rate is to be inserted, in ink against each item in the Bills of Quantities, whether quantities are stated or not, and if the Tenderer includes the cost of a particular item elsewhere in his rates or prices, he shall insert

in the word “nil” against both the rate and extension of that particular item. Should the Tenderer omit to price an item, then it will be assumed that he has included the cost of the item elsewhere in his rates or prices.

7. No alteration shall be made to the Bills of Quantities and no extra item shall be inserted. The Tenderer shall satisfy himself that the Contract Sum arrived at by pricing the quantities and items given is sufficient compensation for constructing and maintaining the whole of the works in accordance with the Contract Documents.
8. For the purpose of payment by Interim Certificate of “Lump Sum” items the Engineer may assess the portion of the work completed on the “Lump Sum” items and allow for payment the portion of the “Lump Sum” he deems fair and reasonable. The total of all portions allowed shall not exceed the “Lump Sum”. All interim payments shall be subject to the retention stipulated in the Contract Documents.
9. During construction the unit rate established for an item in one Bill of Quantities may be used as a basis for establishing a unit rate for similar work in another Bill of Quantities which contains no unit rate for the said item.
10. The Contractor will be provided by Employer with all that land occupied by the Permanent Works including the specified working width for pipe laying and the costs of compensation and entry upon land will be paid from Provisional Sums.
11. It shall be the responsibility of the Contractor to arrange for the removal of, or alteration to, services where necessitated by the Works. Incurred costs being paid by the Employer.
12. Quantities for site clearance stripping and spreading shall be based on the horizontal projection of the area cleared or stripped.

13. The rates for excavation items shall include inter alia for setting aside spoil for reuse in the Works or disposing to approved tips, except where otherwise provided for in the Bills of quantities.
14. Generally, the excavation items are based on volume for structures and on linear measurement for certain pipelines. One or more items may cover the works. The rates shall include as appropriate for:-
- a) Breaking through surfaces; handling different classes of material separately: excavation beyond the net plan area of the foundations for working space and for battering or timbering etc
 - b) Timbering
 - c) Dealing with water
 - d) Backfilling as specified
 - e) Disposal of surplus spoil

Measurement of the volume in pipe trench will be measured from ground level to the invert of the trench. Measurement for other excavations will be to the size which is required to accommodate the permanent work. A tenderer shall accordingly allow in his prices for any amount of extra excavation which may be necessary for working space to complete the work to the satisfaction of the Engineer.

Items are included for “Extra for Rock” on a volume basis. The rates shall include for Breaking out and any other additional costs and the items shall apply to work encountered within measured excavation. Different classifications may be billed separately. Rock shall be measured as a volume calculated from the thickness encountered within the plan area of a mass excavation, within the plan dimensions of a structure, or within the notional width of a trench. Timbering left in excavations shall only be measured for payment where it is specified or ordered by the Engineer.

15. When the site of any particular item of Works has been sufficiently cleared of trees, undergrowth etc. and before any excavation or filling has been carried out, the Contractor shall carry out survey under the supervision of Engineer's Representative to take, record and agree adequate ground levels. The data so obtained shall be used as a basis for the computation of excavation and filling.
16. The volume of fill will be measured net to the finished levels as shown on the drawings or as amended by the Engineer.
17. All reinforcement will be paid for on the basis of its computed weight except for reinforcement that will be paid for on the basis of the area placed. The unit rates inserted in the Bills of Quantities shall include for all necessary cutting, bending and fixing, and all additional bars which may be required as spacer supports and lacings and also for all soft iron tying wires, fixing clips of approved pattern and manufacture and chairs. The cost of all temporary works including clips, chairs etc. shall be included in the rates for the reinforcing steel.
- The weight for reinforcing bars shall include for all hooked or bent ends as per the bending schedule. Rates for fabric reinforcement or other reinforcement shall include for all laps, cuttings to size, bending and waste.
18. The rates for concrete shall include for making and testing preliminary test cubes, for making works test cubes and forwarding them to the Testing Engineer, forming the concrete to the slopes and falls shown on the drawings and any additional concrete used in excess of the net requirements. The rates shall also include for forming construction joints, for protection, for curing, for the rubbing down of exposed surfaces of concrete after removal of formwork and for floating or brushing of other exposed surfaces where this is required.

19. The rates for precast concrete paving shall include for all cutting, bending, jointing and laying to falls.
20. The rates for precast concrete edging and kerbs shall include for formwork, concrete bed and backing, all cutting, bedding, jointing and laying to falls.
21. The rates for formwork shall include for fillets and chamfers up to 50mm wide on the spay, coating to prevent adherence of concrete and the provision of temporary openings to facilitate inspection and cleaning. Rates shall also be inclusive of all necessary box outs and cut outs for holes up to 1 square metre.
- The rates for forming rebates in concrete walls etc shall include for forming pockets for the fish tail fixing cleats where required. Deductions from formwork quantities will be made for openings more than 1 square metre in area.
22. Formwork for upper surfaces inclined at 15 degrees or less to the horizontal is not measured and the cost of any such formwork used will be deemed to be included in the relevant concrete item rate.
23. Wrought formwork where specified will be measured to 150mm below final ground level.

Abbreviations

E.O	-	Extra Over
Avg	-	Average
Max	-	Maximum
Min	-	Minimum
n.e.	-	Not Exceeding
mm	-	Millimeters

lm	-	Linear Metres
sm	-	Square Metres
cm	-	Cubic Metres
Ha	-	Hectares
No	-	Number
Drg.	-	Drawing
Kg	-	Kilogram
H.T.	-	High Tensile
M.S.	-	Mild Steel
B.L	-	Bitumen Lined
C.I.	-	Cast Iron
D.I.	-	Ductile Iron
UPVC	-	Unplasticised Polyvinyl Chloride
G.I.	-	Galvanized Iron
G.M.S.	-	Galvanized Mild Steel
P.E.H.	-	Palothyene
Hr.	-	Hour

31.The rates for metal work shall include for bolts, nuts, washers and rawl bolts, fixing as Specified or in accordance with the manufactures instructions and rectifying as specified any parts of the painted, coated or galvanized surface that may be damaged either before or after erection.

32.The rate for fixing penstocks and flap valves etc. shall include for bedding and grouting, testing for water tightness, greasing all working parts and leaving in good working order: where the item includes supply, the rates shall also include for supplying drawings for approval before manufacture is commenced.

Sewers, Drains and Pipelines

The rates for pipes, pipe work specials shall include for supply of all materials, setting of concrete blocks and hardwood wedges where specified, provide any temporary support that may be necessary, preparing ends of pipes for jointing and all labour in jointing, protection to detachable joints, cleaning pipelines and rectifying as specified any damage to surface coating. The rates shall also include for all cutting of pipes consequent upon structures, specials and fittings being construction in the designated positions.

33. The rates for concrete surround, bed and haunching to pipes, concrete in anchor blocks to pipes, and to gulley pots shall include for all formwork required and for any additional concrete the Contractor may place for his own convenience or by reason of the method or carrying out the work.

Prime Cost Items

34. Attendance on nominated Sub-Contractors shall include for all or any of the following as appropriate; labour, materials and plant required for taking delivery, carting, storing, hoisting and builders work entailed in fixing, erecting and installing as specified or in accordance with the manufactures instructions and all overheads and profits.

35. When, in the opinion of the Engineer, it is reasonable to expect the Contractor to price the attendance item it will be so included in the Bills of Quantities in all other cases it will form the subject of a Provisional Sum to be expended on a Day works basis.

36. Profit shall include for establishment charges, profit and any other costs not included in the attendance item.

The rates for the supply for any mechanical and electrical equipment shall include for witnessed works as directed by the Engineer.

- a) *Provide* –shall mean all costs to cover purchase of materials in good condition, services for transaction with supplier, supervision, and transport to site or works all charges for rental, consumptions, overheads and profits throughout the Contract. It shall also include for all maintenance, insurance, handling and storage whenever applicable.
- b) *Excavate for*- shall mean handling of any material from its incumbent position intended for specified work shown in the drawings or directed by the Engineer and backfilling and compacting part of material after laying of pipes, and cart away remaining to tips to be provided by the Contractor. The cost for this work shall include all survey, supervision, labour, tools machinery, protection of work, pumping, insurances and overheads and profits.
- c) *Laying*'- shall cover all work necessary for placing an object or materials to true line and level and level specified in a drawing or as directed by the Engineer.
- d) *Jointing*'- shall mean process of fixing specified material, pipes, fittings and specials together using appropriate tools, materials, labour and machinery. It should cover for all work necessary to provide matching of opposite parts in size, shape, and position indicated and clamps, settings and holders to hold firmly.
- e) *Testing*'-shall mean provision of all materials, apparatus, labour, machinery, charges for the media or chemical to be used and their transport, repair of object to be tested if required, re-testing, excavation of any part for visual inspection, erection of any type all until the object has been certified as having passed the required test satisfactorily.

- f) *Install*'-shall include for all work requirements stipulated for “laying and jointing”

38. Government Taxes

- a) Tenderers to include in their rates for 16% V.A.T., all duties and other statutory taxes as no claim on the same shall be allowed.
- b) Tenderers should note that the Employer will deduct 3% of the contract being withholding tax and will be remitted directly to the commissioner of Income Tax.

39. Pricing of Preliminaries Items.

Prices will be inserted against item of preliminaries in the contractor's Bills of Quantities and specification. Where the contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

SCHEDULE OF UNIT RATES

- 1.** The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.
- 2.** The unit rates shall include for supply, transport, insurance delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.
- 3.** The unit rates will be used to assess the value of additions or omissions arising from authorized variations to the contract works.
- 4.** Where trade names or manufacturer's catalogue numbers are mentioned in the specification the reference is intended as a guide to the type of article or quality of material required.

Alternative brands of **equal and approved** quality will be accepted.

TECHNICAL SCHEDULE
OF
ITEMS TO BE SUPPLIED

- 1.0 The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project manager.
- 2.0 The filling of this schedule forms part of Technical Evaluation of the tenders, and bidders shall therefore be required to indicate the type/make and country of origin of all the materials and equipments they intend to offer to the employer in this schedule.
- 3.0 Any bid returned with unfilled Technical Schedule shall be considered technically non-responsive; and the bidder shall automatically be disqualified.

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED
(To be completed by the Tenderer)

ITEM	DESCRIPTION	TYPE/MAKE	COUNTRY OF ORIGIN

BILL OF QUANTITIES

**BILL OF QUANTITIES FOR STUDENT HOSTELS STRUCTURED CABLING AND CCTV
INSTALLATION WORKS AT KIBABII UNIVERSITY**

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Schedule 1: Preliminaries				
A	Sub contractors store		Item		
B	Firm price clause		Item		
C	Government legislation		Item		
D	Mobilization and demobilization		Item		
E	Working drawings		Item		
F	Engineers stationary and production of drawings				25,000
G	Supervision by the engineer and site meetings				150,000
H	Attendance to item F and G				

	Carried to Collection Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Schedule 2: Structured Cabling Ground floor				
	Supply, install, test and commission the following;				
A	HORIZONTAL CABLING Single Data module (face plate complete with keystones) as Siemon	2	No.		
B	Dual Data module (face plate complete with keystones) as Siemon	6	No.		
C	Cat 6 UTP Data Cable, 4 pair as Nexans, Siemon or approved equivalent. (2 Rolls)	610	M		
D	3m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	14	No.		
E	1m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	16	No.		
F	Cable drawing in concealed HG PVC conduit; -(NB: Infrastructure installed by Electrical Subcontractor to the satisfaction of the LAN-Network sub-contractor.)	16	Lot		
G	Terminations (both ends), Labelling, Testing, customised programming and Commissioning all UTP Cables including certification.	32	No.		
H					

I	Installation of Indoor internet POE Wireless access point as UNIFI and all accessories.	2	Lot		
J	Installation & Integration of Wimax CPE (internet connectivity).	1	No.		
K	Wan Router	1	No.		
	24 Port 1UH Cat 6 UTP Patch Panel	1	No.		
Carried to Ground Floor Structured Cabling Summary					

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Ground floor				
A	BACKBONE CABLING 6 core multimode fibre optic cable 50/125mm	20	M		
B	12 core rack mount fibre patch panel	1	No.		
C	Fiber connectors SC	16	No.		
D	Fiber patch cords SC, 3m	16	Lot		
E	Fiber Adapter	16	Lot		
	CABINETS				
F	22UH purpose made Data Cabinet for Hub/ patch panel complete with glass door, fans and power distribution.	1	No.		
G	1UH Cable Manager/Organiser	2	No.		
	ACTIVE COMPONENTS				
H	24 Port UTP rack mount/manageable POE edge switch as CISCO2960X	1	No.		
I	2KVA UPS as APC manufacture.	1	No.		
J	Additional items/Accessories to complete the installation. -State below	1	Lot		

	Carried to Ground Floor Structured Cabling Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Ground Floor Structured Cabling Collection From page 2 From page 3				

	Carried to Structured Cabling Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	First Floor				
	HORIZONTAL CABLING				
A	Single Data module (face plate complete with keystones) as Siemon	3	No.		
B	Dual Data module (face plate complete with keystones) as Siemon	19	No.		
C	Cat 6 UTP Data Cable, 4 pair as Nexans, Siemon or approved equivalent. (4 Rolls)	1220	M		
D	3m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	38	No.		
	1m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	41	No.		
E	Cable drawing in concealed HG PVC conduit; -(NB: Infrastructure installed by Electrical Subcontractor to the satisfaction of the LAN-Network sub-Contractor.)	41	Lot		
F	Terminations (both ends), Labelling, Testing, customised programming and commissioning all UTP Cables including certification.	82	No.		
G	Installation of Indoor internet POE Wireless access point as UNIFI and all accessories.	3	Lot		
H	Installation & Integration of Wimax CPE (internet connectivity). No 1	1	No.		
I	WAN Router	1	No.		

J	24 Port 1UH Cat 6 UTP Patch Panel	2	No.		
Carried to First Floor Structured Cabling Summary					

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	First Floor				
A	BACKBONE CABLING 8 core multimode outdoor fibre optic cable 50/125mm for ISP (provisional)	120	M		
B	6 core multimode fibre optic cable 50/125mm	5	M		
C	24 core rack mount fibre patch panel	1	No.		
D	Fiber connectors SC	41	No.		
E	Fiber patch cords SC, 3m	41	No.		
F	Fiber Adapter	41	No.		
	CABINETS				
G	42UH purpose made Cabinet to house the Network switch, Hub/ patch panel, CCTV-NVR and UPS complete with glass door, fans and power distribution unit (PDU).	1	No.		

H	1UH Cable Manager/Organiser	3	No.		
	Carried to First Floor Structured Cabling Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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	First Floor				
	ACTIVE COMPONENTS				
A	24 Port UTP rack mount/manageable Backbone core POE switch as CISCO; c/w power supply unit, virtual supervisor engine with 10Gigabit Ethernet uplinks CISCO catalyst 4510R + E series modular switch, chasis cable management system, high speed fan tray, rack and all accessories	1	No.		
B	24 Port UTP rack mount/manageable POE core switch as CISCO2960X	2	No.		
C	3KVA UPS as APC manufacture.	1	No.		
D	Network management system (dedicated) c/w user friendly software for centralised configuration, maintenance and diagnosis as specified	1	Lot		
E	GSM FCT's c/w installation & Integration.	2	No.		
F	1000 Base X port	1	No.		
G	Telecommunications Earthing & Lightning arrester modules	1	Lot		
H	Additional items/Accessories to complete the installation. -State below	1	Lot		
	Carried to First Floor Structured Cabling Summary				
	From page 5				
	From page 6				
	From page 7				
	Carried to Structured Cabling Collection Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Second Floor				
A	HORIZONTAL CABLING Single Data module (face plate complete with keystones) as Siemon	14	No.		
B	Dual Data module (face plate complete with keystones) as Siemon	2	No.		
C	Cat 6 UTP Data Cable, 4 pair as Nexans, Siemon or approved equivalent. (2 Rolls)	610	M		
D	3m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	18	No.		
E	1m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	23	No.		
F	Cable drawing in concealed HG PVC conduit; -(NB: Infrastructure installed by Electrical Subcontractor to the satisfaction of the LAN-Network sub-contractor.)	23	Lot		
G	Terminations (both ends), Labelling, Testing, customised programming and commissioning all UTP Cables including certification.	46	No.		
H	Installation & Integration of Wimax CPE (internet connectivity).	1	No.		
I	Wan Router	1	No.		
J	24 Port 1UH Cat 6 UTP Patch Panel	1	No.		
	Carried to Second Floor Structured Cabling Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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	Second Floor				
	BACKBONE CABLING				
A	6 core multimode fibre optic cable 50/125mm	25	M		
B	13 core rack mount fibre patch panel	1	No.		
C	Fiber connectors SC	23	No.		
D	Fiber patch cords SC, 3m	23	Lot		
E	Fiber Adapter	23	Lot		
	CABINETS				
F	22UH purpose made Data Cabinet for Hub/ patch panel complete with glass door, fans and power distribution.	1	No.		
G	1UH Cable Manager/Organiser	2	No.		
	ACTIVE COMPONENTS				
H	24 Port UTP rack mount/manageable POE edge switch as CISCO2960X	1	No.		
I	2KVA UPS as APC manufacture.	1	No.		
J	Additional items/Accessories to complete the installation. -State below	1	Lot		
	Carried to Second Floor Structured Cabling Summary				
	From page 8				
	From page 9				
	Carried to Structured Cabling Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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KIBABII UNIVERSITY HOSTELS

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Third Floor					
A	HORIZONTAL CABLING Single Data module (face plate complete with keystones) as Siemon	14	No.		
B	Dual Data module (face plate complete with keystones) as Siemon	2	No.		
C	Cat 6 UTP Data Cable, 4 pair as Nexans, Siemon or approved equivalent. (2 Rolls)	610	M		
D	3m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	18	No.		
E	1m, RJ45 to RJ45 UTP cat 6 Patch cord (Nexans/Siemon)	24	No.		
F	Cable drawing in concealed HG PVC conduit; -(NB: Infrastructure installed by Electrical Subcontractor to the satisfaction of the LAN-Network sub-contractor.)	24	Lot		
G	Terminations (both ends), Labelling, Testing, customised programming and commissioning all UTP Cables including certification.	48	No.		
H	Installation & Integration of Wimax CPE (internet connectivity).	1	No.		
I	Wan Router	1	No.		
J	24 Port 1UH Cat 6 UTP Patch Panel	1	No.		
Carried to Third Floor Structured Cabling Summary					

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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	Third Floor				
A	BACKBONE CABLING 6 core multimode fibre optic cable 50/125mm	30	M		
B	14 core rack mount fibre patch panel	1	No.		
C	Fiber connectors SC	24	No.		
D	Fiber patch cords SC, 3m	24	Lot		
E	Fiber Adapter	24	Lot		
	CABINETS				
F	22UH purpose made Data Cabinet for Hub/ patch panel complete with glass door, fans and power distribution.	1	No.		
G	1UH Cable Manager/Organiser	2	No.		
	ACTIVE COMPONENTS				
H	24 Port UTP rack mount/manageable POE edge switch as CISCO2960X	1	No.		
I	2KVA UPS as APC manufacture.	1	No.		
J	Additional items/Accessories to complete the installation. -State below	1	Lot		
	Carried to Third Floor Structured Cabling Summary				
	From page 10 From page 11				
	Carried to Structured Cabling Summary				

ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	Structured Cabling Collection Page				
	From Ground Floor				
	From First Floor				
	From Second Floor				
	From Third Floor				
	Carried to Collection Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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	<p>CCTV Installation: Ground Floor</p> <p>Indicated Product Brands are only a guide to the quality required</p> <p>Supply, install, test, commission and hand over the following in proper working condition the following;</p> <p>Indoor Installation Of CCTV Surveillance System</p>				
A	<p>1/4" Static (Dome type) IP network camera with power over ethernet support (IEEE 802.3af), with built-in web server, resolution upto 640x480 at 30fps with a built in lens: F2.0, 4.0mm fixed iris, horizontal viewing angle: 54° c/w Mounting bracket as HIKVISION or approved equivalent.</p>	1	No.		
B	<p>1/3" High resolution, IP, color fixed Bullet camera complete with Auto Iris Varifocal lens c/w Mounting bracket as HIKVISION or approved equivalent.</p>	4	No.		
C	<p>4 pair Cat 6 UTP cables for cameras; drawn in concealed HG PVC conduit; -(NB: Infrastructure installed by Electrical Subcontractor to the satisfaction of the CCTV-Network subcontractor.)</p>	180	M		
D	<p>CCTV System Connection Point, comprising of Heavy Duty PVC 150 mm x 150 mm x 75 mm deep square adaptor box, flush mounted and concealed in the Building Fabric, complete with cover.</p>	2	No.		
E	<p>Any other item not included in CCTV necessary to complete the Installations (Provide Details)</p>	1	Item		
	Carried to CCTV Installation Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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CCTV installation: First Floor & Server					
	Indicated Product Brands are only a guide to the quality required				
	Supply, install, test, commission and hand over the following in proper working condition the following				
A	1/3" High resolution, IP, color fixed Bullet camera complete with Auto Iris Varifocal lens c/w Mounting bracket as HIKVISION or approved equivalent.	6	No.		
B	4 pair Cat 6 UTP cables for cameras; drawn in concealed HG PVC conduit; - (NB: Infrastructure installed by Electrical Subcontractor to the satisfaction of the CCTV-Network subcontractor.)	240	M		
C	CCTV System Connection Point, comprising of Heavy Duty PVC 150 mm x 150 mm x 75 mm deep square adaptor box, flush mounted and concealed in the Building Fabric, complete with cover.	2	No.		
E	4 pair multimode indoor fibre optic cable for interlinking other floors to server room complete with connectors to active components and all terminations to active equipment i.e floor edge switch	50	M		
F	24 Port rack mount manageable switch with POE capacity As CISCO WS-C2960-24PC-S	1	No.		
G	24 Port 1UH Cat 6 UTP Patch Panel as SIEMON	1	No.		
H	24 port 2UH Cable Manager/Organiser	1	No.		
Carried to CCTV First Floor Summary					

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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CCTV installation: First Floor & Server					
A	32" 550TVL LCD Colour video monitor with power consumption not exceeding 80W as LG.; SONY or approved equivalent.	1	No.		
B	32 Channel Network Video recorder (NVR) as HIKVISION cat No. DS- 7732N1-14/16P or approved equivalent	1	No.		
C	Hard Disk Drive (HDD) with minimum storage capacity of 4 Terabyte with rotational speed of 5900 RPM as SATA or approved equivalent	2	No.		
D	1KVA UPS, Rack mounted for NVR equipment complete with high-Volt surge protector and all accessories as APC manufacture or approved equivalent	1	No.		
E	2KVA UPS, Rack mounted for the cameras complete with high-Volt surge protector and all accessories as APC manufacture or approved equivalent	1	No.		
F	Allow for Testing and Commissioning of the Central Control Equipment and all the outlets	1	Item		
G	Any other item not included in CCTV necessary to complete the Installations (Provide Details)	1	Item		
Carried to CCTV First Floor Summary					
	From page 14				
	From page 15				
Carried to CCTV Installation Summary					

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
	CCTV Installation: Second Floor				
	Indicated Product Brands are only a guide to the quality required Supply, install, test, commission and hand over the following in proper working condition the following;				
	Indoor Installation Of CCTV Surveillance System				
A	1/3" High resolution, IP, color fixed Bullet camera complete with Auto Iris Varifocal lens c/w Mounting bracket as HIKVISION or approved equivalent.	5	No.		
B	4 pair Cat 6 UTP cables for cameras; drawn in concealed HG PVC conduit; -(NB: Infrastructure installed by Electrical Subcontractor to the satisfaction of the CCTV-Network subcontractor.)	180	M		
C	CCTV System Connection Point, comprising of Heavy Duty PVC 150 mm x 150 mm x 75 mm deep square adaptor box, flush mounted and concealed in the Building Fabric, complete with cover.	2	No.		
D	Any other item not included in CCTV necessary to complete the installations (Provide Details)	1	Item		
	Carried to CCTV Installation Summary				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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	<p>CCTV Installation: Third Floor</p> <p>Indicated Product Brands are only a guide to the quality required</p> <p>Supply, install, test, commission and hand over the following in proper working condition the following;</p> <p>Indoor Installation Of CCTV Surveillance System</p>				
A	1/4" Static (Dome type) IP network camera with power over ethernet support (IEEE 802.3af), with built-in web server, resolution upto 640x480	1	No.		
B	at 30fps with a built in lens: F2.0,4.0mm fixed iris, horizontal view in angle: 54° c/w Mounting bracket as HIKVISION or approved equivalent.				
C	1/3" High resolution, IP, color fixed Bullet camera complete with Auto Iris Varifocal lens c/w Mounting bracket as HIKVISION or approved equivalent.	5	No.		
D	4 pair Cat 6 UTP cables for cameras; drawn in concealed HG PVC conduit; -(NB: Infrastructure installed by Electrical Subcontractor to the satisfaction of the CCTV-Network subcontractor.)	240	M		
E	CCTV System Connection Point, comprising of Heavy Duty PVC 150 mm x 150 mm x 75 mm deep square adaptor box, flush mounted and concealed in the Building Fabric, complete with cover.	2	No.		
F	Any other item not included in CCTV necessary to complete the installations (Provide Details) Item 1	1	Item		
	Carried to CCTV Installation Summary				

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				UNIT	AMOUNT
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ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
	CCTV Installation Collection				
	From Ground Floor				
	From First Floor				
	From Second Floor				
	From Third Floor				
	Allow for Testing and Commissioning of the Central Control Equipment and all the outlets				
	Carried to Collection Summary				

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				UNIT	AMOUNT
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ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS
	COLLECTION SUMMARY				
A	Total carried forward from schedule 1- Preliminary items				
B	Total carried forward from schedule 2 – Structured Cabling				
C	Total carried forward from schedule 3 – CCTV installations				
D	Allow for preparation of 3 No. Sets of "AS INSTALLED DRAWINGS".				
	TOTAL CARRIED TO BILLS OF QUANTITIES SUMMARY				

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ITEM	DESCRIPTION	QTY	UNIT	UNIT RATE	AMOUNT KSHS
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BILLS OF QUANTITIES SUMMARY				
Grand summary				
Contingence Sums				
				300,000
Total Carried to Form of Tender				
Signed:				
Address:				
.....				
.....				
Date:				
Witness:				
Name:				
Address:				
.....				
Date:				