

**BANKI  
KUU YA  
KENYA**

**CENTRAL  
BANK OF  
KENYA**

**BANKI  
KUU YA  
KENYA**



**CENTRAL  
BANK OF  
KENYA**

**Haile Selassie Avenue**

**P.O. Box 60000 - 00200 Nairobi Kenya**

**Telephone: 2861000/2863000**

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**TENDER FOR PROPOSED OFFICE MODERNIZATION  
AND  
CREATION OF WORK – STATIONS  
-PHASE III PROJECT-  
INCORPORATING FIRE SAFETY  
OCCUPATIONAL SAFETY AND HEALTH SERVICES  
FOR  
CENTRAL BANK OF KENYA**

**TENDER NO. CBK/29/2012/2013/G  
CLOSING ON 11<sup>TH</sup> JUNE, 2013 AT 10.30AM**

**SUB-CONTRACT CONDITIONS, SPECIFICATIONS AND  
BILLS OF QUANTITIES FOR:**

**SAFETY INSTALLATIONS (FIRE DETECTION &  
ALARM SYSTEM)**

**CLIENTS REPRESENTATIVES:**

**Director**

Department of Estates, Supplies & Transport  
Central Bank of Kenya  
P.O. Box 60000 – 00200  
**NAIROBI.**

**APRIL 2013**

**CENTRAL BANK OF KENYA  
PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III  
AT CENTRAL BANK OF KENYA – NAIROBI**

**SUB-CONTRACT FOR FIRE DETECTION AND ALARM SYSTEM**

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**FEBRUARY, 2012  
REVISION I, JULY 2012  
REVISION II, OCTOBER, 2012  
REVISION III, MARCH, 2013**

**CENTRAL BANK OF KENYA  
PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III  
AT CENTRAL BANK OF KENYA – NAIROBI**

**SUB-CONTRACT FOR FIRE DETECTION AND ALARM SYSTEM**

**SPECIAL NOTES FOR ALL TENDERERS:**

**Important:** The site for the proposed works has a number of existing installations. The Sub-contractor will be required to ensure there's no interference with supply of services to neighbouring organizations. The sub-contractor will be required to take all precaution and care so that no damage will occur to the existing installations on site. The sub-contractor is also advised to secure all the necessary insurance policies as he will be solely held responsible for any damages to the existing system, injuries to persons resulting from his activities and/or interference with normal operations of the building that may result from his negligence, actions or otherwise.

1. These notes shall form part of these specifications and conditions.
2. The tenderer is required to check the number of pages in this document and should any be found to be missing or the figures indistinct, he must inform the Engineers at once and have the same rectified. Should the tenderer be in doubt about the precise meaning of any item, word or figures, or for any reason whatsoever observe any apparent omission of words or figures, he must inform the Engineer in order that the correct meaning may be decided upon before the date for the submission of the tenders.
3. No liability whatsoever will be admitted nor claim allowed in respect of errors in the completed tender due to mistakes in this document which should have been rectified in the manner described above.
4. The tenderer shall not alter or otherwise qualify the text of this specification. Any alteration or qualification made without authority will be ignored and the text of the specification as printed will be adhered to.
5. The tenderer shall be deemed to have made allowances in his unit prices generally to cover items of preliminaries or additions to Prime cost Sums or other items, if those have not been priced against the respective items.
6. The tenderer's price shall include all government taxes including duties, V.A.T. etc. No claims whatsoever will be allowed in respect of duties, VAT etc if the tenderer fails to include them in his unit prices. It is also to be noted that VAT will be included in the unit rates and NOT worked out as a percentage of the total.
7. In no case will any expenses incurred by the tenderer in preparation of this tender be reimbursed.
8. The copyright of this specification is vested in the Engineers and no part thereof may be reproduced without their express permission, given in writing.
9. The specifications must be priced in Kenya Currency i.e. Shillings and Cents.
10. All the tenderers must make a declaration that they have not and will not make any payment to any person which can be perceived as an inducement to enable them to win this tender.
11. The works shall be carried out in accordance with provisions of the 17th Edition of IEE wiring Regulations, the most current Kenya Standards governing such works, and relevant provisions of the current KPLC by-laws.

## **FORM OF TENDER**

**To: Director,  
Department of Estates, Supplies and Transport  
Central Bank of Kenya,  
Haile Selassie Avenue,  
P O Box 60000-00200,  
NAIROBI**

**CENTRAL BANK OF KENYA  
PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III  
AT CENTRAL BANK OF KENYA – NAIROBI  
SUB-CONTRACT FOR FIRE DETECTION AND ALARM SYSTEM**

1. In accordance with the Instructions to Tenderers, Conditions of Contract described or inferred to from the Kenya Association of Building and Civil Engineer Contractors (KABCEC), Form of Sub-Contract Agreement, Specifications, Drawings 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]*

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Employer's Representative's notice to commence, and to phase the works in accordance with the building programme and to complete the whole of the works within the time of the main contract.
3. We agree to abide by this tender for 120 days from the date of official tender opening, and shall remain binding upon us and may be accepted at any time before that date.
4. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Sub-Contract between us and the Main Contractor.
5. We understand that you are not bound to accept the lowest or any tender you may receive.
6. We submit the Name of ..... as Surety who has signed the form attached and is willing to be bound to the Main Contractors in an amount equal to 5% of the sub-contract amount for the due performance of the sub-contract upto the date of completion of the works and who will when and if called upon sign a Bond to the offset without limitations on the same day as the Sub-contract Agreement is signed but in the event the surety name is not approved we agree to furnish within 7 days another surety to your approval.
7. We agree in the event of your acceptance of this Tender, to execute the formal Sub-contract Agreement within Fourteen (14) days from notification of acceptance.

Dated this ..... day of .....20.....

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 .....

**NB: Tenderers are required to attach the surety undertaking, dully signed by the surety, to this Form of Tender.**

**To: Director,  
Department of Estates, Supplies and Transport  
Central Bank of Kenya,  
Haile Selassie Avenue,  
P O Box 60000-00200,  
NAIROBI**

Sirs,

**FORM OF UNDERTAKING**

We \_\_\_\_\_

of \_\_\_\_\_, being a duly registered Commercial Bank in Kenya, are willing to act as Surety and to be bound to (MAIN-CONTRACTOR) in the sum equal to Ten percent (10%) of the Sub-Contract Sum, for the due performance by

\_\_\_\_\_ (Tenderer)

of \_\_\_\_\_

of a Sub-Contract which he/they contemplate(s) entering into with the Main-Contractor for the supply, installation, testing and commissioning of Fire Detection and Alarm System Installations as described in this document, and the accompanying relevant drawings for Central Bank of Kenya, according to the terms of the Performance Bank Guarantee a copy of which has been inspected by us without addition of any limitations.

We agree to enter into a Bank Guarantee under the above mentioned terms when and if called upon to do so.

Signature \_\_\_\_\_ (Surety)

Date \_\_\_\_\_

Witness \_\_\_\_\_

***To be completed by proposed Surety  
and returned with Tender Documents.***

**PART I:**  
**STANDARD FORMS**

## CONTENTS OF SECTION I

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5.	Schedule of Contracts completed in the last five (5) years	I/8
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**NOTE:**

Tenderers must duly fill these Standard Forms as a mandatory requirement as they will form part of the evaluation criteria.

**PERFORMANCE BANK GUARANTEE**

**To: Director,  
Department of Estates, Supplies and Transport  
Central Bank of Kenya,  
Haile Selassie Avenue,  
P O Box 60000-00200,  
Nairobi.**

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 recognised 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 .....

## **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/Fax 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

## **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 (2d) 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:

Kenya Shillings.....

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.	.....	.....	.....	.....
4.	.....	.....	.....	.....

**Part 2(c) – Registered Company**

Private or Public .....

State the nominal and issued capita of the company:

Nominal            KShs. ....

Issued            KShs. ....

Give details of all directors as follows:

	<i>Name in full</i>	<i>Nationality</i>	<i>Citizenship Details*</i>	<i>Shares</i>
1.	.....	.....	.....	.....
2.	.....	.....	.....	.....
3.	.....	.....	.....	.....
4.	.....	.....	.....	.....

**Part 2(d) Interest in the Firm:**

Is there any person/persons in the employment of the Government of Kenya who has interest in this firm?

Yes/No ..... (Delete as necessary)

I certify that the above information is correct.

.....	.....	.....
Title	Signature	Date

*\* Attach proof of citizenship*

**KEY PERSONNEL**

Qualifications and experience of key personnel proposed for administration and execution of the Contract.

<b>POSITION</b>	<b>NAME</b>	<b>YEARS OF EXPERIENCE (GENERAL)</b>	<b>YEARS OF EXPERIENCE IN PROPOSED POSITION</b>

I certify that the above information is correct.

.....

Title

.....

Signature

.....

Date

**CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS**

Work performed on works of a similar nature, complexity and volume over the last 5 years.

PROJECT NAME	NAME OF CLIENT	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.

PROJECT NAME	NAME OF CLIENT	CONTRACT SUM	% COMPLETE	COMPLETION DATE

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

.....

Title

.....

Signature

.....

Date

**EVIDENCE OF FINANCIAL RESOURCES TO MEET QUALIFICATION REQUIREMENTS**

*(Cash in hand, Lines of credit, e.t.c. List below and attach copies of supportive documents)*

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

**BIDDERS BANK INFORMATION**

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

NAME OF BANK	BANK BRANCH	ACCOUNT NAME	ADDRESS	TELEPHONE

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

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?)

**PART A:**

**INSTRUCTIONS TO TENDERERS**

## INSTRUCTIONS TO TENDERERS

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## **INSTRUCTION TO TENDERERS**

Note: The tenderer must comply with the following conditions and instructions and failure to do so is liable to result in rejection of the tender.

### **GENERAL**

#### **1. Definitions**

- (a) **“Tenderer”** means any person or persons partnership firm or company submitting a sum or sums in the Bills of Quantities in accordance with the Instructions to Tenderers, Conditions of Contract, Specifications, Drawings and Bills of Quantities for the work contemplated, acting directly or through a legally appointed representative.
- (b) **“Approved tenderer,”** means the tenderer who is approved by the Employer.
- (c) Any noun or adjective derived from the word **“tender”** shall be read and construed to mean the corresponding form of the noun or adjective **“bid”**. Any conjugation of the verb “tender” shall be read and construed to mean the corresponding form of the verb “bid.”
- (d) **Employer”** means **Central Bank of Kenya, P O Box 60000-00200, Nairobi, and Tel: 2860000**

#### **2. Eligibility and Qualification Requirements**

- 2.1 This invitation to tender is open to all tenderers who have been pre-qualified.
- 2.2 To be eligible for award of Sub-Contract, the tenderer shall provide evidence satisfactory to the Employer of their eligibility under Sub clause 2.1 above and of their capability and adequacy of resources to effectively carry out the subject Sub-Contract. To this end, the tenderer shall be required to update the following information already submitted during pre-qualification:-
  - (a) Details of experience and past performance of the tenderer on the works of a similar nature within the past five years and details of current work on hand and other contractual commitments.
  - (b) The qualifications and experience of key personnel proposed for administration and execution of the contract, both on and off site.
  - (c) Major items of construction plant and equipment proposed for use in carrying out the Sub-Contract. Only reliable plant in good working order and suitable for the work required of it shall be shown on this schedule. The tenderer will also indicate on this schedule when each item will be available on the Works. Included also should be a schedule of plant, equipment and material to be imported for the purpose of the Sub-Contract, giving details of make, type, origin and CIF value as appropriate.
  - (d) Details of subcontractors to whom it is proposed to sublet any portion of the Sub-Contract and for whom authority will be requested for such subletting.
  - (e) A draft Program of Works in the form of a bar chart and Schedule of Payment which shall form part of the Sub-Contract if the tender is accepted. Any change in the Program or Schedule shall be subjected to the approval of the Engineer. The program of works must be presented in detail, to include all milestones from commencement to commissioning, and handing over.
  - (f) Details of any current litigation or arbitration proceedings in which the Tenderer is involved as one of the parties.

### 2.3 Joint Ventures

Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements:-

- (a) The tender, and in case of a successful tender, the Form of Agreement, shall be signed so as to be legally binding on all partners.
- (b) One of the partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.
- (c) The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture and the entire execution of the Sub-Contract including payment shall be done exclusively with the partner in charge.
- (d) All partners of the joint venture shall be liable jointly and severally for the execution of the Sub-Contract in accordance with the Sub-Contract terms, and a relevant statement to this effect shall be included in the authorization mentioned under (b) above as well as in the Form of Tender and the Form of Agreement (in case of a successful tender).
- (e) A copy of the agreement entered into by the joint venture partners shall be submitted with the tender.

### 3. Cost of Tendering

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, regardless of the conduct or outcome of the tendering process.

### 4. Site Visit

- 4.1 The tenderer is advised to visit and examine the Site and its surroundings and obtain for himself on his own responsibility, all information that may be necessary for preparing the tender and entering into a Sub-Contract. The costs of visiting the Site shall be the tenderer's own responsibility.
- 4.2 The tenderer and any of his personnel or agents will be granted permission by the Employer to enter upon premises and lands for the purpose of such inspection, but only upon the express condition that the tenderer, his personnel or agents, will release and indemnify the Employer from and against all liability in respect of, and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused, which but for the exercise of such permission, would not have arisen.
- 4.3 The Employer shall organize a site visit at a date to be notified. A representative of the Employer will be available to meet the intending tenderers at the Site.

Tenderers must provide their own transport. The representative will not be available at any other time for site inspection visits.

Each tenderer shall complete the Certificate of Tenderer's Visit to the Site, whether he in fact visits the Site at the time of the organized site visit or by himself at some other time.

## **TENDER DOCUMENTS**

### **5. Tender Documents**

- 5.1 The Tender documents comprise the documents listed here below and should be read together with any Addenda issued in accordance with Clause 7 of these instructions to tenderers.
- a. Special Notes for all Tenderers
  - b. Form of Tender
  - c. Form of Undertaking
  - d. Definitions
  - e. Instructions to Tenderers
  - f. Conditions of Contract
  - g. Agreement and Conditions of Sub-Contract for Building Works
  - h. Preliminaries and General Conditions
  - i. Technical Specifications for Fire Detection and Alarm Systems
  - j. Bills of Quantities and Schedule of Unit Rates
  - k. Full Service Maintenance per year after expiry of defects liability period
  - l. Technical Schedule of Items Supplied
  - m. Standard Forms
  - n. Schedule of Drawings
- 5.2 The tenderer is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the tender documents. Failure to comply with the requirements for tender submission will be at the Tenderer's own risk. Pursuant to clause 23 of Instructions to Tenderers, tenders which are not substantially responsive to the requirements of the tender documents will be rejected.
- 5.3 All recipients of the documents for the proposed Sub-Contract for the purpose of submitting a tender (whether they submit a tender or not) shall treat the details of the documents as "private and confidential".

### **6. Clarification of Tender Documents**

- 6.1 A prospective tenderer requiring any clarification of the tender documents may notify the Employer in writing or by telex, cable or facsimile at the Employer's mailing address indicated in the Invitation to Tender. The Employer will respond in writing to any request for clarification, which he receives earlier than 7 days prior to the deadline for the submission of tenders. Written copies of the Employer's response (including the query but without identifying the source of the inquiry) will be sent to all prospective tenderers who have purchased the tender documents.

### **7. Amendment of Tender Documents**

- 7.1 At any time prior to the deadline for submission of tenders the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective tenderer, modify the tender documents by issuing Addenda.
- 7.2 Any Addendum will be notified in writing or by cable, telex or facsimile to all prospective tenderers who have purchased the tender documents and will be binding upon them.
- 7.3 If during the period of tendering, any circular letters (tender notices) shall be issued to tenderers by, or on behalf of, the Employer setting forth the interpretation to be placed on a part of the tender documents or to make any change in them, such circular letters will form part of the tender documents and it will be assumed that the tenderer has taken account of them in preparing his tender. The tenderer must promptly acknowledge any circular letters he may receive.

- 7.4 In order to allow prospective tenderers reasonable time in which to take the Addendum into account in preparing their tenders, the Employer may, at his discretion, extend the deadline for the submission of tenders.

## **PREPARATION OF TENDERS**

### **8. Language of Tender**

- 8.1 The tender and all correspondence and documents relating to the tender exchanged between the tenderer and the Employer shall be written in the English language. Supporting documents and printed literature furnished by the tenderer with the tender may be in another language provided they are accompanied by an appropriate translation of pertinent passages in the above stated language. For the purpose of interpretation of the tender, the English language shall prevail.

### **9. Documents Comprising the Tender**

- 9.1 The tender to be prepared by the tenderer shall comprise: the Form of Tender and Appendix thereto, a Tender Surety, the Priced Bills of Quantities and Schedules, the information on eligibility and qualification, and any other materials required to be completed and submitted in accordance with the Instructions to Tenderers embodied in these tender documents. The Forms, Bills of Quantities and Schedules provided in the tender documents shall be used without exception (subject to extensions of the schedules in the same format and to the provisions of clause 13.2 regarding the alternative forms of Tender Surety).

### **10. Tender Prices**

- 10.1 All the insertions made by the tenderer shall be made in INK and the tenderer shall clearly form the figures. The relevant space in the Form of Tender and Bills of Quantities shall be completed accordingly without interlineations or erasures except those necessary to correct errors made by the tenderer in which case the erasures and interlineations shall be initialed by the person or persons signing the tender.

- 10.2 The tenderer for every item in the Bills of Quantities shall insert a price or rate whether the quantities are stated or not. Items against which no rate or price is entered by the tenderer will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bills of Quantities.

The prices and unit rates in the Bills of Quantities are to be the full [all-inclusive] value of the work described under the items, including all costs and expenses which may be necessary and all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based. All duties and taxes and other levies payable by the Sub-Contractor under the Sub-Contract or for any other cause as of the date 7 days prior to the deadline for the submission of tenders, shall be included in the rates and prices and the total tender prices submitted by the Tenderer. Such duties to include import duty, Value Added Tax (VAT), local authority (levies) and any other taxes (levies that may be imposed by the government and/or local authorities.

Each price or unit rate inserted in the Bills of Quantities should be a realistic estimate for completing the activity or activities described under that particular item and the tenderer is advised against inserting a price or rate against any item contrary to this instruction.

Every rate entered in the Bills of Quantities, whether or not such rate be associated with a quantity, shall form part of the Sub-Contract. The Employer shall have the right to call for any item of work contained in the Bills of Quantities, and such items of work to be paid for at the rate entered by the tenderer and it is the intention of the Employer to take full advantage of unbalanced low rates.

- 10.3 Unless otherwise specified the tenderer must enter the amounts representing 10% of the sub-total of the summary of the Bills of Quantities for Contingencies and Variation of Prices [V.O.P.] payments in the summary sheet and add them to the sub-total to arrive at the tender amount.
- 10.4 The tenderer shall furnish with his tender written confirmation from his suppliers or manufacturers of unit rates for the supply of items listed in the Conditions of Contract where appropriate.
- 10.5 The rates and prices quoted by the tenderer are subject to adjustment during the performance of the Sub-Contract only in accordance with the provisions of the Conditions of Contract. The tenderer shall complete the schedule of basic rates and shall submit with his tender such other supporting information as required under the Conditions of Contract.

11. Currencies of Tender and Payment

- 11.1 Tenders shall be priced in Kenya Shillings and the tender sum shall be in Kenya Shillings.
- 11.2 Tenderers are required to indicate in the Statement of Foreign Currency Requirements, which forms part of the tender, the foreign currency required by them. Such currency should generally be the currency of the country of the Tenderer's main office. However, if a substantial portion of the Tenderer's expenditure under the Sub-Contract is expected to be in countries other than his country of origin, then he may state a corresponding portion of the Sub-Contract price in the currency of those other countries. However, the foreign currency element is to be limited to two (2) different currencies and a maximum of 30% (thirty percent) of the Sub-Contract Price.
- 11.3 The rate of exchange used for pricing the tender shall be selling rate or rates of the Central Bank ruling on the date seven (7) days before the final date for the submission of tenders.
- 11.4 Tenderers must enclose with their tenders, a brief justification of the foreign currency requirements stated in their tenders.

12. Tender Validity

- 12.1 The tender shall remain valid and open for acceptance for a period of one hundred and twenty (120) days from the specified date of tender opening or from the extended date of tender opening (in accordance with clause 7.4 here above) whichever is the later.
- 12.2 In exceptional circumstances prior to expiry of the original tender validity period, the Employer may request the tenderer for a specified extension of the period of validity. The request and the responses thereto shall be made in writing or by cable, telex or facsimile. A tenderer may refuse the request without forfeiting his Tender Surety. A tenderer agreeing to the request will not be required nor permitted to modify his tender, but will be required to extend the validity of his Tender Surety correspondingly.

13. Tender Surety

- 13.1 The tenderer shall furnish as part of his tender, a Tender Surety in the amount stated in the Appendix to Instructions to Tenderers.
- 13.2 The unconditional Tender Surety shall be in Kenya Shillings and be in form of a certified cheque, a bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank approved by the Employer located in the Republic of Kenya.

The format of the Surety shall be in accordance with the sample form of Tender Surety included in these tender documents; other formats may be permitted subject to the prior approval of the Employer. The Tender Surety shall be valid for THIRTY (30) days beyond the tender validity period.

- 13.3 Any tender not accompanied by an acceptable Tender Surety will be rejected by the Employer as non-responsive.
- 13.4 The Tender Sureties of unsuccessful tenderers will be returned as promptly as possible but not later than twenty eight (28) days after concluding the Sub-Contract execution and after a Performance Security has been furnished by the successful tenderer. The Tender Surety of the successful tenderer will be returned upon the tenderer executing the Sub-Contract and furnishing the required Performance Security.
- 13.5 The Tender Surety may be forfeited:
  - (a) if a tenderer withdraws his tender during the period of tender validity: or
  - (b) in the case of a successful tenderer, if he fails
    - (i) to sign the Agreement, or
    - (ii) to furnish the necessary Performance Security
  - (c) if a tenderer does not accept the correction of his tender price pursuant to clause 24.

#### 14. No Alternative Offers

- 14.1 The tenderer shall submit an offer, which complies fully with the requirements of the tender documents.

Only one tender may be submitted by each tenderer either by himself or as partner in a joint venture.

- 14.2 The tenderer shall not attach any conditions of his own to his tender. The tender price must be based on the tender documents. The tenderer is not required to present alternative construction options and he shall use without exception, the Bills of Quantities as provided, with the amendments as notified in tender notices, if any, for the calculation of his tender price.

Any tenderer who fails to comply with this clause will be disqualified.

#### 15 Pre-Tender Meeting

- 15.1 The tenderer's designated representative is invited to attend a pre-tender meeting, which if convened, will take place at the venue and time stated in the Invitation to Tender. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 15.2 The tenderer is requested as far as possible to submit any questions in writing or by cable, to reach the Employer not later than seven days before the meeting. It may not be practicable at the meeting to answer questions received late, but questions and responses will be transmitted in accordance with the following:
  - (a) Minutes of the meeting, including the text of the questions raised and the responses given together with any responses prepared after the meeting, will be transmitted without delay to all purchasers of the tender documents. Any modification of the tender documents listed in --Clause 9 which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of a tender notice pursuant to Clause 7 and not through the minutes of the pre-tender meeting.

- (b) Non attendance at the pre-tender meeting will not be cause for disqualification of a bidder.

#### 16 Format and Signing of Tenders

- 16.1 The tenderer shall prepare his tender as outlined in clause 9 above and mark appropriately one set "ORIGINAL" and the other "COPY".
- 16.2 The copy of the tender and Bills of Quantities shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the tenderer. Proof of authorization shall be furnished in the form of the written power of attorney, which shall accompany the tender. All pages of the tender where amendments have been made shall be initialed by the person or persons signing the tender.
- 16.3 The complete tender shall be without alterations, interlineations or erasures, except as necessary to correct errors made by the tenderer, in which case such corrections shall be initialed by the person or persons signing the tender.

### **SUBMISSION OF TENDERS**

#### 17 Sealing and Marking of Tenders

- 17.1 The tenderer shall seal the original and copy of the tender in separated envelopes, duly marking the envelopes as "ORIGINAL" and "COPY". The envelopes shall then be sealed in an outer envelope.
- 17.2 The inner and outer envelopes shall be addressed to the Employer at the address stated in the Appendix to Instructions to Tenderers and bear the name and identification of the Sub-Contract stated in the said Appendix with a warning not to open before the date and time for opening of tenders stated in the said Appendix.
- 17.3 The inner envelopes shall each indicate the name and address of the tenderer to enable the tender to be returned unopened in case it is declared "late", while the outer envelope shall bear no mark indicating the identity of the tenderer.
- 17.4 If the outer envelope is not sealed and marked as instructed above, the Employer will assume no responsibility for the misplacement or premature opening of the tender. A tender opened prematurely for this cause will be rejected by the Employer and returned to the tenderer.

#### 18. Deadline for Submission of Tenders

- 18.1 Tenders must be received by the Employer at the address specified in clause 17.2 and on the date and time specified in the Letter of Invitation, subject to the provisions of clause 7.4, 18.2 and 18.3.

Tenders delivered by hand must be placed in the "tender box" provided in the office of the Employer.

Proof of posting will not be accepted as proof of delivery and any tender delivered after the above stipulated time, from whatever cause arising will not be considered.
- 18.2 The Employer may, at his discretion, extend the deadline for the submission of tenders through the issue of an Addendum in accordance with clause 7, in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline shall thereafter be subject to the new deadline as extended.
- 18.3 Any tender received by the Employer after the prescribed deadline for submission of tender will be returned unopened to the tenderer.

### Modification and Withdrawal of Tenders

- 18.4 The tenderer may modify or withdraw his tender after tender submission, provided that written notice of the modification or withdrawal is received by the Employer prior to prescribed deadline for submission of tenders.
- 18.5 The Tenderer's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions for the submission of tenders, with the inner and outer envelopes additionally marked "MODIFICATION" or "WITHDRAWAL" as appropriate.
- 18.6 No tender may be modified subsequent to the deadline for submission of tenders.
- 18.7 No tender may be withdrawn in the interval between the deadline for submission of tenders and the period of tender validity specified on the tender form. Withdrawal of a tender during this interval will result in the forfeiture of the Tender Surety.
- 18.8 Subsequent to the expiration of the period of tender validity prescribed by the Employer, and the tenderer having not been notified by the Employer of the award of the Sub-Contract or the tenderer does not intend to conform with the request of the Employer to extend the prior of tender validity, the tenderer may withdraw his tender without risk of forfeiture of the Tender Surety.

### TENDER OPENING AND EVALUATION

#### 19 Tender Opening

- 19.1 The Employer will open the tenders in the presence of the tenderers' representatives who choose to attend at the time and location indicated in the Letter of Invitation to Tender. The tenderers' representatives who are present shall sign a register evidencing their attendance.
- 19.2 Tenders for which an acceptable notice of withdrawal has been submitted, pursuant to clause 19, will not be opened. The Employer will examine the tenders to determine whether they are complete, whether the requisite Tender Sureties have been furnished, whether the documents have been properly signed and whether the tenders are generally in order.
- 19.3 At the tender opening, the Employer will announce the Tenderer's names, total tender price, tender price modifications and tender withdrawals, if any, the presence of the requisite Tender Surety and such other details as the Employer, at his discretion, may consider appropriate. No tender shall be rejected at the tender opening except for late tenders.
- 19.4 The Employer shall prepare minutes of the tender opening including the information disclosed to those present.
- 19.5 Tenders not opened and read out at tender opening shall not be considered further for evaluation, irrespective of the circumstances.

#### 20 Process to be Confidential

- 20.1 After the public opening of tenders, information relating to the examination, clarification, evaluation and comparisons of tenders and recommendations concerning the award of Sub-Contract shall not be disclosed to tenderers or other persons not officially concerned with such process until the award of Sub-Contract is announced.
- 21.2 Any effort by a tenderer to influence the Employer in the process of examination, evaluation and comparison of tenders and decisions concerning award of Sub-Contract

may result in the rejection of the Tenderer's tender.

## 21 Clarification Tenders

21.1 To assist in the examination, evaluation and comparison of tenders, the Employer may ask tenderers individually for clarification of their tenders, including breakdown of unit prices. The request for clarification and the response shall be in writing or by cable, facsimile or telex, 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 arithmetical errors discovered by the employer during the evaluation of the tenders in accordance with clause 24.

21.2 No Tenderer shall contact the Employer on any matter relating to his tender from the time of the tender opening to the time the Sub-Contract is awarded. If the tenderer wishes to bring additional information to the notice of the Employer, he shall do so in writing.

## 22 Determination of Responsiveness

22.1 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender is substantially responsive to the requirements of the tender documents.

22.2 For the purpose of this clause, a substantially responsive tender is one, which conforms to all the terms, conditions and specifications of the tender documents without material deviation or reservation and has a valid bank guarantee. A material deviation or reservation is one which affects in any substantial way the scope, quality, completion timing or administration of the Works to be undertaken by the tenderer under the Sub-Contract, or which limits in any substantial way, inconsistent with the tender documents, the Employer's rights or the tenderers obligations under the Sub-Contract and the rectification of which would affect unfairly the competitive position of other tenderers who have presented substantially responsive tenders.

22.3 Each price or unit rate inserted in the Bills of Quantities shall be a realistic estimate of the cost of completing the works described under the particular item including allowance for overheads, profits and the like. Should a tender be seriously unbalanced in relation to the Employer's estimate of the works to be performed under any item or groups of items, the tender shall be deemed not responsive.

22.4 A tender determined to be not substantially responsive will be rejected by the Employer and may not subsequently be made responsive by the tenderer by correction of the non-conforming deviation or reservation.

## 23 Correction of Errors

Tenders determined to be substantially responsive shall be checked by the Employer for any arithmetic errors in the computations and summations. Errors will be corrected by the Employer as follows:

- (a) Where there is a discrepancy between the amount in figures and the amount in words, the amount in words will govern.
- (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 adjustment will be made to the entry containing that error.

- (c) 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 13.

#### 24 Conversion to Single Currency

- 24.1 For compensation of tenders, the tender price shall first be broken down into the respective amounts payable in various currencies by using the selling rate or rates of the Central Bank of Kenya ruling on the date seven (7) days before the final date for the submission of tenders.
- 24.2 The Employer will convert the amounts in various currencies in which the tender is payable (excluding provisional sums but including Day-works where priced competitively) to Kenya Shillings at the selling rates stated in clause 25.1.

#### 25 Evaluation and Comparison of Tenders

- 25.1 The Employer will evaluate only tenders determined to be substantially responsive to the requirements of the tender documents in accordance with clause 23.
- 25.2 In evaluating 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 24.
  - (b) Excluding Provisional Sums and provision, if any, for Contingencies in the Bills of Quantities, but including Day works where priced competitively.
- 25.3 The Employer reserves the right to accept any variation, deviation or alternative offer. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the tender documents or otherwise result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in tender evaluation.
- 25.4 Price adjustment provisions in the Conditions of Contract applied over the period of execution of the Sub-Contract shall not be taken into account in tender evaluation.
- 25.5 If the lowest evaluated tender is seriously unbalanced or front loaded in relation to the Employer's estimate of the items of work to be performed under the Sub-Contract, the Employer may require the tenderer to produce detailed price analyses for any or all items of the Bills of Quantities, to demonstrate the relationship between those prices, proposed construction methods and schedules. After evaluation of the price analyses, the Employer may require that the amount of the Performance Security set forth in clause 29 be increased at the expense of the successful tenderer to a level sufficient to protect the Employer against financial loss in the event of subsequent default of the successful tenderer under the Sub-Contract.
- 25.6 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 Sub-Contract Price excluding Provisional Sums to a non-indigenous sub-contractor.

## **AWARD OF SUB-CONTRACT**

### **26 Award**

- 26.1 Subject to clause 27.2, the Employer will award the Sub-Contract to the tenderer whose tender is determined to be substantially responsive to the tender documents and who has offered the lowest evaluated tender price subject to possessing the capability and resources to effectively carry out the Sub-Contract Works.
- 26.2 The Employer reserves the right to accept or reject any tender, and to annul the tendering process and reject all tenders, at any time prior to award of Sub-Contract, without thereby incurring any liability to the affected tenderers or any obligation to inform the affected tenderers of the grounds for the Employer's action.

### **27 Notification of Award**

- 27.1 Prior to the expiration of the period of tender validity prescribed by the Employer, the Employer will notify the successful tenderer by cable, telefax or telex and confirmed in writing by registered letter that his tender has been accepted. This letter (hereinafter and in all Sub-Contract documents called "Letter of Acceptance") shall name the sum (hereinafter and in all Sub-Contract documents called "the Sub-Contract Price") which the Employer will pay to the Sub-Contractor in consideration of the execution and completion of the Works as prescribed by the Sub-Contract.
- 27.2 Notification of award will constitute the formation of the Sub-Contract.
- 27.3 Upon the furnishing of a Performance Security by the successful tenderer, the unsuccessful tenderers will promptly be notified that their tenders have been unsuccessful.
- 27.4 Within Fourteen [14] days of receipt of the form of Sub-Contract Agreement from the Employer, the successful tenderer shall sign the form and return it to the Employer together with the required Performance Security.

### **28 Performance Guarantee**

- 28.1 Within Fourteen [14] days of receipt of the notification of award from the Employer, the successful tenderer shall furnish the Employer with a Performance Security in an amount stated in the Appendix to Instructions to Tenderers.
- 28.2 The Performance Security to be provided by the successful tenderer shall be an unconditional Bank Guarantee issued at the Tenderer's option by an established and a reputable Bank approved by the Employer and located in the Republic of Kenya and shall be divided into two elements namely, a performance security payable in foreign currencies and a performance security payable in Kenya Shillings. The value of the two securities shall be in the same proportions of foreign and local currencies as requested in the form of foreign currency requirements.
- 28.3 Failure of the successful tenderer to lodge the required Performance Security shall constitute a breach of Sub-Contract and sufficient grounds for the annulment of the award and forfeiture of the Tender Security and any other remedy under the Sub-Contract. The Employer may award the Sub-Contract to the next ranked tenderer.

29 Advance Payment

An advance payment, if approved by the Employer, shall be made under the Sub-Contract, if requested by the Sub-Contractor. The Advance Payment Guarantee shall be denominated in the proportion and currencies named in the form of foreign currency requirements. For each currency, a separate guarantee shall be issued. The guarantee shall be issued by a bank located in the Republic of Kenya, or a foreign bank through a correspondent bank located in the Republic of Kenya, in either case subject to the approval of the Employer.

## **APPENDIX TO INSTRUCTIONS TO TENDERERS**

### **1. CLAUSE 2.1**

Change to read “This invitation Tender is open to all tenderers in the Category Specified”.

### **2. OMIT**

Clauses 2.3, 4.3, 5.1, 11.2, 11.4, 25, 14.1, 13.1, 13.3, 13.4, 13.5, 15.1, 15.2

### **3. ADD TO CLAUSE 13.1 and 13.2**

Tender surety will be required and the Tender Security shall be **2 % of the sub contract sum**.

### **4. CLAUSES 16.1 and 16.2**

Only one set of tender document shall be submitted.

### **5. CLAUSES 6.1 AND 10.2**

Change to 7 days (1 week)

### **6. CLAUSE 9.1**

Appendix to Form of Tender to be omitted.

### **7. CLAUSE 19.2**

Only the single tender document should be marked “WITHDRAWAL” OR “MODIFICATION”

### **8. CLAUSES 20.2, 20.3, AND 24(C)**

Tender surety will be required.

### **9. CLAUSE 30**

The Advance Payment Guarantee shall be in Kenya Shillings Only.

### **10. CLAUSE 16.1, 16.2, 17.1, and 17.2**

Only one set of tender documents, filled in INK, shall be submitted.

### **11. ADD TO CLAUSE 28.1**

Amount of performance security will be TEN per cent (10%) of sub-contract sum and bound to the appointed Main-contractor

### **12. ADD TO CLAUSE 28.2**

Performance security shall not be divided in two elements and shall be payable in Kenya Shillings Only.

## **13. TENDER EVALUATION CRITERIA**

**The following information for procurement of services shall complement or amend the provisions of the instructions to tenderers. Wherever there is a conflict between the provisions of the instructions to tenderers and the provisions of the Appendix, the provisions of the Appendix herein shall prevail over those of the instructions to tenderers.**

After tender opening, the tenders will be evaluated in 4 stages, namely:

1. Determination of Responsiveness (Mandatory Requirements)
2. Detailed Technical Examination
3. Financial Evaluation.
4. Recommendation for Tender Award

#### **STAGE 1- DETERMINATION OF RESPONSIVENESS**

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 **MUST** include the following:

- i) Registration with Ministry of Public Works.
- ii) Certificate of Registration under Company's Act.
- iii) Manufacturer Letter of Authority.
- iv) Provision of Bid Security of Ksh 75,000(Seventy Five Thousand Shillings Only). Submitted in form of a Bank Guarantee or insurance bond from an Insurance company approved by the Public Procurement Oversight Authority (PPOA) and Valid beyond the Tender Validity Period.
- v) Completed Company Profile using the Qualification Information, Tender Questionnaire and Confidential Business provide in the Standard Forms.
- vi) Copy of current Tax Compliant Certificate issued by Kenya Revenue Authority (KRA) and valid beyond the tender closing date.
- vii) Provide Signed copies of audited Company accounts for the last 3 years.

## TECHNICAL EVALUATION CRITERIA

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

**TABLE 1**

Item	Description (This includes Evaluation of Company Profile, Qualification Information, Tender Questionnaire and Confidential Business Questionnaire.	Point Scored	Max. Point	
i	<b>Key Personnel (Attach evidence)</b> in the company relevant to the building construction industry who will actively be involved in the proposed project ( <b>MUST provide detailed CV accompanied by relevant academic and professional certificates from institutions recognized by the commission for higher education in Kenya Telephone contacts MUST be provided</b> )			<b>30</b>
	<b>Director of the firm</b> <ul style="list-style-type: none"> <li>Holder of degree/ diploma/HND in relevant Engineering field--5</li> <li>Holder of certificate in relevant Engineering field-----3</li> <li>Holder of trade test certificate in relevant Engineering field---2</li> <li>No relevant certificate -----0</li> </ul>		<b>5</b>	
	<b>At least 1No. degree/diploma of key personnel in relevant Engineering field</b> <ul style="list-style-type: none"> <li>With over 10 years relevant experience -----10</li> <li>With Between 5-9years relevant experience ----- 5</li> <li>With under 5 years relevant experience ----- 1</li> </ul>		<b>10</b>	
	<b>At least 1No certificate holder of key personnel in relevant Engineering field</b> <ul style="list-style-type: none"> <li>With over 10 years relevant experience ----- 10</li> <li>With Between 5-9years relevant experience ----- 5</li> <li>With under 5 years relevant experience -----1</li> </ul>		<b>10</b>	
	<b>At least 2No artisan (trade test certificate in relevant Engineering field)</b> <ul style="list-style-type: none"> <li>Artisan with over 10 years relevant experience ----- 5</li> <li>Artisan with Between 4-9 years relevant experience ----- 3</li> <li>Artisan with Below 4years relevant experience ----- 1</li> <li>Non skilled worker with over 10 years relevant experience ----1</li> </ul>		<b>5</b>	
ii	<b>Contract completed in the last five (5) years (Max of 5 No. Projects)</b> <ul style="list-style-type: none"> <li>Project of Similar nature Valued at Kshs.20 Million and Above --4</li> <li>Project of Similar nature valued between Kshs.10Million-19Million----- 2</li> <li>Project of Similar nature valued below Kshs. 10Million----- 0</li> <li>No completed project of similar nature ----- 0</li> </ul>		<b>20</b>	<b>40</b>
iii	<b>On-going projects (Max of 5 No. Projects)</b> <ul style="list-style-type: none"> <li>Project of Similar nature Valued at Kshs 20 Million and Above --4</li> <li>Project of Similar nature valued between Kshs. 10Million-19Million----- 2</li> <li>Project of Similar nature valued below Kshs 10Million----- 0</li> <li>No ongoing project of similar nature - -----0</li> </ul>		<b>20</b>	

iv	Financial report		15
	Audited financial report (last three (3) years)		
	Financial Stability (15 Marks)	A margin above :	
	a) Profitability Margin	30% will score <b>7.5 marks;</b> 10-29 % 3 marks and below 10% 1 mark	
	b) Liquidity Ratio	2:1 – <b>7.5 marks;</b> 1:1 –3 marks; less than 1:1 1 mark	
v	Evidence of Financial Resources (Cash in hand or Lines of Credit or Over Draft facility etc) as evidenced by recent bank reference letters. o Has financial resources equal to Kshs. 15Million or above ----- 15 o Has financial resources between Kshs. 10million- 15 Million ----10 o Has financial resources below Kshs. 10million-----10 o Has not given evidence of any financial resources -----0		15
	TOTAL		100

	<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>i) Only Tenderers scoring 75% and above SHALL be considered for Financial Evaluation.</li> <li>ii) Tenderers scoring below 75% SHALL be automatically disqualified and will not proceed to financial evaluation.</li> <li>iii) Responsive and prospective tenderers SHALL be subjected to due diligence after both Technical and Financial evaluations to confirm genuity of data and information submitted before consideration for Award of Contract.</li> <li>iv) The pre – bid minutes shall be an addendum to the tender.</li> </ul>
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**PART B:**  
**CONDITIONS OF CONTRACT**

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## **PART B: CONDITIONS OF CONTRACT**

### **1. Definitions**

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

**“Bills of Quantities” means** the priced and completed Bill of Quantities forming part of the tender [where applicable].

**“Schedule of Rates” means** the priced Schedule of Rates forming part of the tender [where applicable].

**“The Completion Date” means** the date of completion of the Works as certified by the Employer’s Representative.

**“The Contract” means** the agreement entered into by the Employer and the Contractor as recorded in the Agreement Form and signed by the parties.

**“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.

**“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 Employer’s Representative upon correction of defects by the Contractor.

**“The Defects Liability Period” is** the period named in the Appendix to Conditions of Contract and calculated from the Completion Date.

**“Drawings” include** calculations and other information provided or approved by the Employer’s Representative for the execution of the Contract.

**“Employer” includes** Central or Local Government administration, Universities, Public Institutions and Corporations and 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.

**“Site” means** the place or places where the permanent Works are to be carried out including workshops where the same is being prepared.

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

**“Employer’s Representative” is** the person appointed by the Employer and notified to the Contractor for the purpose of supervision of the Works.

**“Specification”** means the Specification of the Works included in the Contract.

**“Start Date”** is the date when the Contractor shall commence execution of the Works.

**“A Sub-contractor”** 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 Employer’s Representative which varies the Works.

**“The Works”** are what the Contract requires the Contractor to construct, install, and turnover to the Employer.

## **2. Contract Documents**

- 2.1 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) Conditions of Contract,
  - (5) Specifications,
  - (6) Drawings,
  - (7) Bills of Quantities or Schedule of Rates [whichever is applicable]

## **3. Employer’s Representative’s Decisions**

- 3.1 Except where otherwise specifically stated, the Employer’s Representative will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

## **4. Works, Language and Law of Contract**

- 4.1 The Contractor shall construct and install the Works in accordance with the Contract documents. The Works may commence on the Start Date and shall be carried out in accordance with the Programme submitted by the Contractor, as updated with the approval of the Employer’s Representative, and complete them by the Intended Completion Date.
- 4.2 The ruling language of the Contract shall be English language and the law governing the Contract shall be the law of the Republic of Kenya.

## **5. Safety, Temporary Works and Discoveries**

- 5.1 The Contractor shall be responsible for design of temporary works and shall obtain approval of third parties to the design of the temporary works where required.
- 5.2 The Contractor shall be responsible for the safety of all activities on the Site.
- 5.3 Any thing of historical or other interest or significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Employer’s Representative of such discoveries and carry out the Employer’s Representative’s instructions for dealing with them.

## **6. Work Programme and Sub-Contracting**

- 6.1 Within seven days after Site possession date, the Contractor shall submit to the Employer's Representative for approval a programme showing the general methods, arrangements, order and timing for all the activities in the Works.
- 6.2 The Contractor may sub-contract the Works (but only to a maximum of 25 percent of the Contract Price) with the approval of the Employer's Representative. However, he shall not assign the Contract without the approval of the Employer in writing. Sub-contracting shall not alter the Contractor's obligations.

## **7. The Site**

- 7.1 The Employer shall give possession of all parts of the Site to the Contractor.
- 7.2 The Contractor shall allow the Employer's Representative and any other person authorized by the Employer's Representative, 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.

## **8. Instructions**

- 8.1 The Contractor shall carry out all instructions of the Employer's Representative which are in accordance with the Contract.

## **9. Extension of Completion Date**

- 9.1 The Employer's Representative shall extend the Completion Date if an occurrence arises which makes it impossible for completion to be achieved by the Intended Completion Date. The Employer's Representative shall decide whether and by how much to extend the Completion Date.
- 9.2 For the purposes of this Clause, the following occurrences shall be valid for consideration;
  - Delay by: -
    - (a) force majeure, or
    - (b) reason of any exceptionally adverse weather conditions, or
    - (c) reason of civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the Works, or
    - (d) reason of the Employer's Representative's instructions issued under these Conditions, or
    - (e) reason of the contractor not having received in due time necessary instructions, drawings, details or levels from the Employer's Representative for which he specifically applied in writing on a date which having regard to the date for Completion stated in the appendix to these Conditions or to any extension of time then fixed under this Clause was neither unreasonably distant from nor unreasonably close to the date on which it was necessary for him to receive the same, or

- (f) delay on the part of artists, tradesmen or others engaged by the Employer in executing work not forming part of this Contract, or
- (g) reason of delay by statutory or other services providers or similar bodies engaged directly by the Employer, or
- (h) reason of opening up for inspection of any Work covered up or of the testing or any of the Work, materials or goods in accordance with these conditions unless the inspection or test showed that the Work, materials or goods were not in accordance with this Contract, or
- (i) reason of delay in appointing a replacement Employer's Representative, or
- (j) reason of delay caused by the late supply of goods or materials or in executing Work for which the Employer or his agents are contractually obliged to supply or to execute as the case may be, or
- (k) delay in receiving possession of or access to the Site.

## **10. Management Meetings**

- 10.1 A Contract management meeting shall be held regularly and attended by the Employer's Representative and the Contractor. Its business shall be to review the plans for the remaining Work. The Employer's Representative shall record the business of management meetings and provide copies of the record to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Employer's Representative either at the management meeting or after the management meeting and stated in writing to all who attend the meeting.
- 10.2 Communication between parties shall be effective only when in writing.

## **11. Defects**

- 11.1 The Employer's Representative 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 Employer's Representative may instruct the Contractor to search for a defect and to uncover and test any Work that the Employer's Representative 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.
- 11.2 The Employer's Representative 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.
- 11.3 Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Employer's Representative's notice. If the Contractor has not corrected a defect within the time specified in the Employer's Representative's notice, the Employer's Representative 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.

## 12. Bills of Quantities/Schedule of Rates

- 12.1 The Bills of Quantities/Schedule of Rates 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 rates in the Bills of Quantities/Schedule of Rates for each item. Items against which no rate is entered by the Tenderer will not be paid for when executed and shall be deemed covered by the rates for other items in the Bills of Quantities/Schedule of Rates.
- 12.2 Where Bills of Quantities do not form part of the Contract, the Contract Price shall be a lump sum (which shall be deemed to have been based on the rates in the Schedule of Rates forming part of the tender) and shall be subject to re-measurement after each stage.

## 13. Variations

- 13.1 The Contractor shall provide the Employer's Representative with a quotation for carrying out the variations when requested to do so. The Employer's Representative shall assess the quotation and shall obtain the necessary authority from the Employer before the variation is ordered.
- 13.2 If the Work in the variation corresponds with an item description in the Bill of Quantities/Schedule of Rates, the rate in the Bill of Quantities/Schedule of Rates shall be used to calculate the value of the variation. If the nature of the Work in the variation does not correspond with items in the Bill of Quantities/Schedule of Rates, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.
- 13.3 If the Contractor's quotation is unreasonable, the Employer's Representative may order the variation and make a change to the Contract Price, which shall be based on the Employer's Representative's own forecast of the effects of the variation on the Contractor's costs.

## 14. Payment Certificates and Final Account

- 14.1 The Contractor shall be paid after each of the following stages of Work listed herebelow (subject to re-measurement by the Employer's Representative of the Work done in each stage before payment is made). In case of lump sum Contracts, the valuation for each stage shall be based on the quantities so obtained in the re-measurement and the rates in the Schedule of Rates.
- (i) Advance payment     **NIL** (*percent of Contract Price,*  
[after Contract execution]     *to be inserted by the Employer).*
  - (ii) First stage (*define stage*)     **AS PER PROGRESS**
  - (iii) Second stage (*define stage*)     **AS PER PROGRESS**
  - (iv) Third stage (*define stage*)     **AS PER PROGRESS**
  - (v) After defects liability period.
- 14.2 Upon deciding that Works included in a particular stage are complete, the Contractor shall submit to the Employer's Representative his application for payment. The Employer's Representative shall check, adjust if necessary and certify the amount to be paid to the Contractor within 21 days of receipt of the Contractor's application. The Employer shall pay the Contractor the amounts so certified within 30 days of the date of issue of each Interim Certificate.

- 14.3 The Contractor shall supply the Employer's Representative with a detailed final account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Employer's Representative shall issue a Defect 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 Employer's Representative shall issue within 21 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 Employer's Representative shall decide on the amount payable to the Contractor and issue a Final Payment Certificate.

The Employer shall pay the Contractor the amount so certified within 60 days of the issue of the Final Payment Certificate.

- 14.4 If the period laid down for payment to the Contractor upon each of the Employer's Representative's Certificate by the Employer has been exceeded, the Contractor shall be entitled to claim simple interest calculated pro-rata on the basis of the number of days delayed at the Central Bank of Kenya's average base lending rate prevailing on the first day the payment becomes overdue. The Contractor will be required to notify the Employer within 15 days of receipt of delayed payments of his intentions to claim interest.

## **15. Insurance**

The Contractor shall be responsible for and shall take out appropriate cover against, among other risks, personal injury; loss of or damage to the Works, materials and plant; and loss of or damage to property.

## **16. Liquidated Damages**

- 16.1 The Contractor shall pay liquidated damages to the Employer at the rate 0.01 per cent of the Contract price per day for each day that the actual Completion Date is later than the Intended Completion Date except in the case of any of the occurrences listed under Clause 9.2. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

## **17. Completion and Taking Over**

- 17.1 Upon deciding that the Work is complete the Contractor shall request the Employer's Representative to issue a Certificate of Completion of the Works, upon deciding that the Work is completed.  
The Employer shall take over the Site and the Works within seven days of the Employer's Representative issuing a Certificate of Completion.

## **18. Termination**

- 18.1 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 continuously without reasonable cause or authority from the Employer's Representative;
  - (b) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
  - (c) a payment certified by the Employer's Representative is not paid by the Employer to the Contractor within 30 days after the expiry of the payment periods stated in Sub-Clauses

14.2 and 14.3 hereabove.

- (d) the Employer's Representative 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.

18.2 If the Contract is terminated, the Contractor shall stop Work immediately, and leave the Site as soon as reasonably possible. The Employer's Representative 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.

## **19. Payment Upon Termination**

19.1 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 Site, plant, equipment and temporary works.

19.2 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 Employer's Representative may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to him, and in default thereof, 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.

19.3 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 Employer's Representative 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.

## **20 Corrupt Gifts and Payments of Commission**

20.1 The Contractor shall not:

- (a) Offer or give or agree to give to any person in the service of the Employer any gifts 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 with the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract with the Employer.
- (b) 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 Laws of Kenya.

## **21. Settlement of Disputes**

21.1 Any dispute arising out of the Contract which cannot be amicably settled between the parties shall be referred by either party 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 of the Chartered Institute of Arbitrators, Kenya branch, on the request of the

applying party.

## **22. APPENDIX TO CONDITIONS OF CONTRACT**

### **THE EMPLOYER IS**

Name: **Central Bank of Kenya**

Address: **P.O. Box 60000-00200, NAIROBI**

Name of Employer's Representative: **Director, Department of Estates, Supplies and Transport**

Address: **P.O. Box 60000-00200, NAIROBI**

The Works consist of **Supply, Delivery and Installation of Fire Detection and Alarm Services**

The Start Date shall be **as stated in the Letter of Acceptance**

The Intended Completion Date for the whole of the Works shall be **as stated in the letter of acceptance.**

The following documents also form part of the Contract: **(Only as listed in Clause 2)**

The Site Possession Date shall be **as stated in the letter of acceptance.**

The Site is located **along Haile Selassie Avenue.**

The Defects Liability period is **6 Months**

Amount of Tender Security: **2% of the sub-contract sum**

The name and Address of the Employer's representative for the purposes of submission of tenders is the **Project Architect, Edon Consultants International Ltd., P. O. Box 19684-00200, Nairobi.**

The tender opening date and time is **as per invitation letter.**

The amount of performance security is **10 percent** bank guarantee of the Sub-Contract Price.

Period of final measurement : **3 months after practical completion**

Liquidated and Ascertained damages: **Will be calculated pro rat to the main contract agreement**

Prime cost sums for which the  
Contractor desires to tender : **NIL**

Period of honouring certificate : **To be advised**

Percentage of certified value retained: **10%**

Limit of retention fund : **5%**

**PART C:**

**AGREEMENT AND CONDITIONS**

**OF SUB-CONTRACT FOR**

**BUILDING WORKS**

## **PART C: AGREEMENT AND CONDITIONS OF SUB-CONTRACT FOR BUILDING WORKS**

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**COUNTERPART**  
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**1.0 AGREEMENT**

**1.1** This agreement is made on .....  
between.....  
of (or whose registered office is situated at).....  
.....  
(hereinafter called “the Contractor”) of the one part.....  
and.....  
of (or whose registered office is situated at).....  
.....  
(hereinafter called “the Sub-Contractor”) of the other part:

**1.2** **SUPPLEMENTAL** to an agreement (hereinafter referred to as “the main contract”)  
made on.....  
between.....  
.....  
(hereinafter called “the Employer”) of the one part and the Contractor of the other part based on  
the Agreement and Conditions of Contract for Building Works, published by the joint Building  
Council, Kenya..... edition.

**1.3** **WHEREAS** the Contractor is desirous of sub-letting to the Sub-Contractor.....  
.....  
.....  
.....  
Hereinafter called “the sub-contract works” at.....  
  
On Land Reference No..... being part of the main contract works.

**1.4** And whereas the Sub-Contractor has supplied the Contractor with a priced copy of the bills of  
quantities (hereinafter referred to as “the sub-contract bills”), where applicable, which together  
with the drawings numbered.....  
.....  
(hereinafter referred to as “the sub-contract drawings”), the specifications and the conditions of  
sub-contract have been signed by or on behalf of the parties thereto.  
  
And whereas the Sub-Contractor has had reasonable opportunity of inspecting the main contract or  
a copy thereof except the detailed prices of the Contractor included in the bills of quantities or  
schedule of rates.

**1.5** And whereas the Architect, with the approval of the Employer, has nominated the Sub-Contractor  
to carry out the works described at clause 1.3 herein:

**NOW IT IS HEREBY AGREED AS FOLLOWS:**

- 1.6 For the consideration herein stated, the Sub-Contractor shall upon and subject to the conditions annexed hereto carry out and complete the sub-contract works shown upon the sub-contract drawings and described by or referred to in the sub-contract bills, specifications and in the said conditions.
- 1.7 The Contractor shall pay the Sub-Contractor the sum of the Kshs (in words).....  
.....  
.....Kshs.....)  
(hereinafter referred to as “the sub-contract price”) or such sum as shall become payable hereinafter at the times and in the manner specified in the said conditions.
- 1.8 The term ‘Architect’, ‘Quantity Surveyor’ and ‘Engineer’, where applicable, shall refer to the persons appointed by the Employer to administer the sub-contract in accordance with the main contract agreement. Where applicable, reference to the Architect shall be deemed to include reference to the Engineer.
- 1.9 In the event of the need to appoint a replacement Architect, Quantity Surveyor, Engineer or other specialist (whether named in this agreement or not) the Employer shall make such appointment as soon as practicable after the need for such appointment arises and shall communicate the appointment to the Sub-Contractor through the Contractor.
- 1.10 Where the sub-contract does not incorporate bills of quantities, the term “sub-contract bills” and “bills of quantities” wherever appearing shall be deemed deleted and replaced with the term “schedule of rates” as applicable.
- 1.11 The terms defined in clause 1.0 of the main contract shall have the same meaning in this sub-contract as that assigned to them therein.
- 1.12 AS WITNESS the hands of the said parties;

Signed by the said

.....(Contractor)

In the presence of

Name.....

Address.....

Signed by the said

.....(Sub-Contractor)

In the presence of

Name.....

Address.....

## **CONDITIONS OF SUB-CONTRACT**

### **2.0 General Obligations of the Contractor**

The Contractor shall:

- 2.1 Timeously obtain from the Architect on behalf of the Sub-Contractor all drawings, necessary details, instructions and other information required by the Sub-Contractor for the proper carrying out of the sub-contract works.
- 2.2 Provide all such facilities and attend upon the Sub-Contractor as required and as provided in the specifications, bills of quantities and these conditions to the extent compatible with the provisions of the main contract.
- 2.3 Observe, perform and comply with all the provisions of the main contract and of this sub-contract on the part of the Contractor to be observed, performed and complied with to ensure satisfactory completion of the sub-contract works.

### **3.0 General Obligation of the Sub-Contractor**

- 3.1 The sub-Contractor shall be deemed to have notice of all the provisions of the main contract except the detailed prices of the Contractor included in the bills of quantities or in the schedule of rates
- 3.2 The Sub-Contractor shall carry out and complete the sub-contract works in accordance with this sub-contract and in all respects to the reasonable satisfaction of the Contractor and of the Architect and in conformity with all reasonable directions and requirements of the Contractor regulating the due carrying out of the contract works.
- 3.3 The Sub-Contractor shall observe, perform and comply with all the provisions of the main contract on the part of the Sub-Contractor to be observed, performed and complied with so far as they relate and apply to the sub-contract works or any portion thereof and are not inconsistent with the express provisions of this sub-contract as if all the same were set out herein.
- 3.4 Without prejudice to the generality of the foregoing requirements, the Sub-Contractor shall especially observe perform and comply with the provisions of clauses 9.0, 18.0, 19.0, 22.0, 30.0, 31.0, 34.0, and 36.0 of the main contract as they apply to the sub-contract works.

### **4.0 Sub-Contract Documents**

- 4.1 The sub-contract documents for use in the carrying out of the sub-contract works shall be:-
  - 4.1.1 The agreement and these conditions.
  - 4.1.2 The sub-contract drawings as listed in the agreement
  - 4.1.3 The sub-contract bill of quantities or schedule of rates as applicable.
  - 4.1.4 The specifications as separately supplied or as contained in the sub-contract bills.
- 4.2 Upon the execution of the sub-contract, the Contractor shall register the agreement with the relevant statutory authority and pay all fees, charges, taxes, duties and all costs arising therefrom.

- 4.3 The manner of supplying contract documents, their custody, display on site and their interpretation in the event of discrepancies shall be as provided in the main contract in respect of the main contract documents with the necessary amendments made to refer to the sub-contract.

## **5.0 General Liability of the Sub-Contractor**

- 5.1 The Sub-Contractor shall be liable for and shall indemnify the Contractor against and from:
- 5.1.1 Any breach, non-observance or non-performance by the Sub-Contractor, his servants or agents of any of the said provisions of the main contract and of this sub-contract.
  - 5.1.2 Any act or omission of the Sub-Contractor, his servants or agents which involve the Contractor in any liability to the Employer under the main contract.
  - 5.1.3 Any claim, damage, loss or expense due to or resulting from any negligence or breach of duty on the part of the Sub-Contractor, his servants or agents.
  - 5.1.4 Any loss or damage resulting from any claim under any statute or common law by an employee of the Sub-Contractor in respect of personal injury or death arising out of or in the course of his employment.
- 5.2 Provided that nothing contained in this sub-contract shall impose any liability on the Sub-Contractor in respect of any negligence or breach of duty on the part of the Employer, the Contractor, other sub-contractors or their respective servants or agents nor create any privity of contract between the Sub-Contractor and the Employer or any other sub-contractor.

## **6.0 Insurance Against Injury to Persons and Property**

- 6.1 Without prejudice to his liability to indemnify the Contractor under clause 5.0 above, the Sub-Contractor shall maintain:
- 6.1.1 Such insurances as are necessary to cover the liability of the Sub-Contractor in respect of injury or damage or death arising out of or in the course of or caused by the carrying out of the sub-contract works.
  - 6.1.2 Such insurances as are necessary to cover the liability of the Sub-Contractor in respect of injury or damage to property including damage to the works arising out of or in the course of or by reason of the carrying out of the sub-contract works except for liability against the contingencies specified at clause 6.3 herein.
  - 6.1.3 The insurances required under sub clause 6.1.1 and 6.1.2 above shall be placed with insurers approved by the Contractor and the Architect.
- 6.2 Notwithstanding the provisions of clause 23.0 of these conditions, the Contractor shall not be obliged to make payments to the Sub-Contractor before the said policies have been provided.
- 6.3 Where clause 13.0 of the main contract applies, the sub-contract works, including materials and goods of the Sub-Contractor delivered to the works, shall as regards loss or damage by the contingencies stated at clause 13.0 therein, namely, fire, earthquake, fire following earthquake, lightning, explosion, storm, tempest, flood, bursting or overflowing of water tanks, apparatus or pipes, aircraft and other aerial devices or articles dropped therefrom, riot and civil commotion, be at the sole risk of the Contractor. The Contractor shall cover his liability for the works by procuring insurances as required in the said clause.

- 6.4 Where clause 14.0 or 15.0 of the main contract applies, the sub-contract works, including materials and goods of the Sub-Contractor delivered to the works shall, as regards loss or damage by the contingencies stated therein be at the sole risk of the Employer. The Employer shall cover his liability for the works by procuring insurances as required in the said clauses.
- 6.5 The Sub-Contractor shall observe and comply with the conditions contained in the policy or policies of insurance of the Contractor or of the Employer, as the case may be, as regards loss or damage which may be caused by the stated contingencies. For this purpose, the Contractor or the Employer, as the case may be, shall avail the said policies to the Sub-Contractor for his perusal.
- 6.6 If any loss or damage affecting the sub-contract works or any part thereof or any unfixed goods or materials is occasioned by any one or more of the said contingencies, then
- 6.6.1 The occurrence of such loss or damage shall be disregarded in computing any amounts payable to the Sub-Contractor under the sub-contract, and
- 6.6.2 The Sub-Contractor shall, with due diligence, restore the work damaged, replace or repair any unfixed materials or goods which have been destroyed or damaged, remove and dispose of any debris and proceed with the carrying out and completion of the sub-contract works.
- 6.6.3 The restoration of work damaged, the replacement and repair of unfixed materials and goods and the removal of debris shall be deemed to be a variation required by the Architect. Such work shall be paid for in accordance with clause 30.0 of the main contract.

## **7.0 Performance Bond**

Before commencing the works, the Sub-Contractor shall provide one surety who must be an established bank to the approval of the Contractor and who will be bound to the Contractor in the sum equivalent to ten per cent (10%) of the sub-contract price for the due performance of the sub-contract until the certified date of practical completion. Notwithstanding the provisions of clause 23.0 of these conditions, no payments shall be made to the Sub-Contractor before the said bond is provided.

## **8.0 Possession of Site and Commencement of Works**

- 8.1 Within the period stated in the appendix to these conditions, the Contractor shall give possession of the site of the works to the Sub-Contractor and such access as may be necessary to enable the Sub-Contractor to commence and proceed with the sub-contract works in accordance with the sub-contract.
- 8.2 On or before the date for commencement of works stated in the appendix to these conditions, the Sub-Contractor shall commence the carrying out of the sub-contract works and shall proceed regularly and diligently with the same in accordance with the sub-contract programme, the main contract programme and or with the progress of the main contract works and complete on or before the date stated in the appendix to these conditions as the date for practical completion or within any extended time granted under clause 25.0 of these conditions.

## **9.0 Architect's Instructions**

- 9.1 The Sub-Contractor shall forthwith comply with all the instructions issued to him by the Architect, either directly or through the Contractor, in regard to any matter in respect of which the Architect is expressly empowered by the main contract conditions to issue instructions.

- 9.2 The manner of complying with or querying the validity of an Architect's instruction shall be as provided in clause 22.0 of the main contract. The Sub-Contractor shall not be obliged to carry out instructions not issued in the manner provided therein.

#### **10.0 Variations**

- 10.1 The term "variation" shall have the meaning assigned to it at clause 30.0 of the main contract.
- 10.2 The valuation of variations shall be made by the Quantity Surveyor in accordance with sub-clause 30.6 of the main contract.
- 10.3 Effect shall be given to the measurement and valuation of variations in interim certificates and by the adjustments of the sub-contract price.

#### **11.0 Liability for Own Equipment**

The construction equipment and other property belonging to or provided by the Sub-Contractor and brought onto the site for carrying out the works shall be at the sole risk of the Sub-Contractor. Any loss or damage to the same or caused by the same shall, except for any loss or damage due to any negligence, omission or default of the Contractor, be at the sole risk of the Sub-Contractor who shall indemnify the Contractor against loss, damage or claims in respect thereof. Insurance against any such loss, damages or claims shall be the sole responsibility of the Sub-Contractor.

#### **12.0 Provision of Facilities by the Contractor**

- 12.1 Where provided in the main contract, the Contractor shall supply at his own cost all necessary water, lighting, electric power, telephones and security required for the sub-contract works. Where not so provided, the Sub-Contractor shall provide the said services at his own cost.
- 12.2 Except as otherwise provided in the main contract, the Sub-Contractor shall construct at his own expense all necessary workshops, stores, offices, workers' accommodation and other temporary buildings required for the carrying out of the works at such places on site as the Contractor shall identify. The Contractor undertakes to give the Sub-Contractor the required space and all reasonable facilities for such construction. Upon practical completion of the works, the Sub-Contractor shall remove the said facilities and reinstate disturbed surfaces to the satisfaction of the Contractor.
- 12.3 The contractor shall provide, without charge, general attendance to the Sub-Contractor to facilitate the carrying out of the works which attendance shall include facilities for access to and movement within the site and sections or parts of the building or buildings where the subcontract works are being carried out, the use of temporary roads, paths and access ways, sanitary and welfare facilities.
- 12.4 The Contractor shall permit the Sub-Contractor to use, without charge, at all reasonable times, any scaffolding and hoisting equipment belonging to or provided by the Contractor while it remains so erected upon the site. The use by the Sub-Contractor of any other equipment, facilities or services provided by the Contractor for the works shall be subject to private arrangements between the parties hereto and shall not be regulated by these conditions.
- 12.5 Provided that such use of the scaffolding and hoisting equipment shall be on the express condition that no warranty or other liability on the part of the Contractor shall be created or implied in regard to fitness, condition or suitability for the intended purpose except that the Sub-Contractor shall be liable for any damage caused thereto or thereby.

- 12.6 Where required, the Contractor shall provide the facilities, equipment and the like and carry out any necessary builders' work within a reasonable time of the request by the Sub-Contractor to enable timely performance of the sub-contract.

### **13.0 Liability for Own Work**

- 13.1 The Contractor and the Sub-Contractor shall be liable for the due carrying out of their respective works in accordance with their respective contracts without causing damage or injury to the works of the other or of other sub-contractors, and in particular:
- 13.2 Should the carrying out of the subcontract works cause injury or damage to the main contract works, or to the work of other sub-contractors, the Sub-Contractor shall rectify the damages so caused at his own cost.
- 13.3 Should the carrying out of the main contract works cause damage or injury to the sub-contract works, the Contractor shall rectify the damage at his own cost.
- 13.4 If in the course of carrying out the sub-contract works, the Sub-Contractor is required to carry out work not included in his sub-contract by reason of any materials or workmanship not being in accordance with the main contract or with other sub-contracts, the Contractor shall reimburse the Sub-Contractor the expenses incurred therein.

### **14.0 Co-Operation in Use of Facilities**

- 14.1 The Contractor and the Sub-Contractor undertake to co-operate with each other and co-ordinate work arrangements and procedures required in carrying out their respective operations and in the use of site facilities and services to prevent interference, disruption or disturbance to the progress of the works or to the activities of other sub-contractors.
- 14.2 The Contractor and the Sub-Contractor undertake not to wrongfully use or interfere with the equipment, scaffolding, appliances, passage ways, temporary works, temporary buildings and other property belonging to or provided by the other party or by other sub-contractors.
- 14.3 Provided that nothing contained in this clause shall prejudice or limit the rights of the Contractor or of the Sub-Contractor in carrying out their respective statutory and or contractual duties under this sub-contract or under the main contract.

### **15.0 Assignment and Subletting**

- 15.1 Neither the Contractor nor the Sub-Contractor shall, without the written consent of the other and the Employer, assign this sub-contract
- 15.2 The Sub-Contractor shall not sub-let the whole of the works without the written consent of the Contractor and the Architect
- 15.3 Provided that any assignment and any sub-contracts as well as this sub-contract shall terminate immediately upon termination (for whatever reason) of the main contract.

### **16.0 Work Prior To Appointment of Contractor.**

- 16.1 Where the Sub-Contractor is appointed before the Contractor is appointed, any work done by the Sub-Contractor prior to the said appointment shall be treated as a separate contract between the Employer and the Sub-Contractor and shall be valued by the Quantity Surveyor and paid for directly by the Employer without the involvement of the Contractor.

- 16.2 Where the Sub-Contractor is appointed before the Contractor is appointed, the Sub-Contractor shall be permitted, when the identity of the Contractor is known and within 30 days thereof, to raise objections (on reasonable grounds) against entering into a sub-contract with the Contractor. If the Architect finds merit in the grounds raised, he shall direct that the Sub-Contractor be paid for work done in accordance with sub-clause 16.1 herein. Thereupon, the Sub-Contractor shall be relieved of further liability as regards the sub-contract works.
- 16.3 Where work which is outside the sub-contract is ordered directly by the Employer or the Architect, that work shall be treated as a separate contract between the Sub-Contractor and the Employer and shall be valued and paid for directly to the Sub-Contractor in accordance with sub-clause 16.1 herein without the involvement of the Contractor. The cost of equipment, facilities and the like provided by the Contractor to the Sub-Contractor and any builders' work carried out by the Contractor with regard to such work shall be paid directly by the Sub-Contractor to the Contractor.

#### **17.0 Sub-Contractor Design**

Where the sub-contract includes a design component by the Sub-Contractor, the design shall be to the approval of the Architect and the Employer. Notwithstanding any approvals, the Sub-Contractor shall be liable directly to the Employer for any consequences of failure or to be fit or suitable for the purposes for which the sub-contract works or the relevant part thereof were intended.

#### **18.0 Specification of Goods, Materials And Workmanship**

- 18.1 All materials, goods and workmanship shall, so far as procurable, be of the respective kinds and standards described in the sub-contract bills, specifications and drawings.
- 18.2 The provisions of clause 23.0 of the main contract regulating the procurement, specification and quality assurance of materials, processes and workmanship and the requirements of clause 24.0 therein dealing with the provision of samples and the carrying out of specified tests shall apply to the sub-contract in the same manner as they apply to the main contract.

#### **19.0 Compliance with Statutory and Other Regulations.**

The Sub-Contractor shall comply with all statutory and other regulations of competent authorities regulating the carrying out of the works in accordance with the provisions of clause 17.0 of the main contract, as applicable.

#### **20.0 Royalties and Patent Rights**

- 20.1 All royalties or other sums payable in respect of the supply and use of any patented articles, processes or inventions in carrying out the works as described by or referred to in the sub-contract bills, specifications or drawings shall be deemed to have been included in the sub-contract price.
- 20.2 The provisions of clause 25.0 of the main contract dealing with the same shall apply to the sub-contract in the same manner as they apply to the main contract.

#### **21.0 Antiquities and Other Objects of Value**

All fossils, antiquities and other objects of interest or value which may be found on the site or in excavating the same during the progress of the sub-contract shall be dealt with in accordance with the provisions of clause 44.0 of the main contract.

## **22.0 Suspension of Works**

- 22.1 An instruction by the Architect to postpone or suspend the works under clause 28.0 of the main contract shall have the same effect on the sub-contract works as it has on the main contract works.
- 22.2 If the suspension arises due to default by the Contractor and the sub-contract works are adversely affected by the suspension, the Sub-Contractor shall be entitled to reimbursement by the Contractor of all expenses arising therefrom.
- 22.3 If the suspension arises due to default by the Sub-Contractor, the Sub-Contractor shall be liable to the Contractor for all expenses arising therefrom
- 22.4 A notice by the Contractor to suspend the works under clause 29.0 of the main contract shall have the same effect on the sub-contract works as it has on the main contract works.
- 22.5 Should the sub-contract works be adversely affected by suspension under clause 29.0 of the main contract, the Sub-Contractor shall be entitled to the remedies provided for at clause 25.0 and 26.0 of this sub-contract.

## **23.0 Payments**

- 23.1 Procedures for originating and processing applications for payments and payment certificates as regards the sub-contract works shall be the same as those prescribed for the Contractor in the main contract at clause 34.0. All references therein to the Contractor shall be deemed to include references to the Sub-Contractor.
- 23.2 Before submitting an application for payment to the Quantity Surveyor in accordance with clause 34.1 of the main contract, the Contractor shall give the Sub-Contractor a notice of not less than 7 days to submit the details of the amounts which the Sub-Contractor considers himself entitled to for the relevant period. Such details, when received, shall be annexed to the said Contractor's application.
- 23.3 Where it is necessary to measure the sub-contract works for purposes of interim valuations or for the preparation of the final account, the Quantity Surveyor shall give the Sub-Contractor a reasonable opportunity to be present at the times of the measurements and to take notes and measurements as he may require.
- 23.4 Neither the Quantity Surveyor nor the Architect shall be bound to issue a valuation or a payment certificate in respect of the sub-contract works, as the case may be, whose value is less than the amount stated in the appendix to these conditions as the minimum amount of a payment certificate before the issue of the certificate of practical completion of the main contract or of the sub-contract, as applicable.
- 23.5 Provided that where the minimum amount of a certificate inserted in the appendix to these conditions has been achieved but the corresponding minimum inserted in the appendix to the main contract in respect of the Contractor's work has not been achieved, or the Contractor has not applied for payment within the stated period, the Architect may with the consent of the Contractor, issue a payment certificate directly to the Sub-Contractor for payment by the Employer.
- 23.6 Within 7 days of receipt by the Contractor of payment by the Employer, the Contractor shall notify and pay to the Sub-Contractor the total value certified therein in respect of the sub-contract works less the portion of the retention money attributable to the sub-contract works and less amounts previously paid to the Sub-Contractor.

- 23.7 Where certificates are not paid by the Employer within the prescribed period, the Sub-Contractor shall be entitled to be paid by the Contractor, upon receipt of payment from the Employer, the interest certified for the delay in accordance with sub-clause 34.6 of the main contract in respect of the portion of the sub-contract works included in the certificate.
- 23.8 Where the Contractor has received payment from the Employer but has not released the appropriate amount to the Sub-Contractor within the stated period, the Contractor shall pay to the Sub-Contractor in addition to the amount not paid, simple interest on the unpaid amount for the period it remains unpaid at the commercial bank lending rate in force during the period of default.
- 23.9 If, upon application by the Sub-Contractor and Architect agree, or if the Contractor fails to make payment to the Sub-Contractor in accordance with sub-clause 23.6 herein and continues such default for 14 days thereafter, the Architect may issue a payment certificate directly to the Sub-Contractor for payment by the Employer, where applicable, and deduct the amount from subsequent payments to the Contractor.
- 23.10 Upon the issue of the certificate of practical completion and the release of one half of the total amount of the retention money to the Contractor, the Contractor shall pay the portion attributable to the sub-contract to the Sub-Contractor within 7 days of receipt of the payment.
- 23.11 Upon the issue of the certificate of rectification of defects and receipt of the balance of the retention money by the Contractor, the Contractor shall pay the balance of the portion of the retention money attributable to the sub-contract to the Sub-Contractor within 7 days of receipt of the payment.
- 23.12 The sub-contract final account shall be agreed between the Sub-Contractor, the Contractor, the Quantity Surveyor and the architect and shall be annexed to the Contractor's final accounts which shall be agreed as provided for in the main contract. For purposes of finalizing the accounts, the Quantity Surveyor may request the Sub-Contract to submit further documents as he may deem necessary.
- 23.13 The final certificate issued under sub-clause 34.21 of the main contract shall be final and binding on the Sub-Contract in the same manner that it is binding on the Contractor.
- 23.14 If the Architect desires to secure final payment to the Sub-Contractor before final payment is due to the Contractor, the provisions of sub-clause 31.10 of the main contract shall apply.
- 23.15 The Contractor shall be entitled to deduct from or set off against any money due from him to the Sub-Contractor in interim certificates any sum or sums which the Sub-Contractor is liable to pay to the Contractor arising under or in connection with the sub-contract.

#### **24.0 Practical Completion and Defects Liability**

- 24.1 The Sub-Contractor shall proceed with the works regularly and diligently and complete the same within the period stated in the appendix to this sub-contractor or within such extended period as may be granted under clause 25.0 of this sub-contract.
- 24.2 Where the sub-contract works are to be completed in sections or where the sub-contract works are to be completed in advance of the main contract works, the provisions of clause 42.0 of the main contract shall apply, as appropriate, to the sub-contract in the same manner as they apply to the main contract.

24.3 The procedures for certifying practical completion and for dealing with defects in the sub-contract works as well as the main contract works are as prescribed at clause 41.0 of the main contract. Upon the issue of the certificate of practical completion of the whole of the works or of the sub-contract works, as applicable, the Sub-Contractor shall be entitled to release of one half of the retention money attributable to the sub-contract works within 7 days after the Contractor has received payment.

24.4 The balance of the retention money shall be released to the Sub-Contractor after the defects appearing in the works have been rectified in accordance with sub-clause 41.6 and 41.7 of the main contract and after the Contractor has received the said payment as provided for in sub-clause 34.16.3 of the main contract.

## **25.0 Extension of Time**

25.1 Upon it becoming reasonably apparent that the progress of the sub-contract works is or will be delayed, the Sub-Contractor shall forthwith give written notice of the cause of the delay to the Contractor and to the Architect with supporting details showing the extent of delay caused or likely to be caused. Thereafter, the Architect shall evaluate the information supplied by the Sub-Contractor and if in his opinion the completion of the works is likely to be or has been delayed beyond the date for practical completion stated in the appendix to these conditions or beyond any extended time previously fixed under this clause, by any of the reasons entitling the Contractor to extension of time under sub-clause 36.1 of the main contract, then the Architect shall, so soon as he is able to estimate the length of the delay beyond the date or time aforesaid, recommend to the Contractor a fair and reasonable extension of time to be granted for the completion of the sub-contract works.

25.2 Thereupon, the Contractor shall grant in writing to the Sub-Contractor the recommended time. Provided that the Contractor shall not grant any extension of time to the Sub-Contractor without the written recommendation of the Architect. And provided that the Sub-Contractor shall constantly use his best endeavours to prevent delay and shall do all that may be reasonably required to proceed with the works.

25.3 The procedures for dealing with requests for extension of time and the observance of time limits prescribed at clause 36.0 of the main contract shall apply to the sub-contract in the same manner as they apply to the main contract.

## **26.0 Loss and Expense Caused by Disturbance of Regular Progress**

26.1 If upon written application being made to the Sub-Contractor to the Contractor and to the Architect, the Architect is of the opinion that the Sub-Contractor has been involved in direct loss and or expense, for which he would not be reimbursed by a payment made under any other provision in this sub-contract, by reasons of the regular progress of the sub-contract works or any part thereof having been materially affected by any of the reasons which would entitle the Contractor to reimbursement under clause 37.0 of the main contract, the Quantity Surveyor shall assess the amount of such loss and or expense.

26.2 Any amount so assessed shall be added to the sub-contract price and if an interim certificate is issued after the date of assessment, any such amount shall be added to the amount which would otherwise be stated as due in such certificate as regards the Sub-Contractor's entitlement.

26.3 The procedure for dealing with loss and or expense claims prescribed at clause 37.0 of the main contract shall apply, to the sub-contract in the same manner as they apply to the main contract, as appropriate.

## **27.0 Damages For Delay In Completion**

- 27.1 If the Sub-Contractor fails to complete the sub-contract works by the date for practical completion stated in the appendix to these conditions or within any extended time fixed under clause 25.0 herein, and the Architect certifies in writing that in his opinion the same ought reasonably so to have been completed, then the Sub-Contractor shall pay or allow to the Contractor a sum calculated at the rate stated in the said appendix as liquidated damages for the period during which the works shall so remain or have remained incomplete.
- 27.2 The Contractor may deduct such sum from any money due or to become due to the Sub-Contractor under the sub-contract or recover the same from the Sub-Contractor as a debt. Provided that the Contractor shall not be entitled to recover any liquidated damages from the Sub-Contractor without first obtaining the Architect's certificate of delay prescribed herein.

## **28.0 Fluctuations**

- 28.1 Unless otherwise stated in the sub-contract bills or specifications, the sub-contract price shall be deemed to have been calculated to include all duties and taxes imposed by statutory and other competent authorities in the country where the works are being carried out, and
- 28.2 The sub-contract price shall be deemed to be based on currency exchange rates current at the date of tender as regards materials or goods to be specifically imported for permanent incorporation in the works.
- 28.3 Should duties and taxes vary during the period of the contract, compensation thereof shall be calculated in accordance with sub-clause 35.1 and 35.2 of the main contract.
- 28.4 Compensation for change in prices of goods and materials incorporated in the works and in the rates of wages provided for at sub-clause 35.3, 35.4 and 35.5 of the main contract shall not apply to the sub-contract unless specifically provided for in the bills of quantities or specifications.

## **29.0 Termination of Main Contract**

- 29.1 If, for any reason, the Contractor's employment is terminated either under clause 38.0, 39.0 or 40.0 of the main contract, this sub-contract shall thereupon also terminate.
- 29.2 Upon termination, the Sub-Contractor shall cease all work and vacate the site. He shall not remove any equipment or any materials brought onto the site for the carrying out of the works without the written approval of the Contractor and the Architect.
- 29.3 Where the termination of the main contract occurs without the default of the Sub-Contractor, the Sub-Contractor shall be paid by the Contractor for work done in the like manner as the Contractor is paid at clause 39.5 of the main contract.
- 29.4 Where the termination of the main contract arises from a default by the Sub-Contractor, the adjustment of the sub-contract accounts shall be performed in the like manner as is provided at sub-clause 38.8 of the main contract regarding the main contract accounts.

### **30.0 Termination of Sub-Contract.**

- 30.1 Without prejudice to any other rights and remedies which the Contractor may possess, if the Sub-Contractor shall make default in any one or more of the respects which would entitle the Employer to terminate the main contract under clause 38.0 therein, the Contractor shall give the Sub-Contractor a notice, with a copy to the Architect and to the Employer by registered post or recorded delivery specifying the default. Should the Sub-Contractor continue the default for 14 days after receipt of such notice or at any time thereafter repeat such default, and should the Architect certify that the Sub-Contractor is in default, the Contractor may terminate the sub-contract forthwith after the expiry of the notice provided that the notice is not given unreasonably or vexatiously. The termination letter shall be copied to the Architect and to the Employer.
- 30.2 Where the sub-contract is terminated due to the default of the Sub-Contract as in sub-clause 30.1 herein, the adjustment of sub-contract accounts shall be performed in the like manner as is provided at sub-clause 38.8 of the main contract regarding the main contract accounts.
- 30.3 Without prejudice to any other rights and remedies which the Sub-Contractor may possess, if, the Contractor shall make default in one or more of the respects which, if committed by the Employer, would entitle the Contractor to terminate the main contract under clause 39.0 therein, the Sub-Contractor shall give the Contractor a notice, with a copy to the Architect and to the Employer, by registered post or recorded delivery specifying the default. Should the Contractor continue the default for 14 days after receipt of such notice or at any time thereafter repeat such default, and should the Architect certify that the Contractor is in default, the Sub-Contractor may terminate the sub-contract forthwith after expiry of the notice, provided that the notice is not given unreasonably or vexatiously. The termination letter shall be copied to the Architect and to the Employer.
- 30.4 If the sub-contract is terminated due to the default of the Contractor as in sub-clause 30.3 herein, the Contractor shall pay the Sub-Contractor for work done in the like manner as the Contractor would be paid at sub-clause 39.5 of the main contract where the termination is done by the Contractor.
- 30.5 Where the sub-contract is terminated due to the default of the Contractor, all expenses arising from the termination shall be done wholly by the Contractor and the termination shall not create any liability on the Employer.
- 30.6 Where the sub-contract is terminated due to the default of the Sub-Contractor, the Sub-Contractor shall be liable to the Contractor for all expenses arising therefrom.

### **31.0 Settlement of Disputes**

- 31.1 In case any dispute or difference shall arise between the Contractor and the Sub-Contractor, either during the progress or after the completion or abandonment of the sub-contract works, such disputes 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 30 days of the notice.
- 31.2 The dispute shall be referred to the arbitration and final decision of a person to be agreed by the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed by the Chairman or Vice Chairman of The Architectural Association of Kenya or the Chairman or Vice Chairman of The Chartered Institute of Arbitrators, Kenya Branch, at the request of the applying party.
- 31.3 The arbitration may be on the construction of this sub-contract or on any matter or thing of whatsoever nature arising thereunder or in connection therewith including the rights and liabilities of the parties during the currency of the sub-contract and subsequent to the termination of the sub-contract.

- 31.4 Where the Sub-Contractor is aggrieved by the manner in which the Architect has exercised or failed to exercise his powers stipulated in the main contract, or in the sub-contract or by any action or inaction of the Employer, and in particular, if he is aggrieved by:
- 31.4.1 The failure or refusal of the Architect to recommend to the Contractor an extension of sub-contract time, or
  - 31.4.2 The extent of the recommended time, or
  - 31.4.3 The amount certified to the Sub-Contractor either in an interim or in a final certificate, or
  - 31.4.4 The issue of an instruction which the Sub-Contractor contends is not authorized by the main contract or the sub-contract, or
  - 31.4.5 Any other matter left to the discretion of the Architect in the main contract or in the sub-contract, then;-
- 31.5 Subject to the Sub-Contractor giving the Contractor such indemnity and security as the Contractor may reasonably require, the Contractor shall allow the Sub-Contractor to use the Contractor's name and, if necessary, shall join the Sub-Contractor in arbitration proceedings against the Employer to decide the matters in dispute or in difference.
- 31.6 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 90 days of the occurrence or discovery of the matter or issue giving rise to the dispute or difference.
- 31.7 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.
- 31.8 In any event, no arbitration shall commence earlier than 90 days after the service of the notice of a dispute or difference, except as provided for at sub-clause 31.9 herein.
- 31.9 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 sub-contract without having to comply with sub-clause 31.8 herein.
- 31.9.1 Whether or not the issue of an instruction by the Architect is authorized by the main contract or these conditions, and
  - 31.9.2 Whether or not a payment certificate has been improperly withheld or is not in accordance with the main contract or these conditions or though issued, it has not been honoured.
- 31.10 All other matters in dispute shall only be referred to arbitration after the practical completion or alleged practical completion of the works or abandonment of the works or termination or alleged termination of the sub-contract, unless the Architect the Contractor and the Sub-Contractor agree otherwise in writing.
- 31.11 The Arbitrator shall, without prejudice to the generality of his powers, have power 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 payment certificate.

- 31.12 The Arbitrator shall, without prejudice to the generality of his powers, have power 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.
- 31.13 Provided that any decision of the Architect which is final and binding on the Contractor under the main contract shall be final and binding between the Contractor and the Sub-Contractor.
- 31.14 The award of such Arbitrator shall be final and binding upon the parties.

**APPENDIX****Clause**

Name of Sub-Contractor's insurers

6.0.....

Name of Sub-Contractor's surety

7.0.....

Amount of surety

7.0.....

Period of possession of site

8.1.....

Sub-Contract period

8.2.....

Date of commencement of works

8.2.....

Date for practical completion

8.2.....

Interval for application of payment  
certificates

23.1.....

Minimum amount of payment certificate

23.4.....

Percentage of certified value retained

23.6.....

Limit of retention fund, if any

23.6.....

Name of the Sub-Contractor's bank for  
purpose of interest calculation.

23.7, 23.8.....

Period of final measurement and valuation

23.12.....

Damages for delay in completion

27.1 – At the rate of Ksh.....

.....

Signed by the said:

.....  
**CONTRACTOR**.....  
**SUB-CONTRACTOR**

**PART D:**

**PRELIMINARIES**  
**AND**  
**GENERAL CONDITIONS**

## **PART D - PRELIMINARIES AND GENERAL CONDITIONS**

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## **PART D**

### **CONTRACT PRELIMINARIES AND GENERAL CONDITIONS**

#### **1.01 Examination of Tender Documents**

The tenderer is required to check the number of pages of this document and should he find any missing or indistinct, he must inform the Engineer at once and have the same rectified.

All tenderers shall be deemed to have carefully examined the following:

- a) Work detailed in the Specification and in the Contract Drawings.
- b) The Republic of Kenya Document "General Conditions of Contract for Electrical and Mechanical Works".
- c) Other documents to which reference is made.

He shall also be deemed to have included for any expenditure which may be incurred in conforming with the above items (a), (b), (c) and observe this expense as being attached to the contract placed for the whole or any part of the work.

The tenderer shall ensure that all ambiguities, doubts or obscure points of detail, are clarified with the Engineer before submission of his tender, as no claims for alleged deficiencies in the information given shall be considered after this date.

#### **1.02 Discrepancies**

The Sub-contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works, which has been shown on the drawings or in the specification alone.

Should the drawing and the specification appear to conflict, the Sub-contractor shall query the points at the time of tendering and satisfy himself that he has included for the work intended, as no claim for extra payment on this account shall be considered after the contract is awarded.

#### **1.03 Conditions of Sub-contract Agreement**

The Sub-contractor shall be required to enter into a Sub-contract with the Main Contractor.

The Conditions of the Contract between the Main Contractor and the Sub-contractor as hereinafter defined shall be the latest edition of the Agreement and Schedule of Conditions of Kenya Association of Building and Civil Engineering Contractors as particularly modified and amended hereinafter.

For the purpose of this contract the Agreement and Schedule of Conditions and any such modifications and amendments shall read and construed together. In any event of discrepancy the modifications and amendments shall prevail.

#### **1.04 Payment**

Payment will be made through certificates to the Main Contractor, unless he specifically agrees to forego this right, in which case direct payment can be made to the Sub-contractor. All payments will be less retention as specified in the Main Contract. No payment will become due until materials are delivered to site.

#### 1.05 **Definition of Terms**

Throughout these Sub-contract documents units of measurements, terms and expressions are abbreviated and wherever used hereinafter and in all other documents they shall be interpreted as follows:

- i) **Employer:** The term “**Employer**” shall mean **Central Bank of Kenya**
- ii) **Architect:** The term “**Architect**” shall mean **Edon Consultants International Ltd.**
- iii) **Electrical Engineer:** The term “**Electrical Engineer**” shall mean **Feradon Associates Ltd.**
- iv) **Mechanical Engineer:** The term “**Mechanical Engineer**” shall mean **Feradon Associates Ltd.**
- v) **Quantity Surveyor:** The term “**Quantity Surveyor**” shall mean **Quanti-Bill Consultants**
- vi) **Main Contractor:** The term “**Main Contractor**” shall mean the firm or company appointed to carry out the Building Works and shall include his or their heir, executors, assigns, administrators, successors, and duly appointed representatives.
- vii) **Sub-contractor:** The term “**Sub-contractor**” shall mean the persons or person, firm or Company whose tender for this work has been accepted, and who has entered into a contract agreement with the Contractor for the execution of the Sub-contract Works, and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.
- viii) **Sub-contract Works:** The term “**Sub-contract Works**” shall mean all or any portion of the work, materials and articles, whether the same are being manufactured or prepared, which are to be used in the execution of this Sub-contract and whether the same may be on site or not.
- ix) **Contract Drawings:** The term “**Contract Drawings**” shall mean those drawings required or referred to herein and forming part of the Bills of Quantities.
- x) **Working Drawings:** The term “**Working Drawings**” shall mean those drawings required to be prepared by the Sub-contractor as hereinafter described.
- xi) **Record Drawings:** The term “**Record Drawings**” shall mean those drawings required to be prepared by the Sub-contractor showing “as installed” and other records for the Sub-contract Works.
- xii) **Abbreviations:**
  - CM** shall mean **Cubic Metre**
  - SM** shall mean **Square Metre**
  - LM** shall mean **Linear Metre**
  - LS** shall mean **Lump Sum**
  - mm** shall mean **Millimetres**
  - No.** Shall mean **Number**
  - Kg.** shall mean **Kilogram**
  - BS** shall mean. **Current standard British Standard Specification published by the British Standard Institution, 2 Park Street, London W1, England**

**“Ditto”** shall mean the whole of the preceding description in which it occurs. Where it occurs in description of succeeding item it shall mean the same as in the first description of the series in which it occurs except as qualified in the description concerned. Where it occurs in brackets it shall mean the whole of the preceding description which is contained within the appropriate brackets.

1.06 **Site Location**

The site of the Sub-contract Works is situated at **Central Bank Building along Haile Selassie Avenue, Nairobi.**

The tenderer is recommended to visit the site and shall be deemed to have satisfied himself with regard to access, possible conditions, the risk of injury or damage to property on/or adjacent to the site, and the conditions under which the Sub-contract Works shall have to be carried out and no claims for extras will be considered on account of lack of knowledge in this respect.

1.07 **Duration of Contract**

The Sub-contractor shall be required to phase his work in accordance with the Main Contractor's programme (or its revision). The programme is to be agreed with the Main Contractor.

1.08 **Scope of Sub-contract Works**

The Sub-contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing, also the supply of ladders, scaffolding the other mechanical devices to plant, installation, painting, testing, setting to work, the removal from site from time to time of all superfluous material and rubbish caused by the works.

The Sub-contractor shall supply all accessories, whether of items or equipment supplied by the Main Contractor but to be fixed and commissioned under this Sub-contract

1.09 **Extent of the Sub-contractor's Duties**

At the commencement of the works, the Sub-contractor shall investigate and report to the Engineer if all materials and equipment to be used in the work and not specified as supplied by the others are available locally. If these materials and equipment are not available locally, the Sub-contractor shall at this stage place orders for the materials in question and copy the orders to the Engineer. Failure to do so shall in no way relieve the Sub-contractor from supplying the specified materials and equipment in time.

Materials supplied by others for installation and/or connection by the Subcontractor shall be carefully examined in the presence of the supplier before installation and connection. Any defects noted shall immediately be reported to the Engineer.

The Sub-contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on site.

The Sub-contractor shall mark accurately on one set of drawings and indicate all alterations and/or modifications carried out to the designed system during the construction period. This information must be made available on site for inspection by the Engineer.

1.10 **Execution of the Works**

The works shall be carried out strictly in accordance with:

- a) All relevant Kenya Bureau of Standards Specifications.

- b) All relevant British Standard Specifications and Codes of Practice (Hereinafter referred to as B.S. and C.P. respectively).
- c) This Specification.
- d) The Contract Drawings.
- e) The Bye-laws of the Local Authority.
- f) The Architect's and/or Engineer's Instructions.

The Contract Drawings and Specifications to be read and construed together.

1.11 **Validity of Tender**

The tender shall remain valid for acceptance within 120 days from the final date of submission of the tender, and this has to be confirmed by signing the Tender Bond. The tenderer shall be exempted from this Bond if the tender was previously withdrawn in writing to the Employer before the official opening.

1.12 **Firm – Price Sub-contract**

Unless specifically stated in the documents or the invitation to tender, this is a firm-price Contract and the Sub-contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract. No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations. The Sub-contractor will be deemed to have allowed in his tender for any increase in the cost of materials which may arise as a result of currency fluctuation during the contract period.

1.13 **Variation**

No alteration to the Sub-contract Works shall be carried out until receipt by the Sub-contractor of written instructions from the Employer's Representative

Any variation from the contract price in respect of any extra work, alteration or omission requested or sanctioned by the Architect or Engineer shall be agreed and confirmed in writing at the same time such variations are decided and shall not affect the validity of the Contract. Schedule of Unit Rates shall be used to assess the value of such variations. No allowance shall be made for loss of profit on omitted works.

Where the Architect requires additional work to be performed, the Sub-contractor, if he considers it necessary, will give notice within seven (7) days to the Main Contractor of the length of time he (the Sub-contractor) requires over and above that allotted for completion of the Sub-contract.

If the Sub-contractor fails to give such notice he will be deemed responsible for the claims arising from the delay occasioned by reason of such extension of time.

1.14 **Prime Cost and Provisional Sums**

A specialist Sub-contractor may be nominated by the Architect to supply and/or install any equipment covered by the Prime Cost or Provisional Sums contained within the Sub-contract documents.

The work covered by Prime Cost and Provisional Sums may or may not be carried out at the discretion of the Architect.

The whole or any part of these sums utilized by the Sub-contractor shall be deducted from the value of the Sub-contract price when calculating the final account.

1.15 **Bond**

The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Main Contractor for an amount equal to 10% of the Sub-contract amount as Clause 31 of the Main Contract.

1.16 **Government Legislation and Regulations**

The Sub-contractor's attention is called to the provision of the Factory Act 1972 and subsequent amendments and revisions, and allowance must be made in his tender for compliance therewith, in so far as they are applicable.

The Sub-contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.

The Sub-contractor shall allow for providing holidays and transport for work people, and for complying with Legislation, Regulations and Union Agreements.

1.17 **Import Duty and Value Added Tax**

The Sub-contractor will be required to pay full Import Duty and Value Added Tax on all items of equipment, fittings and plant, whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes.

1.18 **Insurance Company Fees**

Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection.

No allowance shall be made to the Sub-contractor with respect to fees should these have been omitted by the tenderer due to his negligence in this respect.

1.19 **Provision of Services by the Main Contractor**

In accordance with Clause 1.08 of this Specification the Main Contractor shall make the following facilities available to the Sub-contractor:

- a) Attendance on the Sub-contractor and the carrying out of all work affecting the structure of the building which may be necessary, including all chasing, cutting away and making good brickwork, etc., except that all plugging for fixing, fittings, machinery, fan ducting, etc., and all drilling and tapping of steel work shall be the responsibility of the Sub-contractor. Any purpose made fixing brackets shall not constitute Builder's Work and shall be provided and installed by the Sub-contractor unless stated hereinafter otherwise.
- b) The provision of temporary water, lighting and power: All these services utilized shall be paid for by the Main Contractor. The Sub-contractor shall, however, allow for additional connections/extensions required for his purposes.
- c) Fixing of anchorage and pipe supports in the shuttering, except that all anchorage shall be supplied by the Sub-contractor who shall also supply the Main Contractor with fully dimensioned drawings detailing the exact locations.
- d)
  - i) Provision of scaffolding, cranes, etc. but only in so far as it is required for the Main Contract Works. It shall be the Sub-contractor's responsibility to liaise with the Main Contractor to ensure that there is maximum co-operation with other Sub-contractors in the use of scaffolding, cranes, etc.
  - ii) Any specialist scaffolding, cranes, etc. by the Sub-contractor for his own exclusive use shall be paid for by the Sub-contractor.

1.20 **Suppliers**

The Sub-contractor shall submit names of any supplier for the materials to be incorporated, to the Engineer for approval. The information regarding the names of the suppliers may be submitted at different times, as may be convenient, but no sources of supply will be changed without prior approval.

Each supplier must be willing to admit the Engineer or his representative to his premises during working hours for the purpose of examining or obtaining samples of the materials in question.

1.21 **Samples and Materials Generally**

The Sub-contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.

1.22 **Administrative Procedure and Contractual Responsibility**

Wherever within the Specification it is mentioned or implied that the Sub-contractor shall deal direct with the Employer or Engineer, it shall mean “through the Contractor” who is responsible to the Employer for the whole of the works including the Sub-contract Works.

1.23 **Bills of Quantities**

The Bills of Quantities have been prepared in accordance with the standard method of measurement of Building Works for East Africa, first Edition, Metric, 1970. All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Sub-contractor but the value thereof shall be deducted from the Sub-contract Sum and the value of the work ordered by the Engineer and executed thereunder shall be measured and valued by the Engineer in accordance with the conditions of the Sub-contract.

All work liable to adjustment under this Sub-contract shall be left uncovered for a reasonable time to allow measurements needed for such adjustment to be taken by the Quantity Surveyor or Engineer. Immediately the work is ready for measuring the Sub-contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Sub-contractor shall make default in these respects he shall, if the Architect so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense.

1.24 **Sub-contractor's Office in Kenya**

The Sub-contractor shall maintain (after first establishing if necessary) in Kenya an office staffed with competent Engineer Manager and such supporting technical and clerical staff as necessary to control and coordinate the execution and completion of the Sub-contract Works.

The Engineer Manager and his staff shall be empowered by the Sub-contractor to represent him at meetings and in discussions with the Main Contractor, the Engineer and other parties who may be concerned and any liaison with the Sub-contractor's Head Office on matters relating to the design, execution and completion of the Sub-contract Works shall be effected through his office in Kenya.

It shall be the Sub-contractor's responsibility to procure work permits, entry permits, licenses, registration, etc., in respect of all expatriate staff.

The Sub-contractor shall prepare a substantial proportion of his Working Drawings at his office in Kenya. No reasons for delays in the preparation or submission for approval or otherwise of such drawings or proposals will be accepted on the grounds that the Sub-contractor's Head Office is remote from his office in Nairobi or the site of the Sub-contract Works or otherwise.

1.25 **Builder's Work**

All chasing, cutting away and making good will be done by the Main Contractor but the Sub-contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.

The Sub-contractor shall drill and plug holes in floors, walls, ceiling and roof for securing services and equipment requiring screw or bolt fixings.

Any purpose made fixing brackets shall not constitute builder's work and shall be provided and installed by the Sub-contractor unless stated hereinafter to the contrary.

1.26 **Structural Provision for the Works**

Preliminary major structural provision has been made for the Sub-contract Works based on outline information ascertained during the preparation of the Specification.

The preliminary major structural provision made will be deemed as adequate unless the Sub-contractor stated otherwise when submitting his tender.

Any major structural provision or alteration to major structural provisions required by the Sub-contractor shall be shown on Working Drawings to be submitted to the Engineer within 30 days of being appointed.

No requests for alterations to preliminary major structural provisions will be approved except where they are considered unavoidable by the Engineer. In no case will they be approved if building work is so far advanced as to cause additional costs or delays in the work of the Main Contractor.

1.27 **Position of Services, Plant, Equipment, Fittings and Apparatus**

The Contract Drawings give a general indication of the intended layout. The position of the equipment and apparatus, and also the exact routes of the ducts, main and distribution pipework shall be confirmed before installation is commenced. The exact siting of appliances, pipework, etc., may vary from that indicated.

The routes of services and positions of apparatus shall be determined by the approved dimensions detailed in the Working Drawings or on site by the Engineer in consultation with the Sub-contractor or the Main Contractor.

Services throughout the ducts shall be arranged to allow maximum access along the ducts and the services shall be readily accessible for maintenance. Any work, which has to be re-done due to negligence in this respect, shall be the Sub-contractor's responsibility.

The Sub-contractor shall be deemed to have allowed in his Sub-contract Sum for locating terminal points of services (e.g. lighting, switches, socket outlets, lighting points, control switches, thermostats and other initiating devices, taps, stop cocks) in positions plus or minus 1.2m horizontally and vertically from the locations shown on Contract Drawings. Within these limits no variations in the Sub-contract Sum will be made unless the work has already been executed in accordance with previously approved Working Drawings and with the approval of the Engineer.

1.28 **Checking of Work**

The Sub-contractor shall satisfy himself to the correctness of the connections he makes to all items of equipment supplied under the Sub-contract agreement and equipment supplied under other contracts before it is put into operation. Details of operation, working pressures, temperatures, voltages, phases, power rating, etc., shall be confirmed to others and confirmation received before the system is first operated.

1.29     **Setting to Work and Regulating System**

The Sub-contractor shall carry out such tests of the Sub-contract Works as required by British Standard Specifications, or equal and approved codes as specified hereinafter and as customary.

No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Sub-contractor's own preliminary and proving tests excepted).

It will be deemed that the Sub-contractor has included in the Sub-contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part of the Sub-contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place.

The Sub-contractor shall commission the Sub-contract Works and provide attendance during the commissioning of all services, plant and apparatus connected under the Sub-contract Agreement or other Sub-contract Agreements, related to the project.

Each system shall be properly balanced, graded and regulated to ensure that correct distribution is achieved and where existing installations are affected, the Sub-contractor shall also regulate these systems to ensure that their performance is maintained.

The proving of any system of plant or equipment as to compliance with the Specification shall not be approved by the Engineer, except at his discretion, until tests have been carried out under operating conditions pertaining to the most onerous conditions specified except where the time taken to obtain such conditions is unreasonable or exceeds 12 months after practical completion of the Sub-contract Works.

1.30     **Identification of Plant Components**

The Sub-contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment including valves, with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled. The labels shall be mounted on equipment and in the most convenient positions. Care shall be taken to ensure the labels can be read without difficulty. This requirement shall apply also to major components of items of control equipment.

Details of the lettering of the labels and the method of mounting or supporting shall be forwarded to the Engineer for approval prior to manufacture.

1.31     **Contract Drawings**

The Contract Drawings when read in conjunction with the text of the Specification have been completed in such detail as was considered necessary to enable competitive tenders to be obtained for the execution and completion of the Sub-contract works.

The Contract Drawings are not intended to be Working Drawings and shall not be used unless exceptionally they are released for this purpose.

1.32     **Working Drawings**

The Sub-contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Sub-contract Works can be executed on site but also that the Engineer can approve the Sub-contractor's proposals, detailed designs and intentions in the execution of the Sub-contract Works.

If the Sub-contractor requires any further instructions, details, Contract Drawings or information drawings to enable him to prepare his Working Drawings or proposals, the Sub-contractor shall accept at his own cost, the risk that any work, commenced or which he intends to commence at site may be rejected.

The Engineer, in giving his approval to the Working Drawings, will presume that any necessary action has been, or shall be taken by the Sub-contractor to ensure that the installations shown on the Working Drawings have been cleared with the Main Contractor and any other Sub-contractors whose installations and works might be affected.

If the Sub-contractor submits his Working Drawings to the Engineer without first liaising and obtaining clearance for his installations from the Main Contractor and other Sub-contractors whose installations and works might be affected, then he shall be liable to pay for any alterations or modification to his own, the Main Contractor's or other Sub-contractor's installations and works, which are incurred, notwithstanding any technical or other approval received from the Engineer.

Working Drawings to be prepared by the Sub-contractor shall include but not be restricted to the following:

- a) Any drawings required by the Main Contractor, or Engineer to enable structural provisions to be made including Builder's Working Drawings or Schedules and those for the detailing of holes, fixings, foundations, cables and paperwork ducting below or above ground or in or outside or below buildings.
- b) General Arrangement Drawings of all plant, control boards, fittings and apparatus or any part thereof and of installation layout arrangement of such plant and apparatus.
- c) Schematic Layout Drawings of services and of control equipment.
- d) Layout Drawings of all embedded and non-embedded paperwork, ducts and electrical conduits.
- e) Complete circuit drawings of the equipment, together with associated circuit description.
- f) Such other drawings as are called for in the text of the Specification or Schedules or as the Engineer may reasonably require.

Three copies of all Working Drawings shall be submitted to the Engineer for approval. One copy of the Working Drawings submitted to the Engineer for approval shall be returned to the Sub-contractor indicating approval or amendment therein.

Six copies of the approved Working Drawings shall be given to the Main Contractor by the Sub-contractor for information and distribution to other Sub-contractors carrying out work associated with or in close proximity to or which might be affected by the Sub-contract Works.

Approved Working Drawings shall not be departed from except as may be approved or directed by the Engineer.

Approval by the Engineer of Working Drawings shall neither relieve the Sub-contractor of any of his obligations under the Sub-contract nor relieve him from correcting any errors found subsequently in the Approved Working Drawings or other Working Drawings and in the Sub-contract Works on site or elsewhere associated therewith.

The Sub-contractor shall ensure that the Working Drawings are submitted to the Architect for approval at a time not unreasonably close to the date when such approval is required. Late submission of his Working Drawings will not relieve the Sub-contractor of his obligation to complete the Sub-contract Works within the agreed Contract Period and in a manner that would receive the approval of the Architect.

1.33 **Record Drawings (As Installed) and Instructions**

During the execution of the Sub-contract Works the Sub-contractor shall, in a manner approved by the Engineer record on Working or other Drawings at site all information necessary for preparing Record Drawings of the installed Sub-contract Works. Marked-up Working or other Drawings and other documents shall be made available to the Engineer as he may require for inspection and checking.

Record Drawings, may, subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Sub-contractor as a correct record of the installation of the Sub-contract Works.

They shall include but not restricted to the following drawings or information:

- a) Working Drawings amended as necessary but titled "Record Drawings" and certified as a true record of the "As Installed" Sub-contract Works. Subject to the approval of the Engineer such Working Drawings as may be inappropriate may be omitted.
- b) Fully dimensioned drawings of all plant and apparatus
- c) General arrangement drawings of equipment, other areas containing plant forming part of the Sub-contract Works and the like, indicating the accurate size and location of the plant and apparatus suitability cross-referenced to the drawings mentioned in (b) above and hereinafter.
- d) Routes, types, sizes and arrangement of all pipework and ductwork including dates of installation of underground pipework.
- e) Relay adjustment charts and manuals.
- f) Routes, types, sizes and arrangement of all electric cables, conduits, ducts and wiring including the dates of installation of buried works.
- g) System schematic and trunking diagrams showing all salient information relating to control and instrumentation.
- h) Grading Charts.
- i) Valve schedules and locations suitability cross-referenced.
- j) Wiring and piping diagrams of plant and apparatus.
- k) Schematic diagrams of individual plant, apparatus and switch and control boards. These diagrams to include those peculiar to individual plant or apparatus and also those applicable to system operation as a whole.
- l) Operating Instruction

Schematic and wiring diagrams shall not be manufacturer's multipurpose general issue drawings. They shall be prepared specially for the Sub-contract Works and shall contain no spurious or irrelevant information.

Marked-up drawings of the installation of the Sub-contract Works shall be kept to date and completed by the date of practical or section completion. Two copies of the Record Drawings of Sub-contract Works and two sets of the relay adjustment and grading charts and schematic diagrams on stiff backing shall be provided not later than one month later.

The Sub-contractor shall supply for fixing in sub-stations, switch-rooms, boiler houses, plant rooms, pump houses, the office of the Maintenance Engineer and other places, suitable valve and instructions charts, schematic diagrams of instrumentation and of the electrical reticulation as may be requested by the Engineer providing that the charts, diagrams, etc., relate to installations forming part of the Sub-contract Works. All such charts and diagrams shall be of suitable plastic material on a stiff backing and must be approved by the Engineer before final printing.

Notwithstanding the Sub-contractor's obligations referred to above, if the Sub-contractor fails to produce to the Engineer's approval, either:-

- a) The Marked-up Drawings during the execution of the Sub-contract Works or
- b) The Record Drawings, etc., within one month of the Section or Practical Completion

The Engineer shall have these drawings produced by others. The cost of obtaining the necessary information and preparing such drawings, etc., will be recovered from the Sub-contractor.

#### 1.34 **Maintenance Manual**

Upon Practical Completion of the Sub-contract Works, the Sub-contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Sub-contract Works.

The manual shall be loose-leaf type, International A4 size with stiff covers and cloth bound. It may be in several volumes and shall be sub-divided into sections, each section covering one Engineering service system. It shall have a ready means of reference and a detailed index.

There shall be a separate volume dealing with Air Conditioning and Mechanical Ventilation installation where such installations are included in the Sub-contract Works.

The manual shall contain full operating and maintenance instructions for each item of equipment, plant and apparatus set out in a form dealing systematically with each system. It shall include as may be applicable to the Sub-contract Works the following and any other items listed in the text of the Specifications:

- a) System Description.
- b) Plant
- c) Valve Operation
- d) Switch Operation
- e) Procedure of Fault Finding
- f) Emergency Procedures
- g) Lubrication Requirements
- h) Maintenance and Servicing Periods and Procedures
- i) Colour Coding Legend for all Services
- j) Schematic and Wiring Diagrams of Plant and Apparatus
- k) Record Drawings, true to scale, folded to International A4 size
- l) Lists of Primary and Secondary Spares.

The manual is to be specially prepared for the Sub-contract Works and manufacturer's standard descriptive literature and plant operating instruction cards will not be accepted for inclusion unless exceptionally approved by the Engineer. The Sub-contractor shall, however, affix such cards, if suitable, adjacent to plant and apparatus. One spare set of all such cards shall be furnished to the Engineer.

1.35 **Hand-over**

The Sub-contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Sub-contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer, provided always that the handing over of the Sub-contract Works shall be coincident with the handing over of the Main Contract Works.

The procedure to be followed will be as follows:

- a) On the completion of the Sub-contract Works to the satisfaction of the Engineer and the Employer, the Sub-contractor shall request the Engineer, at site to arrange for handing over.
- b) The Engineer shall arrange a Hand-over Meeting or a series thereof, at site.
- c) The Sub-contractor shall arrange with the Engineer and Employer for a complete demonstration of each and every service to be carried out and for instruction to be given to the relevant operation staff and other representatives of the Employer.
- d) In the presence of the Employer and the Engineer, Hand-over will take place, subject to Agreement of the Hand-over Certificates and associated check lists.

1.36 **Painting**

It will be deemed that the Sub-contractor allowed for all protective and finish painting in the Sub-contract Sum for the Sub-contract Works, including colour coding of service pipework to the approval of the Engineer. Any special requirements are described in the text of the Specifications.

1.37 **Spares**

The Sub-contractor shall supply and deliver such spares suitably protected and boxed to the Engineer's approval as are called for in the Specifications or in the Price Schedules.

1.38 **Testing and Inspection – Manufactured Plant**

The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials.

The right of the Engineer relating to the inspection, examination and testing of plant during manufacture shall be applicable to Insurance companies and inspection authorities so nominated by the Engineer.

The Sub-contractor shall give two week's notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections.

Six copies of all test certificates and performance curves shall be submitted as soon as possible after the completion of such tests, to the Engineer for his approval.

Plant or equipment which is shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the Sub-contractor's own risk and should the test certificate not be approved new tests may be ordered by the Engineer at the Sub-contractor's expense.

The foregoing provisions relate to tests at manufacturer's works and as appropriate to those carried out at site.

1.39 **Testing and Inspection -Installation**

Allow for testing each section of the Sub-contract Works installation as described hereinafter to the satisfaction of the Engineer.

1.40 **Labour Camps**

The Sub-contractor shall provide the necessary temporary workshop and mess-room in position to be approved by the Architect.

The work people employed by the Sub-contractor shall occupy or be about only that part of the site necessary for the performance of the work and the Sub-contractor shall instruct his employees accordingly.

If practicable, W.C. accommodation shall be allocated for the sole use of the Sub-contractor's workmen and the Sub-contractor will be required to keep the same clean and disinfected, to make good any damage thereto and leave in good condition.

1.41 **Storage of Materials**

Space for storage will be provided by the Main Contractor but the Sub-contractor will be responsible for the provision of any lock-up sheds or stores required.

Nominated Sub-contractors are to be made liable for the cost of any storage accommodation provided specially for their use. No materials shall be stored or stacked on suspended slabs without the prior approval of the Architect.

1.42 **Initial Maintenance**

The Sub-contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer.

The Sub-contractor shall also provide a 24 -hour break-down service to attend to faults on or malfunctioning of the installation between the routine visits of inspection.

The Sub-contractor shall allow in the Sub-contract Sum of the initial maintenance, inspection and break-down service and shall provide for all tools, instruments, plant and scaffolding and the transportation thereof, as required for the correct and full execution of these obligations and the provision, use or installation of all materials as oils, greases, sandpaper, etc., or parts which are periodically renewed such as brake linings etc., or parts which are faulty for any reason whatsoever excepting always Acts of God such as storm, tempest, flood, earthquake and civil revolt, acts of war and vandalism.

1.43 **Maintenance and Servicing After Completion of the Initial Maintenance**

The Sub-contractor shall, if required, enter into a maintenance and service agreement with the employer for the installation for a period of up to five years from the day following the last day of the liability for Defects Period which offers the same facilities as specified in Clause 1.41 (Initial Maintenance).

The terms of any such agreement shall not be less beneficial to the employer than the terms of Agreements for either similar installation.

The Sub-contractor shall submit with his tender for the works, a firm quotation for the maintenance and service of the installation as specified herein, which shall be based upon the present day costs and may be varied only to take into account increases in material and labour unit rate costs between the time of tendering and the signing of the formal maintenance and service agreement and which shall remain valid and open for acceptance by the Employer to and including the last day of the fifth complete calendar month following the end of the liability for Defects Period.

1.44 **Trade Names**

Where trade names of manufacturer's catalogue numbers are mentioned in the Specification or the Bills of Quantities, the reference is intended as a guide to the type of article or quality of material required. Alternate brands of equal and approved quality will be acceptable.

1.45 **Water and Electricity for the Works**

These will be made available by the Main Contractor. The Sub-contractor shall be liable for the cost of any water or electric current used and for any installation provided especially for their own use by the Main Contractor.

1.46 **Protection**

The Sub-contractor shall adequately cover up and protect his own work to prevent injury and also to cover up and protect from damage all parts of the building or premises where work is performed by him under the Contract.

1.47 **Defects After Completion**

The defects liability period will be six months from the date of completion of the Main Contract as certified by the Engineer.

1.48 **Damages for Delay**

Liquidated and ascertained damages as stated in the Main Contract Agreement will be claimed against the Main Contract for any unauthorized delay in completion. The Sub-contractor shall be held liable for the whole or a portion of these damages should he cause delay in completion.

1.49 **Clear Away on Completion**

The Sub-contractor shall, upon completion of the works, at his own expense, remove and clear away all plant, equipment, rubbish and unused materials, and shall leave the whole of the works in a clean and tidy state, to the satisfaction of the Engineer. On completion, the whole of the works shall be delivered up clean, complete and perfect in every respect to the satisfaction of the Engineer.

1.50 **Final Account**

On completion of the works the Sub-contractor shall agree with the Engineer the value of any variations outstanding and as soon as possible thereafter submit to the Engineer his final statement of account showing the total sum claimed sub-divided as follows:

Statement A - detailing the tender amounts less the Prime Cost and Provisional Sums, included therein.

Statement B - detailing all the variation orders issued on the contract.

Statement C - Summarizing statement A and B giving the net grand total due to the Sub-contractor for the execution of the Sub-contract.

1.51 **Fair Wages**

The Sub-contractor shall in respect of all persons employed anywhere by him in the execution of the Sub-contract, in every factory, workshop or place occupied or used by him for execution of the Sub-contract, observe and fulfill the following conditions:

- a) The Sub-contractor shall pay rates of the wages and observe hours and conditions of labour not less favourable than those established for the trade or industry in the district where work is carried out.
- b) In the absence of any rates of wages, hours or conditions of labour so established the Sub-contractor shall pay rates and observe hours and conditions of labour are not less favourable than the general level of wages, hours and conditions observed by other employers whose general circumstances in the trade or industry in which the Sub-contractor is engaged are similar.

1.52 **Supervision**

During the progress of the works, the Sub-contractor shall provide and keep constantly available for consultation on site experienced English - speaking Supervisor and shall provide reasonable office facilities, attendance, etc., for the Supervisor.

In addition, during the whole of the time the works are under construction, the Sub-contractor shall maintain on site one experienced foreman or charge-hand and an adequate number of fitters, etc., for the work covered by the Specification. The number of this staff shall not be reduced without the prior written approval of the Architect or Engineer.

Any instructions given to the Supervisor on site shall be deemed to have been given to the Sub-contractor.

Depending on the scope of coordination works required onsite, the Engineer shall recommend the appointment of a Resident Electrical Engineer, who will be required to be based on site. The Resident Engineer shall be appointed and paid by the Engineer. Provision to be made for the appointment of the Resident Engineer.

One copy of this Specification and one copy of each of the Contract Drawings (latest issue) must be retained on site at all times, and available for reference by the Engineer or Sub-contractor.

1.53 **Test Certificates**

The Sub-contractor shall provide the Engineer with three copies of all test reports or certificates that are or may be required by this Specification.

1.54 **Labour**

The Sub-contractor shall provide skilled and unskilled labour as may be necessary for completion of the contract.

1.55 **Discount to the Main Contractor**

No discount to the Main Contractor will be included in the tender for this installation.

1.56 **Guarantee**

The whole of the work will be guaranteed for a period of twelve (12) months from the date of the Architect's certification of completion and under such guarantee the Sub-contractor shall remedy at his expense all defects in materials and apparatus due to faulty design, construction or workmanship which may develop in that period.

**PART E:**  
**TECHNICAL SPECIFICATIONS**  
**FOR FIRE DETECTION AND ALARM**  
**SYSTEM**

**PART A:**

**TECHNICAL SPECIFICATION FOR FIRE ALARM SYSTEM**

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## SECTION A:

### 1.0 SYSTEM DESIGN

#### 1.1 The Code of Practice for design, installation and servicing

This specification is for the design and installation of fire detector alarm systems for general applications and is based on BS5839 Part 1: 1988.

#### 1.2 Property Protection

A satisfactory fire alarm system for the protection of property will automatically detect a fire at an early stage, indicate its location and raise an effective alarm in time to summon the fire fighting forces (both resident staff and fire brigade).

The general attendance time of the fire brigade should be less than 10 minutes. Therefore an automatic direct link to the fire brigade is essential.

#### 1.3 Life Protection

A satisfactory fire alarm system for the protection of life can be relied upon to sound a fire alarm while sufficient time remains for the occupants to escape.

### 2.0 ZONE DETAILS

#### 2.1 Zoning of the system

To ensure a fast and unambiguous identification of the fire source, the protected area should be divided into zones.

When determining the area to be covered by a zone, consideration should be given to accessibility, size, the fire routine determined for the premises, and particularly in occupied premises, that each zone is accessible from the main circulation routes leading from the where the control panel is sited.

In general the following guide lines for the size of a zone should be observed:

1. **If the total area** (i.e. the total of the floor areas of each storey) of the building **is not greater than 300m<sup>2</sup>** then the building need only be one zone, no matter how many floors it has.
2. **The total floor area** for a zone should not exceed **2000m<sup>2</sup>**.
3. **The search distance should not exceed 30m.** This means the distance that has to be travelled by a searcher inside a zone to determine visually the position of a fire should not exceed 30m. The use of remote indicator lamps outside doors may reduce the number of zones required.
4. **Where stairwells or similar structures extend beyond one floor but are in one fire compartment,** the stairwell should be a separate zone.
5. **If the zone covers more than one fire compartment, then the zone boundaries should follow compartment boundaries.**
6. If the building is split into several occupancies, **no zone should be split between two occupancies.**

Notes:

1. A fire compartment is an area bordered by a fire resisting structure usually at least 30 minutes resistance.
2. Zone limits can be relaxed only in certain manually operated systems.

3. It may be an advantage to have manual call points on separate zones to detectors. This will avoid misleading information regarding the position of fire, particularly on staircase landings.
4. Removal of a detector from a zone circuit must not isolate a break glass call point on the same circuit.

### **3.0 ADDRESSABLE SYSTEMS**

In an addressable system several zones may be connected to the control panel by a single loop circuit.

Maximum area covered by one loop is 10,000 sq m.

In addressable systems the detector or manual call point in alarm can be shown by the use of an alpha numeric display. This on its own will not be acceptable and the zone in which the detector/manual call point has operated must be displayed.

The zonal indication may be mounted adjacent to the control panel, and the plan of the building/floor should also be displayed. This means, the use of mimic diagram would seem to be the most suitable means for zone identification.

However in small systems where the identification of location of an incident by an individual device is not confusing, then zonal information may not be required.

### **4.0 BREAK GLASS AND MANUAL CALL POINTS**

The break glass call point is a device to enable personnel to raise the alarm in the event of a fire, by simply breaking a frangible element and thus activating the alarm system.

The following guidelines should be observed for the correct siting and positioning of break glass call points:

1. Break glass call points should be **located on exit routes** and in particular on the floor landings of staircases and at all exits to the open air.
2. Break glass call points should be located so that no person need travel more than 30m from any position within the premises in order to give an alarm.
3. Generally, call points should be fixed at a height of 1.4m above the floor, at easily accessible, well-illuminated and conspicuous positions free from obstruction.
4. The method of operation of all call points in an installation should be identical unless there is a special reason for differentiation.
5. Manual and automatic devices may be installed on the same system although it may be advisable to install the manual call points on separate zones for speed of identification.

### **5.0 ALARM SOUNDERS**

An important component of any fire alarm system is the alarm sounder, normally a bell or electronic sounder, which must be audible throughout the building in order to alert and/or evacuate the occupants of the building.

The following guidelines should be observed for the correct use of alarm sounders:

1. A minimum sound level of either 65dBA or 5Dba above any background noise likely to persist for a period longer than 30 seconds, whichever is greater should be produced by the sounders at any occupiable point in the building.

2. If the alarm system is to be used in premises such as hotels, boarding houses etc., where it is required to wake sleeping persons then the sound level should be 75dBA minimum at the bedhead.
3. All audible warning devices used in the same system should have a similar sound and be distinct from any other audible alarms used for other purposes. Except in noisy areas where high performance sounders may be required.
4. A large number of quieter sounders rather than a few very loud sounders may be preferable to prevent noise levels in some areas from becoming too loud.
5. It is unlikely that sounder noise levels in a room will be satisfactory if more than one dividing wall or door separates it from the nearest sounders.
6. The level of sound provided should not be so high as to cause permanent damage to hearing.
7. The number of fire alarm sounders used inside a building should be sufficient to produce the sound level recommended, but should in any case be at least two.

#### **5.1 Other requirements include:**

1. The sounders should be arranged on at least two separate circuits, so that the failure of one circuit does not cause all sounders in the building to fail.
2. Frequency range between 500 – 1000Hz.
3. Most single doors will cause a 20db drop in sound level. Fire doors – 30db.
4. Where mains sounders are being used to supplement 24V DC sounders, the 240V AC supply should be monitored.
5. To achieve 75db at the bedhead, a sounder should be installed in the bedroom.

### **6.0 SELECTION OF EQUIPMENT DETECTION TYPES**

When choosing the type of detector to be used in a particular area it is important to remember that the detector has to discriminate between fire and the normal environment existing within the building, i.e. smoking in hotel bedrooms, fumes from forklift trucks in warehouses, steam from bathrooms, kitchens etc.

#### **6.1 Heat detectors**

Heat detectors may be the Point type (which responds to temperatures surrounding one particular spot), or the Line type (which responds to temperature change along its line).

All Point type heat detectors should include a fixed temperature element operating at a pre-determined temperature. Some may also include a rate-of-rise element designed to operate in response to a rapid rise in temperature. Heat detectors are in general less sensitive than other types of detector and should therefore not be used where a small fire will cause unacceptable losses.

#### **6.2 Smoke detectors**

There are two principal methods of smoke detection: the ionisation chamber, and the optical scatter chamber. The detection method chosen will usually depend on the type of risk to be protected against. In the ionisation chamber, an electric current flows between two electrodes and is reduced by smoke. Ionisation detectors are particularly sensitive to small particle smoke such as that produced in rapidly burning fires but are relatively insensitive to large particle smoke such as that produced by overheated PVC or smouldering polyurethane foam. In the optical chamber, light is scattered, or in some cases absorbed by smoke. Optical detectors are more sensitive to large particles found in optically dense smoke, but are less sensitive to the small particle smoke.

Today, optical smoke detectors are more widely used than ionisation types due to the growing use of flame retardant materials in building construction, decoration and furnishings. Careful consideration must be given to any specific risks that might occur.

### **6.3 Siting and spacing of detectors**

In a building the greatest concentration of smoke and heat will generally collect at the highest parts of the enclosed areas and it is here therefore, that detectors should normally be sited. Heat detectors should be sited so that the heat sensitive element is not less than 25mm, nor more than 150mm, below the ceiling or roof. If a protected space has a pitched or north light roof, then smoke detectors should be installed in each apex. The following parameters should be followed when spacing detectors:

The maximum horizontal distance between any point in the area and the nearest detector:

#### **1. Under flat horizontal ceilings and corridors more than 5m wide**

- i) For Point type Heat Detectors 5.3m (maximum area 50m<sup>2</sup>)
- ii) For Point type Smoke Detectors 7.5m (maximum area 100m<sup>2</sup>)

Heat Detectors

Max area of coverage per detector = 50m<sup>2</sup>

Max distance covered = 5.3m (for square layout this is 3.5m to wall 7m between detectors)

Smoke Detectors

Max area of coverage = 100m<sup>2</sup>

Max distance covered – 7.5m (for a square layout this is 5m to wall, 10m spacing)

#### **2. In a corridor less than 5m wide (where adjoining rooms are protected by automatic detection)**

ADD to the maximum horizontal distance 50% of the difference between 5m and the actual width of the corridor.

e.g.: In a 2m wide corridor, the difference between: 2m and 5m = 3m  
50% of 3m = 1.5m  
Maximum distance of travel for a Point type Smoke Detector = 7.5m + 1.5m = 9m

#### **3. In the apex of a pitched or north light roof**

A row of detectors should be sited in the apex. One row of detectors should be sited at the highest point, a minimum distance of 0.5m from the vertical wall.

ADD to the maximum horizontal distance 1% for each degree of slope up to a maximum increase of 25%

e.g.: A Point type detector at the apex of a 20 degree slope.  
20% of 7.5m = 1.5m  
Maximum distance of travel 9m  
The maximum area of coverage may also be increased proportionally.

#### **4. Obstructions**

- (i) Where the passage of smoke or hot gas from a position to a detector is likely to be disturbed by a ceiling obstruction (such as a beam) having a depth greater than 150mm, but less than 10% of the height of the ceiling, then the horizontal distance should be decreased by twice the depth of the obstruction.
- e.g.: For a point type smoke detector obstructed by a beam of 200mm depth Maximum distance of travel

$$= 0.2 \times 2 = 0.4\text{m}$$

$$7.5\text{m} - 0.4\text{m} = 7.1\text{m}$$

- (ii) Where a ceiling obstruction, such as a beam, is greater than 10% of the height of the ceiling then the areas either side of the obstruction should be considered as separate rooms.
- (iii) Ceiling beams less than 150mm can be ignored.

## 5. Detectors (Other than beam type)

Detectors should not be mounted less than 500mm from any walls or partitions. Where rooms are divided into sections by walls, partitions or storage racks reaching within 300mm of the ceiling, the dividers should be considered as if they reach the ceiling.

## 7.0 LIMITS OF CEILING HEIGHT

Detectors should not normally be mounted on ceilings higher than the general limits on Table 1 below. If small sections of a ceiling (not exceeding in total 10% of the ceiling area) exceed in height the general limits of the table, those higher sections may be protected by Point type heat detectors provided that the ceiling height in the higher sections does not exceed 10.5m, or by Point type smoke detectors provided that the ceiling height in the higher sections does not exceed 12.5m.

Limits of ceiling height		
Detector type	Ceiling heights in metres	
	General Limits	Rapid attendance
Heat detectors BS5445: Part 5		
Grade 1	9.0	13.5
Grade 2	7.5	12.0
Grade 3	6.0	10.5
Point smoke detectors BS 5445: Part 7	10.5	15.0
High temperature heat detectors BS 5445: Part 8	6.0	10.5
Optical beam smoke detectors BS 5839: Part 5	25.0	40.0
<b>Siting limits for smoke beam detectors</b>	<b>Minimum (m)</b>	<b>Maximum (m)</b>
Height of optical beam above floor	2.7	25.0*
Optical beam length	10.0	100.0
Distance of optical beam from a flat ceiling or apex	0.3	0.6
Horizontal distance between optical beams measured at right angles to a beam	--	14.0
Horizontal distance between optical beam and an adjacent wall or partition.	See Note	7.0

\* The height may be increased to 40m provided that the rapid attendance criteria are met.

**Note:** Generally the beam should not pass closer to the wall or partition than 500mm, and not closer to an obstruction than 500mm. However, up to 3m of the beam may be closer than this.

## **8.0 CEILING HEIGHT LIMITS WITH RAPID ATTENDANCE**

Although an increased ceiling height means that the fire will be larger when it is detected, the size of the fire when fire fighting starts will also depend on the delay between detection and the start of fire fighting. If this delay is small, then the increase in fire size at detection due to a higher ceiling can be acceptable.

If the detection system is automatically connected to the fire brigade either directly or via a central (fire alarm) station and the usual attendance time of the fire brigade is not more than 5 minutes, then the rapid attendance limits of ceiling height given in the table in the top right may be applied. If small sections of a ceiling (not exceeding in total 10% of the ceiling area) exceed in height the limits of the table in the top right, those higher sections may be protected by Point type heat detectors if their height does not exceed 18 metres.

## **9.0 CONTROL EQUIPMENT**

The control and indicating panel will depend on the size of the protected building and the extent of the automatic protection provided.

Specification of equipment would be based on numbers of zone circuits, sounder circuit, battery standby, remote center link ancillary control relays, and other individual customer requirements.

Next to the control unit should be a diagrammatic plan showing zone locations.

Siting of control and indication equipment

1. In an area of low fire risk
2. On the ground floor by entrance used by the fire brigade.
3. In an area common to all building users.
4. Where automatic detectors are in use, the control equipment area must be protected.
5. Alarm sounder must be sited next to the control unit.

## **10.0 STANDBY POWER SUPPLIES**

Standby supplies will usually be from secondary batteries with automatic chargers. These batteries must have an expected life of at least 4 years and the code specifically bans the use of automotive type batteries.

When the mains supply fails the standby must be able to operate the alarm load for 30 minutes after a certain minimum duration. The minimum duration varies with the type of system and building occupancy.

For life protection (L) if a mains failure will be recognized within 12 hours, a standby duration of 24 hours is required. If the 12-hour requirement is not likely to be met, a standby of 24 hours after the detection of the fault is required.

For property protection (P) if the mains failure will immediately be recognized then a 24 hours standby is required, if not, then the required duration is 24 hours longer than the building may remain unoccupied.

## **11.0 WIRING**

The satisfactory operation of a fire alarm system depends on the interconnection of its components. Some interconnections may have to function correctly for significant periods after being attacked by fire, e.g: cables to power supplies, control equipment and sounders.

Other cables must function when a trigger device operates, but are not needed after an alarm has been raised, e.g: cables to manual call points, smoke detectors and heat detectors.

Cables can therefore be classed in two groups:

1. Cables permissible if operation is not required during fire, e.g: Cables to manual call points, smoke and heat detectors.
2. Cables permissible if operation is required during a fire, e.g: Cables to power supplies, control equipment and alarm sounders.

While mineral insulated cables are preferable for fire alarm applications, the following cables can be used for the two groups:

#### Group 1

1. **MICC** to BS 6207: Part 1 with or without **PVC** sheath.
2. Cables complying with BS 6387 at least in categories **AWX** or **SWX** or **A** or **S**.
3. **PVC** – insulated to BS 6004 sheathed or non-sheathed with mechanical protection.
4. Rubber insulated to BS 5007
5. **PVC** single type **BK**, **BR** and **BU** to BS 6231.
6. **PVC** insulated **SWA** to **BS** 6346
7. Cross-linked polyethylene or hard ethylene-propylene rubber insulated **SWA**
8. to BS 5467
9. Polyethylene insulated PVC sheathed coaxial cable to the dimensional requirements of BS 2316: Part 3 but with a minimum of 16-strands/0.2mm diameter central conductor.
10. Cables designed for the detection of heat.

#### Group 2

Cables 1 & 2 in Group 1 may be used for Group 2 applications. All the other cables shown above may also be used provided that they are protected either by burying them within a wall and covering them with 12mm of plaster or equivalent, or protecting them from a significant fire risk by shielding them with a wall, partition or floor having a minimum demonstrate 0.5 hour fire resistance.

These requirements may in certain cases be reduced when included in areas of low risk or when covered by an automatic extinguishing system.

Certain cables may also need mechanical protection against impact, abrasion or rodent attack. As a guide, cables 1, 6 and 7 above will not need further protection but all others may in risk circumstances. BS5839 Part 1 gives full details.

Other types of cables can be used provided that their suitability can be clearly demonstrated.

Conductors carrying fire alarm power or signals should be separated from conductors used for other systems.

## 12.0 INSTALLATION OF CABLES

Cables should be installed in accordance with the good practices recommended in the latest edition of the IEE wiring regulations.

Connection to a mains supply should be via an isolating switch fuse reserved solely for the purpose. Its cover must be painted red and labelled **fire alarm – do not switch off**.

Conductor size should take voltage drop into account. In any case conductors should have a cross-sectional area of not less than 1 square mm or, if stranded, of not less than 0.5 square mm.

Where possible, cables should be routed through areas of low fire risk.

Cables installed in damp, corrosive or underground locations should be PVC sheathed. Where there is a risk of mechanical damage, cables should be protected accordingly.

Cables in cavities or voids should be separated from other cables by 300mm, unless enclosed in a conduit, ducting or trunking.

Screened cables complying to be BS 7629 can be run in duct or tray without segregation.

### 13.0 ROUTINE TESTING OF SYSTEM

The system should be regularly tested and serviced. BS5839 Part 1 makes the following recommendations:

#### Daily

- (i) Check that the panel indicates normal operation. If not, record any fault indicated in the event log and report the fault to a responsible person.
- (ii) Check that any fault recorded for the previous day has received attention

#### Weekly

- (i) Operate a manual call point or smoke detector to ensure the system operates properly. Each week a different detector should be checked.
- (ii) Check that the sounders have operated and then reset the system
- (iii) Check the battery connections.
- (iv) Complete the event log with details of date, time, trigger device tested and enter “**Routine Weekly Test**” the “**Action Required**” and reported to a responsible person

#### Quarterly

- (i) Check entries in the log book and take any necessary action.
- (ii) Examine the batteries and their connections.
- (iii) Operate a manual call point or smoke detector to ensure the system operates properly, checking that all sounders are operating.
- (iv) Check that all functions of the alarm control panel operate by simulating fault conditions.
- (v) Visually check that structural alterations have not been made that could have an effect on the siting of detectors and other trigger devices.
- (vi) Complete the event log with details of date, time, trigger device tested and “**Quarterly Test**” in the event sections. Any defects or alterations to equipment should also be entered.

#### Annually

- (i) Carry out an inspection as detailed for the quarterly inspection.
- (ii) Every detector should be tested **in situ**.
- (iii) All cable fittings and equipment should be checked to ensure that they are secure and undamaged.

## **SECTION B:**

### **14.0 ANALOGUE ADDRESSABLE FIRE DETECTION SYSTEMS**

**Analogue Addressable Systems provide combined enhanced detection sensitivity and reduced false alarm potential to create a safer, trouble-free detection environment.**

Analogue addressable systems should achieve levels of fire detection and protector which embrace the virtues of fast and accurate response and high levels of detection sensitivity with a significantly reduced false alarm potential.

The addressable system to meet the following:-

- The requirements of BS. EN54 Pt. 2 and 4: 1998
- Installer-friendly 'plug in' feature
- 2km maximum loop length
- Up to 120 devices per loop.
- **Other Required Features:-**
  - Programmable sounder circuits direct from control panel.
  - Capability to add manual sounder circuits, via loop alarm interface units.
  - Sounders wired directly on to the detector loop
  - Large capacity high intensity LCD-8 lines, with 40 characters per line
  - Capacity for repeater panels on loop
  - Facilities for on-site programming
  - Password protected user and service menus
  - Networking facility
  - Dirty detector fault warning facility
  - Day/night sensitivity adjustment capability
  - Coincidence detection
  - Pre-alarm facility
  - Power supply remote option

#### **14.1 Network Capability**

The loop control panels should be capable of being interconnected easily to produce larger systems.

When a fire or fault condition is detected on any of the control units an event message is passed to all the other panels connected to the system. It should be possible to interconnect fire detection systems on larger sites to form a single-site network.

Within information from individual panels, available across the network, an overall fire plan, involving alerting or evacuating affected parts of the site can be implemented.

When a fire or fault condition is detected on any of the control units, an event message is passed on to all other panels connected to the system. Each panel will then display event information such as panel number, loop, zone/sector and address data. Alarm line operation across the network can be facilitated using zone and sector numbering.

#### Alarm sounder options

Alarm sounders can be connected to the system as follows:

- (i) On dedicated alarm lines, wired directly from the control panel. Four and eight separate alarm outputs to be provided in the two and four loop control panels respectively.

Each alarm circuit to be separately programmable to activate from any designated zone or zones of devices on the detection loop.

- (ii) Additional alarm lines to be connected to the system via alarm line interface units. Each unit to provide four programmable alarm line outputs and be capable of being positioned anywhere on the detection loop wiring.
- (iii) Where loop-wired sounders are used, these should be connected directly on the detector loop wiring. These units to be programmed either to sound a general alarm or be individually operated by a signal from any designated zone or zones of detection devices-hence offering a complete analogue addressable system on a single pair of wires.

Electronic sounders to give sound outputs complying with the requirements of BS5839 Pt 1: 1998. The sounders to be capable of giving various sound types.

## 14.2 Additional programmable features

The following additional features to be programmed into the system:

- address to zone number allocation (up to 128 zones)
- address to device type (e.g. detector or call point)
- zone, address, device type and sector text (24 characters each)
- zone or sector intermittent alarm pattern allocation
- 2 stage alarm timer
- zone or sector to auxiliary relay timed operation. Further relays may be added by using remote relay interface units.
- auxiliary input operation (e.g. silence/sound/evacuate etc)
- 40 characters of site text displayed by the panel in normal state, with the time and date.
- customer fire or fault programming
- double knock/coincidence
- day/night sensitivity
- adjustable detector threshold levels

## **15.0 SYSTEM FEATURES**

### **Styled for the buildings of tomorrow**

Information relating to the status of the system to be clearly indicated via the panel's alphanumeric 8 line, high intensity liquid crystal display.

#### **15.1 1, 2 or 4 Loop options**

The panels to be capable of being connected to either 1, 2 or 4 detector loops each loop being up to 2 km in length and 4 or 8 programmable sounder circuits, respectively.

Additionally, the panels to be capable of being networked together to provide even higher levels of detection and alarm system capacity. When networked, each panel to be configured to provide information relating to the entire fire detection system, thus enhancing the level of building safety.

#### **15.2 Operation**

Access level one controls to be positioned on the front of the panel, for ease of operation. Level two controls are to be concealed behind a key operated cover, and once exposed, they should enable the operator to interrogate the system's memory to obtain information on the location, status and progress of any fire incident.

Further levels of control, for example the disablement of, and reinstatement of detectors and zones, to be available via a security access code.

The system's memory to be capable of recording historical information relating to the minimum, maximum and current analogue levels received from any address, providing the facility for the constant monitoring of detector condition and a record of 'normal' fluctuations in the environment at each location, for simplification of routine testing and maintenance procedures.

#### **15.3 Installation**

Each panel to be supplied with address modules 1-60 for each loop. These are to be inserted into each appropriately numbered detector or call point on the system. Address modules 61-120 to be supplied separately to cater for systems with more than 60 addressable devices per loop.

#### **15.4 Standard**

The system to comply with BS EN54 Pt 2 1998 – Control and Indicating Equipment (CIE) and BS EN54 Pt 4 1998 – Power Supply Equipment (PSE)

## **16.0 SYSTEM OPERATION**

### **16.1 Operational characteristics**

The following is a brief summary of the main functions and the expected operational characteristics of the system.

- Adjustable pre and full alarm facilities

Adjustable pre and full alarm thresholds to be set for individual detector addresses.

Once a pre-alarm threshold has been reached, a signal to be sent to designated locations, alerting those responsible for system monitoring, that the potential for a fire incident may exist. When the full alarm threshold is reached, the system to automatically provide warning signals to pre-determined areas of the system, for purposes of facilitating orderly evacuation of those areas affected.

A day/night operation facility to be provided to give a desensitized level of detection during the day and full sensitivity during night time operation, without affecting immediate alarms from manual call points.

- Automatic detector fault facility

High and low- level fault thresholds to be indicated. If a device's analogue level drifts, over a period of time from its normal background value, a fault indication to be given at the panel, showing the address of the detector. The detector can then be inspected and serviced or replaced if necessary. This facility to be included to increase building safety through simplification of routine maintenance, and testing.

- Line extensions

Alarm and relay extension lines to be connected at any address on the analogue detection loop, using the appropriate interface.

- Repeater facility

The dedicated repeater panel to be either connected to the detection loop, or spurred directly from a panel, if preferred. The Repeater Unit to be supplied with an 80 character LCD and integral power supply unit.

- Enhanced detector addressing

Each system to be programmed to provide an address/detector indication for each device, which enables a 'DEVICE TYPE ERROR' indication to be displayed at the control panel in the event of a wrong device being fitted.

- PC control colour graphics and data acquisition facility

This add-on package, to feature a PC and monitor, complete with software and the origination of up to 12 site plans. Additional plans can be added as extras.

## SECTION C: ANALOGUE ADDRESSABLE DETECTORS

### 17.0 ANALOGUE DETECTORS

The analogue photoelectric smoke detector is ideally suited to the detection of slow burning fires. It employs an infra-red light source and photodiode to provide early warning of a hazard. Smoke particles entering the detection chamber cause light scatter, which is detected by the photodiode. The detector to be resistant to false alarms caused by dust, insects, high humidity and draughts.

#### 17.1 Analogue Ionization Smoke Detector

Particularly suitable for identifying clean burning fires. The detector to incorporate twin sampling chambers which provide enhanced stability and inhibit the potential for false alarms caused by changing environmental conditions.

**Analogue Heat Detector to be capable of being configured by the control panel to operate either as a fast response, medium response heat detector, or a high temperature detector.**

**Common Mounting Base** to be compatible with detectors (both analogue and conventional). The base to incorporate a secure locking tab and position indicator, facilitating the correct orientation of the detector for optimum viewing of the detector's LED.

### 18.0 ANALOGUE REPEATER PANELS

#### Analogue Addressable Repeater Panel

The repeater unit to incorporate a 2 x 40 character liquid crystal display, with the optional facility of an integral printer. Additional features to include own log, to receive and store information from the main panel, and an output to facilitate the addition of a mimic repeater panel. The standard unit to be surface or flush mounted.

#### Slimline Mimic Diagram (SMD)

The slimline machine is designed to augment the information provided by main or repeat panel.

The SMD helps to maximize alarm flexibility, whilst reducing system wiring to an absolute minimum.

The module is installed either as a sounder detector base or as a stand-alone wall or ceiling mounted unit. Either option is accommodated directly on the two wire detector loop.

The fully programmable SMD to allow alarm organization on a single sounder, zonal or general alarm basis.

The self-powered facility to allow up to 120 detection devices and up to 55 addressable sounders to be connected on to the loop wiring.

The SMD to have selectable tones, continuous intermittent or warble. To be used in systems designed to BS5839 Pt 1. The sound output to be rated at 93 dB.

#### Addressable Sounder

The loop wired addressable sounder is to be used with analogue addressable fire systems.

Installed either in conjunction with a detector or on a stand alone basis, the sounder is addressed and powered directly from the detector loop.

The unit to provide a sound level of 85 dBA, and offer continuous intermittent or warble sound types, all within the recommended BS5839 Pt 1 frequency.

Each analogue loop to have a maximum of 30 units.

## 19.0 LOOP INTERFACE UNITS

To help provide input/output signals from anywhere on the loop wiring. This device to enable automatic operation of building plant in the event of a fire or the interface with existing fire detection or fire extinguishing systems to be easily incorporated.

**Alarm/power supply interface units** to allow additional alarm lines to be wired from any loop location. Each unit to provide the facility for using four independent programmable alarm circuits (1A maximum per alarm line, 3A maximum load). Alarm lines to be controlled without the need to wire directly back to the panel.

**Relay/power supply interface unit** to provide four additional programmable relay contacts (5A, 30 VDC) to enable output signals for operating external equipment.

This unit to have a dedicated 240VAC supply and should be capable of being connected at any address location on the detection loops.

**Interface units, loop maximums.** A maximum of 3 alarm interfaces and 4 relay interfaces may be connected to each loop controller, with each loop controller controlling two loops.

As a two loop panel contains a single loop controller, a maximum of 3 alarm line interfaces and 4 relay interfaces may be connected to loops 1 and 2 or a combination of both. A four loop panel contains 2 loop controllers enabling a maximum of 3 alarm interfaces to be connected to either loop 1 or 2 with a similar number on either loop 3 or 4.

**Short circuit isolator** provides protection of the detection loop. This ensures that the remainder of the loop protected by the short circuit isolator arrangement continues to function should a fault occur.

**Standard interface unit** enables a spur, containing a maximum of 5 standard detectors, and an unlimited number of conventional call points to be connected to the detection loop. UP to 10 interface units may be connected to a loop. Conventional call points should be wired before conventional detectors on any spur circuit. They should not be mixed.

**Input/Output interface unit** provides both input and output signals directly on to the loop. Input signals from other fire protection systems can be displayed at the control panel. Output signals can be provided in order to operate plant shut down or door release equipment.

## 20.0 ADDRESSABLE BREAK GLASS CALL POINTS

The call point is addressed in a similar manner to the addressable detector bases, using the same set of address modules. There is no restriction on the number that may be used on a loop, up to a maximum of 120 address points. An LED indicator is incorporated as standard to confirm that the unit has operated.

### **Weatherproof break glass callpoint**

For exterior applications, where required.

**PART F:**  
**BILLS OF QUANTITIES**  
**AND SCHEDULES OF UNIT RATES**

**PART F: BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES**

**CONTENTS:**

<b>CLAUSE NO.</b>	<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>1.</b>	<b>General Notes to Tenderers</b>	<b>F3</b>
<b>2.</b>	<b>Statement of Compliance</b>	<b>F5</b>
<b>3.</b>	<b>Bill No. 1: Internal Fire Detection and Alarm Installations</b>	<b>F6</b>
<b>4.</b>	<b>Bill No. 2. General Items</b>	<b>F8</b>
<b>5.</b>	<b>Summary Page</b>	<b>F12</b>
<b>6.</b>	<b>Schedule of Unit Rates</b>	<b>F13</b>

## **BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES**

### **1. General Note to Tenderers**

- 1.1 The total of the prices in the summary of prices shall include for the whole of the Contract works in accordance with the specifications as defined before and shall be carried forward to Form of Tender.
- 1.2 Any prices omitted from any item, section or part of the price schedule shall be deemed to have included in another item, section or part.
- 1.3 The prices shall include for all obligations under the Contract including and not limited to:
  - a) Supply of any materials, equipment, apparatus, fittings, spares and tools
  - b) Insurance
  - c) Clearing and forwarding
  - d) Delivery, handling and storage at site
  - e) Packing for storage
  - f) Replacing any defective or damaged item
  - g) Installation
  - h) Testing
  - i) Painting
  - j) Commissioning
  - k) Maintenance during the defects liability period
- 1.4 The unit rates shall include import duty and VAT where applicable, and shall be expressed in Kenya Shillings.
- 1.5 Any tenderer whose firm uses the title “Engineer” or “Engineering” must provide evidence of registration of at least one of the directors by the Engineers Registration Board of Kenya to avoid disqualification.
- 1.6 Any tenderer who fails to price the General items will be deemed to have allowed 5% of his tender price to cover these items, i.e. 5% of the total tender price will be deducted as preliminaries, if the tenderer does not enter specific prices against items of preliminary.
- 1.7 The contractor is instructed to read all the pages, and all the items of the Bills of Quantities very carefully. Should there be an apparent omission of words or figures, or should the contractor be in doubt about the precise meaning of any word or figures, or for any reason whatsoever feel more clarification is necessary, either in the drawings or Bills of Quantities, to facilitate reasonable pricing of the tender document, he should inform the engineer at once so that the correct interpretation or clarification may be given before tendering. No liability will be accepted on mistakes and/or omissions which should have been corrected in the format above.
- 1.8 The specification should be priced in Kenya Currency i.e Shillings and cents.
- 1.9 The following meanings/interpretations shall be attached:-

**. Fire Alarm Point:** "Install outlet for fire alarm sensor/sounder comprising concealed 20mm H.G PVC conduit, box, wiring in 3x2.5mm<sup>2</sup> "Firetuff" cables and all accessories". All fire alarm points must be inter-linked with diameter 20mm conduits.

**. Labelling:** "Comprehensive, concise and instructive permanent labelling of all the MENTIONED AREAS

- 1.10 The contract is for supplying, delivering, fixing/installing, testing, commissioning and setting to work to the full satisfaction of the Engineer and the contractor's price must include all cost for the entire process.
- 1.11 All conduits/ducts must be heavy gauge. Where steel pipes are specified, they must be minimum of class B in strength.
- 1.12 The contractor shall ensure that the highest standards of workmanship and highest quality materials are used at all times. Inferior workmanship and low quality materials shall be rejected and replaced at the Sub-contractors own cost.
- 1.13 The contractors shall be solely responsible for the correct and accurate ordering of materials in accordance with the drawings and Bills of Quantities.
- 1.14 No claims on advance payment and/or materials off-site will be allowed unless the contractor advances valid reasons acceptable to the employer. Should a claim on advance payment be allowed, the contractor will be required to submit an Advance Payment Bond for the full value claimed.
- 1.15 This is a fixed price contract, and the contractor is expected to allow (in his unit rates) for generous fore-casts on fluctuations.
- 1.16 The Bills of Quantities shall be read in conjunction with Notes to All Tenderers, Preliminaries, General Specifications, Particular Specifications and all the relevant drawings.
- 1.17 A rate or price shall be entered against each item in the priced Bills of Quantities whether quantities are stated or not. The cost of items against which the contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bills of Quantities.
- 1.18 The whole cost of complying with provisions of the contract shall be included in the items provided in the Bills of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of work.
- 1.19 General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bills of Quantities. Reference to the relevant sections of the contract document shall be made before entering prices against each item in the priced Bills of Quantities.
- 1.20 Provisional sums and contingencies included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer.
- 1.21 Errors in pricing will be corrected by the Employer for any arithmetic errors in computation or summarization as follows:-
  - a) Where there is a discrepancy between amounts in figures and amounts in words, the amount in words will govern.
  - b) Where there is discrepancy between the unit rate and the total amount derived from the multiplication of the unit price and the quantity, the unit rate quoted will govern unless in the opinion of the employer, there is an obviously gross misplacement of the decimal point in the unit prices, in which event the total amount as quoted will govern and the unit rate will be corrected.

**2 Statement of Compliance**

- a) I confirm compliance of all clauses of the General Conditions and Technical 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: .....

**CENTRAL BANK OF KENYA**  
**PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III AT**  
**CENTRAL BANK OF KENYA – NAIROBI**  
**FIRE DETECTION AND ALARM SYSTEM – BILLS OF QUANTITIES FOR CLINIC AREA**

**BILL NO. 1: INTERNAL FIRE DETECTION AND ALARM INSTALLATIONS**

Item No.	Description	Qty	Unit	Rate	Amount KSh. Cts.
	<b>Supply, install, test, commission and set to work the following:- All fire alarm equipment to be as per relevant KS and BS standards. This fire alarm specification is for a fully addressable analogue system. Supplying a conventional system will lead to automatic disqualification. And due to the sensitivity of this contract, only the specified items to be supplied. Alternatives, will <u>NOT</u> be accepted.</b>				
1.00a)	Outlet for fire alarm points wired in 3 x 1.5mm <sup>2</sup> screened fire-proof cable as FIREPIX or approved equivalent, and all accessories	580	No.		
1.00b)	As above but in steel conduit, minimum Class B, and steel boxes.	112	No.		
1.01	Outlet for fire alarm panels/repeater panels comprising 2A fused unswitched spur outlet, concealed PVC conduit, wiring in 3 x 2.5mm <sup>2</sup> SC-PVC-CU cables.	7	No.		
1.02	Analogue photoelectric smoke detector complete with lockable base and alarm indicator LED. (State make and type).	478	No.		
1.03	Analogue addressable heat detector complete with lockable base and alarm indicator LED. (State make and type)	56	No.		
1.04	Addressable manual call points complete with monitoring resistor, protective plastic coating on the glass, test key and polycarbonate flap. (State make and type)	54	No.		
1.05	Addressable weatherproof manual call points complete with monitoring resistor, protective plastic coating on the glass, test key and polycarbonate flap. (State make and type)	8	No		
1.06	Addressable electronic loop sounder wired direct onto the detection loop and powered from the loop, suitable for both external and internal application complete with volume control, a choice of 12 different sounds and rated at 85-100 dBA at 1 m. (State make and type). (State make and type).	17	No.		
1.07	Addressable standard interface units (using relays) for connecting detectors in voids , and to serve as remote indicators when detector triggers in the void. (State make and type).	48	No.		
1.08	High efficiency xenon beacons with enhanced optical design for maximum light dissipation and 2W xenon discharge lamp rated IP65. (State make and type).	27	No.		
	<b>Total C/F to Page F7</b>				

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**CENTRAL BANK OF KENYA – NAIROBI**  
**FIRE DETECTION AND ALARM SYSTEM – BILLS OF QUANTITIES FOR CLINIC AREA**

**BILL NO. 1: INTERNAL FIRE DETECTION AND ALARM INSTALLATIONS**

Item No.	Description	Qty	Unit	Rate	Amount KSh. Cts.
	<b>Total B/F from Page F6</b>				
1.09	Short circuit isolator for protecting a fire detection loop by making sure a short-circuit or an open circuit fault in any zone does not affect other zones. (State make and type).	8	No.		
1.10a)	Six-loop Analogue addressable fire detection and alarm control panel complete with printer, 8 lines 80 character LCD. The control panel to be designed to meet fully the requirements of EN54 Pt. 2 and 4: 1998 and BS 5839 Part 1. The panel to be complete with battery pack and automatic charger for minimum 72-hour operation under conditions of sustained power failure. (State make and type). The main panel to be located in the Main Security office	1	No.		
b)	As 1.10a) above, but 1 loop panel located on every floor and at the Clinic	6	No.		
1.11	Analogue addressable repeater panel, wired to the main panel above, and complete with a 72-hour battery pack and automatic charger, to work in conjunction with the main panel. (State make and type). The repeater panel to be located in Guard Hose at the gate.	1	No.		
1.12a)	Fire Alarm Graphics software complete with a desk top computer and capable of full control of fire alarm system as designed by FIREPIX, or other approved software vendors.	2	No.		
1.12b)	Communications Drive Unit	7	No.		
1.12c)	Serial Communications Interface Unit	7	No.		
1.13	Allow for linking the above main fire alarm panel as dedicated zone on the security alarm panel. <b>(Please visit the site to establish the exact locations of these panels before pricing this item)</b>	Item			
1.14	Carry out wiring in 3 x 1.5mm <sup>2</sup> in FIRE-RESISTANT, SCREENED cable, all drawn inside the above ducts/conduits.  <b>[Note: The cable must be FIRE-RESISTANT and not merely heat resistant. This has to be demonstrated at presentation of sample]</b>	8,600	m.		
<b>Total for Bill No. 1: Internal Fire Detection and Alarm Installations C/F to Summary Page</b>					

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**BILL NO. 2 – GENERAL ITEMS**

<b>Item No.</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount KSh Cts</b>
2.00	<p><b>Supply, install, test, commission and set to work (To the full satisfaction of all parties to the contract) the following: -</b></p> <p>Carry out comprehensive Fire Detection and Alarm System installations testing and analysing, after installations. Prior to testing and commissioning conduct comprehensive programming of the system by approved manufacturer's representative to perform as instructed by the Engineer, including ringing patterns The testing and commissioning will be done as detailed below.</p> <ul style="list-style-type: none"> <li>i) Prior to commencement of the work the contractor shall submit a procedure for the inspection, testing and commissioning of the system. This procedure shall include for the visual and functional check/test of all components of the system - the visual check will cover the standard of workmanship, the functional quality of the equipment and general compliance with the system specification and the functional tests shall check the operation of the system as a whole.</li> <li>ii) Commissioning will be undertaken by a qualified person using the approved inspection, testing and commissioning procedure.</li> <li>iii) On successful commissioning of the system, in terms of the specified requirements, a Taking Over Certificate shall be completed. This is the written notification to the Service Provider/installer that the client has taken over the system in terms of the Agreement. Payment cannot be effected without this certificate</li> <li>iv) The Final Completion date for the system is determined from the Hand over Certificate. The taking over date is also that date on which the warranty period is deemed to have commenced.</li> <li>v) Each equipment in the installations shall be supplied with a complete installation manual and comprehensive operating instructions. In addition, cabling and wiring information, a list of all equipment with associated serial numbers, etc (as specified) and any other information that may be required by the client from time to time and a copy of the taking Over Certificate shall be provided in a A4 hard cover arch lever type file</li> </ul>				
<b>Total C/F to Page F9</b>					

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**BILL NO. 3 – GENERAL ITEMS**

<b>Item No.</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount KSh Cts</b>
	<b>Total C/F to Page F8</b>				
	<p>vi) The contractor shall provide basic operating training on the system, using the operating instructions, for client staff prior to the Taking over Certificate being issued. This training shall be sufficient to ensure correct operation of the system. The contractor shall issue certificates to certify that the operators are proficient in the operation of the system on successful completion of the system training. This training MUST be in the manufacturer's representative's presence.</p> <p>vii) The above documentation shall be handed to a selected client representative at the time of commissioning. The documentation to be as detailed below:-</p> <p>viii) System Documentation - all documentation relating to the installation shall be concise, complete and unambiguous. Information shall be provided sufficient to install, test and commission, operate and maintain the system. Operating instructions shall be designed to minimize the possibility of incorrect operation of the system.</p> <p>ix) Component documentation - documentation relating to the components of the installation system shall also be concise, complete and unambiguous. Sufficient information shall be provided to ensure the integration of the component with any other of the system's components. Component documentation shall include the following:-</p> <p>a) Name of manufacturer and / or supplier, including MANUFACTURER's certification of the installation and components, with a written 36-month performance warranty.</p> <p>b) Description of equipment.</p> <p>c) Standard to which component claims compliance.</p> <p>d) Name or mark of the certification body.</p>		Item		
<b>Total C/F to Page F10</b>					

**CENTRAL BANK OF KENYA**  
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**BILL NO. 2 – GENERAL ITEMS**

Item No.	Description	Qty	Unit	Rate	Amount KSh Cts
	<b>Total B/F from Page F9</b>				
2.01	Acquire and submit a Bank Guarantee for 10% of the sub-contract sum, as a Performance Guarantee.				
2.02	Acquire and submit Insurance for the sub-contract work.				
2.03	Allow for presentation of all the required samples as per specifications, Bills of Quantities and Drawings.		Item		
2.04	Prepare and submit Working Drawings as follows:- i) Draft soft copy in Archicad® and Autocad® 2000 in CD-RW. ii) Amended soft copy in Archicad® and Autocad® 2000 in CD-RW. iii) 5 Final soft copies in Archicad® and Autocad® 2000 in CD-RW to Architect, Client, Quantity Surveyor, and Engineer (2 copies) iv) 3 Draft hard copies of Working Drawings in Ao (Scales 1:50, 1:25) to Engineer, Architect and Main Contractor. v) 2 Amended hard copies of Working Drawings in Ao (Scales 1:50 and 1:25) to Engineer, Architect and Main Contractor. vi) 11 No. Final hard copies of working drawings in Ao (Scales 1:50, 1:25) to Engineer (3 copies), Architect (1 copy), Quantity Surveyor (1 copy), Client (3 copies), Contractor (3 copies).  <b>(Note: Full set of drawings to be presented as per drawing list).</b>		Item		
2.05	As item no. 2.02, but for Record (As-Installed) Drawings comprising: <ul style="list-style-type: none"> <li>Fully dimensioned drawings of all plants and apparatus.</li> <li>General arrangement drawings of equipment, plant etc.</li> <li>Routes – types and sizes and arrangement of all pipework.</li> <li>System schematics and trunking diagrams showing all salient information relating to control and instrumentation.</li> <li>Grading charts</li> <li>Wiring and piping diagrams of plant and apparatus.</li> <li>Schematic diagram of individual plants and switch and control boards.</li> <li>All the required operating instructions for all panels, boards, control panels etc.</li> </ul>		Item		
-	<b>Total C/F to Page F11</b>				

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**BILL NO. 3 – GENERAL ITEMS**

<b>Item No.</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount KSh Cts</b>
	<b>Total B/F from Page F10</b>				
2.04	Warranty period for Workmanship and Equipment shall be _____ Months (A minimum of 12 months to be given)		Item		
2.05	Provide a year's (12 months') initial maintenance upon expiry of the Defects Liability Period. The maintenance to be carried out every quarter (3 months) for a period of 12 months.		Item		
2.06	<u>All other items</u> of general preliminary to cover, but not limited to:- <ul style="list-style-type: none"> <li>• Attendance on all other sub-contractors, such as for UPS Installations, Structured LAN Cabling, PABX Installations, Electrical Installations, Audio Visual Installations, Generator Installations, Lift Services, Solar Water Heating, V-Sat services etc.</li> <li>• Hiring and keeping a Supervisor/Foreman on site</li> <li>• Constant supervision of the works.</li> <li>• Provision of all the required spares.</li> <li>• Testing and Inspection of materials/works.</li> <li>• Provision of labour camps.</li> <li>• Storage of materials.</li> <li>• Initial maintenance (During Defects Liability)</li> <li>• Protection of the works/materials</li> <li>• Clearing away on completion.</li> <li>• Preparing Final Account.</li> <li>• Providing all Test Certificates, etc.</li> </ul>		Item		
<b>Total for General Items Carried Forward to Summary Page</b>					

**CENTRAL BANK OF KENYA  
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**SUMMARY PAGE:**

ITEM NO.	DESCRIPTION	AMOUNT	
		KSHS	CTS
1.	Preliminaries, B/F from Part D		
2.	Bill No. 1: Internal Fire Detection and Alarm Installations B/F from Page F7		
3.	Bill No. 2: General Items, B/F from Page F/11		
4.	Sub-Total		
5.	Add 10% of the Sub-total in Item No. 4 above as contingency		
<b>Total Amount Carried to Form of Tender</b>			

**CENTRAL BANK OF KENYA  
PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III AT  
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FIRE DETECTION AND ALARM SYSTEM – BILLS OF QUANTITIES FOR CLINIC AREA**

**ADDENDUM**

**NOTE: FILL IN THE RATES ONLY IN THIS SECTION**

**BILL NO. 1: INTERNAL FIRE DETECTION AND ALARM INSTALLATIONS**

Item No.	Description	Qty	Unit	Rate	Amount KSh. Cts.
	<b>Supply, install, test, commission and set to work the following:- All fire alarm equipment to be as per relevant KS and BS standards. This fire alarm specification is for a fully addressable analogue system. Supplying a conventional system will lead to automatic disqualification. And due to the sensitivity of this contract, only the specified items to be supplied. Alternatives, will <u>NOT</u> be accepted.</b>				
1.00	Outlet for fire alarm points wired in 3 x 1.5mm <sup>2</sup> screened fire-proof cable as FIREPIX or approved equivalent, and all accessories	79	No.		
1.01	Outlet for fire alarm panels/repeater panels comprising 2A fused unswitched spur outlet, concealed PVC conduit, wiring in 3 x 2.5mm <sup>2</sup> SC-PVC-CU cables.	1	No.		
1.02	Analogue photoelectric smoke detector complete with lockable base and alarm indicator LED. (State make and type).	48	No.		
1.03	Analogue addressable heat detector complete with lockable base and alarm indicator LED. (State make and type)	2	No.		
1.04	Addressable manual call points complete with monitoring resistor, protective plastic coating on the glass, test key and polycarbonate flap. (State make and type)	4	No.		
1.05	Addressable weatherproof manual call points complete with monitoring resistor, protective plastic coating on the glass, test key and polycarbonate flap. (State make and type)	4	No.		
1.06	Addressable electronic loop sounder wired direct onto the detection loop and powered from the loop, suitable for both external and internal application complete with volume control, a choice of 12 different sounds and rated at 85-100 dBA at 1 m. (State make and type). (State make and type).	2	No.		
1.07	Addressable standard interface units (using relays) for connecting detectors in voids, and to serve as remote indicators when detector triggers in the void. (State make and type).	8	No.		
1.08	High efficiency xenon beacons with enhanced optical design for maximum light dissipation and 2W xenon discharge lamp rated IP65. (State make and type).	2	No.		
	<b>Total C/F to Page F/14</b>				

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**CENTRAL BANK OF KENYA – NAIROBI**  
**FIRE DETECTION AND ALARM SYSTEM – BILLS OF QUANTITIES FOR CLINIC AREA**

**BILL NO. 1: INTERNAL FIRE DETECTION AND ALARM INSTALLATIONS**

Item No.	Description	Qty	Unit	Rate	Amount KSh. Cts.
	<b>Total B/F from Page F/13</b>				
1.09	Short circuit isolator for protecting a fire detection loop by making sure a short-circuit or an open circuit fault in any zone does not affect other zones. (State make and type).	8	No.		
1.10	Six-loop Analogue addressable fire detection and alarm control panel complete with printer, 8 lines 80 character LCD. The control panel to be designed to meet fully the requirements of EN54 Pt. 2 and 4: 1998 and BS 5839 Part 1. The panel to be complete with battery pack and automatic charger for minimum 72-hour operation under conditions of sustained power failure. (State make and type). The main panel to be located in the Main Security office	1	No.		
1.11	Analogue addressable repeater panel, wired to the main panel above, and complete with a 72-hour battery pack and automatic charger, to work in conjunction with the main panel. (State make and type). The repeater panel to be located in Guard Hose at the gate.	1	No.		
1.12a)	Fire Alarm Graphics software complete with a desk top computer and capable of full control of fire alarm system as designed by FIREPIX, or other approved software vendors.	1	No.		
1.12b)	Communications Drive Unit	1	No.		
1.12c)	Serial Communications Interface Unit	1	No.		
1.13	Allow for linking the above main fire alarm panel as dedicated zone on the security alarm panel. <b>(Please visit the site to establish the exact locations of these panels before pricing this item)</b>	Item			
1.14	Carry out wiring in 3 x 1.5mm <sup>2</sup> in FIRE-RESISTANT, SCREENED cable, all drawn inside the above ducts/conduits.  <b>[Note: The cable must be FIRE-RESISTANT and not merely heat resistant. This has to be demonstrated at presentation of sample]</b>	8,600	m.		
<b>Total for Bill No. 1: Internal Fire Detection and Alarm Installations C/F to Summary Page</b>					

**CENTRAL BANK OF KENYA  
PROPOSED OFFICE MODERNIZATION AND CREATION OF WORK STATIONS-PHASE III AT  
CENTRAL BANK OF KENYA – NAIROBI  
FIRE DETECTION AND ALARM SYSTEM – BILLS OF QUANTITIES FOR CLINIC AREA**

**Total Amount in words .....**  
**.....**

**Tenderer’s Name and Stamp .....**

**Signature..... Date .....**

**PIN No. .... VAT No. ....**

**Witness ..... Address .....**

**Signature ..... Date .....**

**SCHEDULE OF UNIT RATES FOR CLINIC AREA**

ITEM	DESCRIPTION	UNIT	RATE (KShs)
1.01	Rate of Rise Heat Detector  <b>Tenderer's Alternative:</b>		
1.02	Point Ionization Smoke Detector  <b>Tenderer's Alternative:</b>		
1.03	Fire Alarm Bell  <b>Tenderer's Alternative:</b>		
1.04	High efficiency xenon beacons  <b>Tenderer's Alternative:</b>		
1.05	Addressable standard interface units  <b>Tenderer's Alternative:</b>		
1.06	Addressable Fire Alarm manual call point  <b>Tenderer's Alternative:</b>		
1.07	Short circuit isolator  <b>Tenderer's Alternative:</b>		
1.08	Fire Alarm Repeater / MIMIC Panel  <b>Tenderer's Alternative:</b>		
1.09	5A Fused (unswitched) connection unit  <b>Tenderer's Alternative:</b>		

**SCHEDULE OF UNIT RATES FOR CLINIC AREA**

ITEM	DESCRIPTION	UNIT (HR)	RATE (KShs)
	<b>HOURLY RATES</b>		
01	Unskilled labourer		
02	Semi-skilled labourer		
03	Skilled labourer		
04	Foreman		
05	Supervisor		
06	Senior Supervisor		
07	Junior Manager		
08	Manager		
09	Senior Manager		
10	Non-Executive Director		
11	Executive Director		

**PART G:**

**FULL SERVICE MAINTENANCE PER YEAR  
AFTER EXPIRY OF DEFECTS LIABILITY  
PERIOD**

**PART G: FULL SERVICE MAINTANANCE PER YEAR AFTER EXPIRY OF DEFECTS LIABILITY PERIOD**

**SPECIAL NOTES**

1. The tenderer is advised to note that their price shall be used in the evaluation of the tenders.
2. The tenderer shall price for both labour and consumables (materials) during the 12 months full service period in appenix A of this section. The price shall be for supply, installation, testing and commissioning including all taxes applicable at the time of tender.
3. The tenderer shall list and price the consumable/ spare parts/ materials to be used during the 12 months full service period in appenix B of this section. The price shall be for supply, installation, testing and commissioning including all taxes applicable at the time of tender.
4. The tenderer shall list and price the consumable/ spare parts/ materials to be used during the 36 months full service period. This list is to be comprehensive as possible and shall inculde major spares as cards, fan motors etc. The price shall be for supply, installation, testing and commissioning including all taxes applicable at the time of tender. These are the spare parts that are not required during the normal routine maintenance. These spare parts shall only be paid for as and when repalced. The tenderer shall give the details of these spare parts in in appenix C of this section.
5. The price quoted for the above shall be as per the Standard Maintanance Tender Document.
6. The tenderer shall be required to the sign the 12 Months after Defects Liability Maintanance Contract based on the price quoted and the Standard Maintanance Tender Document refered to in item 5 above.
7. The tenderer **MUST** fill all the prices and rates in the Appendices A, B and C of this section. Failure to do so shall lead to disqualification.

# **APPENDIX 'A'**

## **PRICE FOR FULL NORMAL ROUTINE MAINTANANCE PER YEAR AFTER DEFECTS LIABILITY PERIOD**

<b>Item</b>	<b>Description</b>	<b>Kshs</b>	<b>Cts</b>
1.0	Labour costs per month		
2.0	Material costs for spare parts (consumables) per month – see Appendix C of this section		
<b>Sub-total for one (1No.) Month Maintenance after the Defects Liability Period ( Not to be carried to Form of Tender)</b>			
<b>Grand Total for 12 Months Maintenance after the Defects Liability Period ( Not to be carried to Form of Tender)</b>			

Signed by the Tenderer.....

Official Stamp .....

Date.....

**APPENDIX 'B'**

**SCHEDULE OF UNIT RATES OF SPARES THAT MAY BE REQUIRED DURING 12  
MONTHS AFTER DEFECTS LIABILITY MAINTENANCE PERIOD (ATTACHMENTS  
ARE ALLOWED IF THE LIST IS LONG)**

Item	Description	Unit	Qty	Cost(Kshs.)
<b>Total ( Not to be carried to Form of Tender)</b>				

Signed By Tenderer .....

Official Stamp .....

.....

Date .....

**PRICE BREAKDOWN OF SPARES / CONSUMABLES TO BE USED DURING 12 MONTHS AFTER DEFECTS LIABILITY MAINTENANCE PERIOD**

Item	Description	Unit	Qty	Cost(Kshs.)
Total ( Not to be carried to Form of Tender)				

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C5

**PART H:**

**TECHNICAL SCHEDULE OF ITEMS  
TO BE SUPPLIED**

**PART H: TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED**

**CONTENTS**

<b><u>CLAUSE NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PAGE</u></b>
1.	GENERAL NOTES TO TENDERERS	H3
2.	TECHNICAL SCHEDULE	H4

## **TECHNICAL SCHEDULE**

### **1. General Notes to the Tenderer**

- 1.1 The tenderer shall submit technical schedules for all materials and equipment upon which he has based his tender sum.
- 1.2 The tenderer shall also submit separate comprehensive descriptive and performance details for all plant apparatus and fittings described in the technical schedules. Manufacturer's literature shall be accepted. Failure to comply with this may have his tender disqualified.
- 1.3 Completion of the technical schedule shall not relieve the Contractor from complying with the requirements of the specifications except as may be approved by the Engineer.

**2. TECHNICAL SCHEDULE**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>MANUFACTURER</b>	<b>COUNTRY OF ORIGIN</b>	<b>REMARKS (Catalogue No.etc.)</b>
1.00	Rate of Rise Heat Detector			
1.01	Point Ionization Smoke Detector			
1.02	Fire Alarm Bell			
1.03	High efficiency xenon beacons			
1.04	Addressable standard interface units			
1.05	Addressable Fire Alarm manual call point			
1.06	Short circuit isolator			
1.07	Fire Alarm Repeater / MIMIC Panel			
1.08	5A Fused (unswitched) connection unit			

**PART J:**  
**SCHEDULE OF DRAWINGS**