KIAMBU COUNTY GOVERNMENT

RUIRU MUNICIPALITY

PROPOSED SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF INTEGRATED SOLAR STREET LIGHTING AND HIGHMAST LIGHTING IN RUIRU MUNICIPALITY

TENDER NO. LHPP/MAUD/KUSP/RRU/002/2018/2019

Project: KENYA URBAN SUPPORT PROGRAM (KUSP)

(Municipal Annual Urban Investment Plan)

Employer: RUIRU MUNICIPALITY

Closing Date: 21st November 2018

BIDDING DOCUMENTS
INVITATION FOR TENDERS

Tender reference No: LHPP/MAUD/KUSP/RRU/002/2018/2019

Tender Name: Proposed Supply, Installation, Testing & Commissioning Of Integrated Solar Street Lighting and High mast Lighting In Ruiru Municipality in Ruiru Municipality

1.1 The Ruiru Municipality invites sealed tenders for the supply, installation, testing and commissioning of Integrated Solar Street lighting and high mast lighting in Ruiru Municipality.

1.2 The tender document can be viewed and downloaded from the Kiambu County website www.kiambu.go.ke or www.tenders.go.ke

1.3 Prices quoted should be net inclusive of all taxes, must be in Kenya shillings and shall remain valid for 120 days from the closing date of tender.

1.4 Completed tender documents are to be enclosed in plain sealed envelopes clearly marked with TENDER NUMBER (as it appears on the cover of tender document) and deposited in the Tender Box OUTSIDE ROOM 15B at THIKA TOWN HALL OFFICES or to be addressed to THE CHIEF OFFICER, MUNICIPAL ADMINISTRATION AND URBAN DEVELOPMENT, P.O. BOX 2344-00900 KIAMBU so as to be received on or before 21st November 2018 at 10:AM

1.5 In addition, the tenderer shall submit a copy of the original. Each document should be clearly marked “ORIGINAL” and “COPY”

1.6 Tenders will be opened immediately thereafter in the presence of the candidates or their representatives who choose to attend at THIKA Town Hall Chambers.
PROCUREMENT DOCUMENTS
# Table of Contents

**PART 1 – Bidding Procedures** ............................................................................................................ **1-5**

- Section I - Instructions to Bidders........................................................................................................... **1-6**
- Section II - Bid Data Sheet (BDS) ........................................................................................................ **1-31**
- Section III - Evaluation and Qualification Criteria .............................................................................. **1-36**
- Section IV - Bidding Forms ................................................................................................................. **1-54**
- Section V - Eligible Countries .............................................................................................................. **1-77**
- Section VI. Corrupt and Fraudulent Practices ....................................................................................... **1-19**

**PART 2 – Works Requirements** ...................................................................................................... **2-21**

- Section VII - Work’s Requirements ..................................................................................................... **2-21**

**PART 3 – Conditions of Contract and Contract Forms** .................................................................. **3-83**

- Section VIII. General Conditions of Contract .................................................................................... **3-85**
- Section IX. Particular Conditions of Contract .................................................................................... **3-110**
- Section X - Contract Forms ................................................................................................................. **3-113**
PART 1 – Bidding Procedures
Section I - Instructions to Bidders

Table of Clauses

A. General

1. Scope of Bid
2. Source of Funds
3. Corrupt and Fraudulent Practices
4. Eligible Bidders
5. Eligible Materials, Equipment and Services

B. Contents of Bidding Document

6. Sections of Bidding Document
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting
8. Amendment of Bidding Document

C. Preparation of Bids

9. Cost of Bidding
10. Language of Bid
11. Documents Comprising the Bid
12. Letter of Bid and Schedules
13. Alternative Bids
14. Bid Prices and Discounts
15. Currencies of Bid and Payment
16. Documents Comprising the Technical Proposal
17. Documents Establishing the Qualifications of the Bidder
18. Period of Validity of Bids
19. Bid Security
20. Format and Signing of Bid

D. Submission and Opening of Bids

21. Sealing and Marking of Bids
22. Deadline for Submission of Bids
23. Late Bids
24. Withdrawal, Substitution, and Modification of Bids
25. Bid Opening

E. Evaluation and Comparison of Bids

26. Confidentiality
27. Clarification of Bids
28. Deviations, Reservations, and Omissions ................................................................. 23
29. Determination of Responsiveness ............................................................................ 23
30. Nonconformities, Errors, and Omissions ................................................................. 23
31. Correction of Arithmetical Errors ........................................................................... 24
32. Conversion to Single Currency .............................................................................. 24
33. Margin of Preference ............................................................................................... 24
34. Subcontractors ......................................................................................................... 24
35. Evaluation of Bids .................................................................................................... 25
36. Comparison of Bids .................................................................................................. 26
37. Qualification of the Bidder ...................................................................................... 26
38. Employer’s Right to Accept Any Bid, and to Reject Any or All Bids .................... 26

F. Award of Contract .................................................................................................... 26

39. Award Criteria ......................................................................................................... 26
40. Notification of Award .............................................................................................. 27
41. Signing of Contract .................................................................................................. 28
42. Performance Security .............................................................................................. 28
43. Adjudicator ............................................................................................................... 28

APPENDIX TO INSTRUCTIONS TO BIDDERS ........................................................... 29
Section I - Instructions to Bidders

A. General

1. Scope of Bid 1.1 In connection with the Invitation for Bids specified in the BID Data Sheet (BDS), the Employer, as specified in the BDS, issues these Bidding Documents for the procurement of the Works as specified in Section VII, Works Requirements. The name, identification, and number of lots (contracts) of this bidding are specified in the BDS.

1.2 Throughout this Bidding Document:

(a) the term “in writing” means communicated in written form and delivered against receipt;

(b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and

(c) “day” means calendar day.

2. Source of Funds 2.1 The bidder or tenderer specified in the BDS may self-finance or source funds for financing (Kenya urban support program project) (hereinafter called “funds”) from Any Bank(Regulated by CBK) or SACCO(Regulated by SASRA (hereinafter called “the Bank”) in an amount specified in the BDS, toward the project named in the BDS.

3. Corrupt and Fraudulent Practices 3.1 The Employer requires compliance with the laws of Kenya in regard to corrupt and fraudulent practices.

4. Eligible Bidders 4.1 A Bidder may be a firm that is a private entity, or a Government-owned entity—subject to ITB 4.5—or any combination of them in the form of a joint venture (JV), under an existing agreement, or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a
Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. **Unless specified in the BDS**, there is no limit on the number of members in a JV.

4.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:

(a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or

(b) receives or has received any direct or indirect subsidy from another Bidder; or

(c) has the same legal representative as another Bidder; or

(d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or

(e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or

(f) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or

(g) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the Contract implementation;

(h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm;

(i) has a close business or family relationship with a professional staff or of the project implementing agency, who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or
the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved throughout the procurement process and execution of the contract.

4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.

4.4 Bidders that are Government-owned enterprises or institutions in the Employer’s Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer. To be eligible, a government-owned enterprise or institution shall establish to the Employers satisfaction, through all relevant documents, including its Charter and other information the Employer may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.

4.5 A Bidder shall not be under suspension from bidding by the Employer as the result of the operation of a Bid–Securing Declaration.

4.6 A Bidder shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
5. Eligible Materials, Equipment and Services

5.1 The materials, equipment and services to be supplied under the Contract may have their origin in any country subject to the restrictions and Regulations of the Laws of Kenya, and all expenditures under the Contract will not contravene such restrictions. At the Employer’s request, Bidders may be required to provide evidence of the origin of materials, equipment and services.

B. Contents of Bidding Document

6. Sections of Bidding Document

6.1 The Bidding Document consist of Parts 1, 2, and 3, which include all the Sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures
- Section I - Instructions to Bidders (ITB)
- Section II - Bid Data Sheet (BDS)
- Section III - Evaluation and Qualification Criteria
- Section IV - Bidding Forms
- Section V Eligible countries
- Section VI Corrupt and fraudulent

PART 2 Works Requirements
- Section VII - Works Requirements

PART 3 Conditions of Contract and Contract Forms
- Section VIII - General Conditions of Contract (GCC)
- Section IX - Particular Conditions of Contract (PCC)
- Section X - Contract Forms

6.2 The Invitation for Bids issued by the Employer is not part of the Bidding Document.

6.3 Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the Bidding Documents, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Documents in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its bid all information and documentation as is required by the Bidding Documents.
7. **Clarification of Bidding Document, Site Visit, Pre-Bid Meeting**

7.1 A Bidder requiring any clarification of the Bidding Document shall contact the Employer in writing at the Employer’s address specified in the BDS or raise its inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. The Employer will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period specified in the BDS. The Employer shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified in the BDS, the Employer shall also promptly publish its response at the web page identified in the BDS. Should the clarification result in changes to the essential elements of the Bidding Documents; the Employer shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.

7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder’s own expense.

7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

7.4 If so specified in the BDS, the Bidder’s designated representative is invited to attend a pre-bid meeting. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

7.5 The Bidder is requested, to submit any questions in writing, to reach the Employer not later than one day before the meeting.

7.6 Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be
made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting. Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

8. Amendment of Bidding Document

8.1 At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Documents by issuing addenda.

8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Document from the Employer in accordance with ITB 6.3. The Employer shall also promptly publish the addendum on the Employer’s web page in accordance with ITB 7.1.

8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2.

C. Preparation of Bids

9. Cost of Bidding

9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

10. Language of Bid

10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in the language specified in the BDS. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the BDS, in which case, for purposes of interpretation of the Bid, such translation shall govern.

11. Documents Comprising the Bid

11.1 The Bid shall comprise the following:

(a) Letter of Bid and Appendix to Bid, in accordance with ITB 12;

(b) completed Schedules, in accordance with ITB 12 and 14: as specified in the BDS;

(c) Bid Security or Bid Securing Declaration, in accordance with ITB 19.1;
(d) alternative bids, if permissible, in accordance with ITB 13;

(e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;

(f) documentary evidence in accordance with ITB 17 establishing the Bidder’s qualifications to perform the contract if its Bid is accepted;

(g) Technical Proposal in accordance with ITB 16; and

(h) any other document required in the BDS.

11.2 In addition to the requirements under ITB 11.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.

11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

12. Letter of Bid and Schedules  
12.1 The Letter of Bid and Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.2. All blank spaces shall be filled in with the information requested.

13. Alternative Bids  
13.1 Unless otherwise specified in the BDS, alternative bids shall not be considered.

13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the BDS, as will the method of evaluating different times for completion.

13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the Bidding Document must first price the Employer’s design as described in the Bidding Document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the
Employer.

13.4 When specified in the BDS, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be identified in the BDS and described in Section VII. Works Requirements. The method for their evaluation will be stipulated in Section III. Evaluation and Qualification Criteria.

14. Bid Prices and Discounts

14.1 The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid and in the Schedules shall conform to the requirements specified below.

14.2 The Bidder shall submit a bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works, as identified in Section IV. Bidding Forms. In case of admeasurement contracts, the Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Bidder 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 Bill of Quantities.

14.3 The price to be quoted in the Letter of Bid, in accordance with ITB 12.1, shall be the total price of the bid, excluding any discounts offered.

14.4 The Bidder shall quote any discounts and the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.

14.5 Unless otherwise provided in the BDS and the Conditions of Contract, the prices quoted by the Bidder shall be fixed. If the prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, the Bidder shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data in Section IV- Bidding Forms and the Employer may require the Bidder to justify its proposed indices and weightings.

14.6 If so specified in ITB 1.1, bids are invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4, provided the bids for all lots (contracts) are opened at
the same time.

14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices\(^1\) and the total bid price submitted by the Bidder.

### 15. Currencies of Bid and Payment

15.1 The currency(ies) of the bid and the currency(ies) of payments shall be as specified in the BDS.

15.2 Bidders may be required by the Employer to justify, to the Employer’s satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Adjustment Data in the Appendix to Bid are reasonable\(^2\), in which case a detailed breakdown of the foreign currency requirements shall be provided by Bidders.

### 16. Documents Comprising the Technical Proposal

16.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders’ proposal to meet the work requirements and the completion time.

### 17. Documents Establishing the Qualifications of the Bidder

17.1 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms.

17.2 If a margin of preference applies as specified in accordance with ITB 33.1, domestic Bidders, individually or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITB 33.1.

### 18. Period of Validity of Bids

18.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Employer in accordance with ITB 22.1. A bid valid for a shorter period shall be rejected by the Employer as nonresponsive.

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\(^1\) In lump sum contracts, delete “rates and prices and the” sum price.”

\(^2\) For lump sum contracts, delete “rates and prices and shown in the Schedule of Adjustment Data in the Appendix to Bid are reasonable” and replace with “Lump Sum.”
18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended for thirty (30) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.

18.3 If the award is delayed by a period exceeding sixty (60) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows:

(a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor specified in the BDS.

(b) In the case of adjustable price contracts, no adjustment shall be made.

(c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

19.1 The Bidder shall furnish as part of its bid, either a Bid-Securing Declaration or a bid security as specified in the BDS, in original form and, in the case of a bid security, in the amount and currency specified in the BDS.

19.2 A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.

19.3 If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder’s option:

(a) an unconditional guarantee issued by a bank or financial institution;

(b) an irrevocable letter of credit;

(c) a cashier’s or certified check; or

(d) Another security specified in the BDS.

from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Employer’s Country, the issuing financial institution shall have a correspondent financial institution located
in the Employer’s Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Employer prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

19.4 If a bid security or Bid Securing Declaration is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive bid security or Bid-Securing Declaration shall be rejected by the Employer as non responsive.

19.5 If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder’s signing the Contract and furnishing the performance security pursuant to ITB 42.

19.6 The bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.

19.7 The bid security may be forfeited or the Bid Securing Declaration executed:

(a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder; or

(b) if the successful Bidder fails to:

(i) sign the Contract in accordance with ITB 41; or

(ii) furnish a performance security in accordance with ITB 42.

19.8 The bid security or the Bid Securing Declaration of a JV shall be in the name of the JV that submits the bid. If the JV has not been constituted into a legally-enforceable JV, at the time of bidding, the Bid Security or the Bid Securing Declaration shall be in the names of all future members as named in the letter of intent mentioned in ITB 4.1 and ITB 11.2.

19.9 If a bid security is not required in the BDS, and

(a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or

(b) if the successful Bidder fails to: sign the Contract
accordance with ITB 41; or furnish a performance security in accordance with ITB 42;

the Borrower may, if provided for in the BDS, declare the Bidder ineligible to be awarded a contract by the Employer for a period of time as stated in the BDS.

20. Format and Signing of Bid

20.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it “ORIGINAL”. Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked “ALTERNATIVE”. In addition, the Bidder shall submit copies of the bid in the number specified in the BDS, and clearly mark each of them “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.

20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.

20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

20.4 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

D. Submission and Opening of Bids

21. Sealing and Marking of Bids

21.1 The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as “ORIGINAL”, “ALTERNATIVE” and “COPY.” These envelopes containing the original and the copies shall then be enclosed in one single envelope.

21.2 The inner and outer envelopes shall:

(a) bear the name and address of the Bidder;

(b) be addressed to the Employer as provided in the BDS
pursuant to ITB 22.1;

(c) bear the specific identification of this bidding process specified in accordance with BDS 1.1; and

(d) bear a warning not to open before the time and date for bid opening.

21.3 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

22. Deadline for Submission of Bids

22.1 Bids must be received by the Employer at the address and no later than the date and time specified in the BDS. When so specified in the BDS, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures specified in the BDS.

22.2 The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

23. Late Bids

23.1 The Employer shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Employer after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.

24. Withdrawal, Substitution, and Modification of Bids

24.1 A Bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:

(a) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION;” and

(b) received by the Employer prior to the deadline prescribed for submission of bids, in accordance with ITB 22.

24.2 Bids requested to be withdrawn in accordance with ITB 24.1
shall be returned unopened to the Bidders.

24.3 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof.

25. Bid Opening

25.1 Except in the cases specified in ITB 23 and 24, the Employer shall publicly open and read out in accordance with ITB 25.3 all bids received by the deadline, at the date, time and place specified in the BDS, in the presence of Bidders' designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as specified in the BDS.

25.2 First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding bid being substituted, and the substituted bid shall not be opened, but returned to the Bidder. No bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked “MODIFICATION” shall be opened and read out with the corresponding bid. No bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at bid opening. Only envelopes that are opened and read out at bid opening shall be considered further.

25.3 All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Price, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a bid security, or Bid Securing Declaration, if required; and any other details as the Employer may consider appropriate. Only discounts and alternative bids read out at bid opening shall be considered for evaluation. The Letter of Bid and the Bill of Quantities are to be initialed by representatives of the Employer attending bid opening in the manner specified in the BDS. The Employer shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 23.1).
25.4 The Employer shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts and alternative bids; and the presence or absence of a bid security, if one was required. The Bidders’ representatives who are present shall be requested to sign the record. The omission of a Bidder’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

E. Evaluation and Comparison of Bids

26. Confidentiality

26.1 Information relating to the evaluation of bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the bidding process until information on Contract award is communicated to all Bidders in accordance with ITB 40.

26.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.

26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the bidding process, it shall do so in writing.

27. Clarification of Bids

27.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid given a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer’s request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease in the prices or substance of the bid shall be sought, offered, or permitted, including to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 31.

27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Employer’s request for clarification, its bid may be rejected.
28. Deviations, Reservations, and Omissions

28.1 During the evaluation of bids, the following definitions apply:

(a) “Deviation” is a departure from the requirements specified in the Bidding Document;

(b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and

(c) “Omission” is the failure to submit part or all of the information or documentation required in the Bidding Document.

29. Determination of Responsiveness

29.1 The Employer’s determination of a bid’s responsiveness is to be based on the contents of the bid itself, as defined in ITB11.

29.2 A substantially responsive bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,

(a) if accepted, would:

(i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or

(ii) limit in any substantial way, inconsistent with the Bidding Document, the Employer’s rights or the Bidder’s obligations under the proposed Contract; or

(b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.

29.3 The Employer shall examine the technical aspects of the bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section VII (Works Requirements) have been met without any material deviation, reservation or omission.

29.4 If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30. Nonconformities, Errors, and Omissions

30.1 Provided that a bid is substantially responsive, the Employer may waive any nonconformities in the bid.

30.2 Provided that a bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or
documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

30.3 Provided that a bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price may be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the methods specified in Section III (Evaluation and Qualification Criteria).

31. Correction of Arithmetical Errors

The bid sum submitted and read out during the tender opening shall be absolute and final and shall not be subject of correction, adjustments or amendments in any way or by any person or entity.

32. Conversion to Single Currency

32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified in the BDS.

33. Margin of Preference

33.1 Unless otherwise specified in the BDS, a margin of preference for domestic bidders shall apply.

34. Subcontractors

34.1 Unless otherwise stated in the BDS, the Employer does not intend to execute any specific elements of the Works by sub-contractors selected in advance by the Employer.

34.2 The Employer may permit subcontracting for certain specialized works as indicated in Section III. When subcontracting is permitted by the Employer, the specialized sub-contractor’s experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.

34.3 Bidders may propose subcontracting up to the percentage of total

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3 An individual firm is considered a domestic bidder for purposes of the margin of preference if it is registered in the country of the Employer, has more than 50 percent ownership by nationals of the country of the Employer, and if it does not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign contractors. JVs are considered as domestic bidders and eligible for domestic preference only if the individual member firms are registered in the country of the Employer or have more than 50 percent ownership by nationals of the country of the Employer, and the JV shall be registered in the country of the Borrower. The JV shall not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign firms. JVs between foreign and national firms will not be eligible for domestic preference.
value of contracts or the volume of works as specified in the BDS.

35. Evaluation of Bids

35.1 The Employer shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.

35.2 To evaluate a bid, the Employer shall consider the following:

(a) the bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities\(^4\) for admeasurement contracts or Schedule of Prices for lump sum contracts, but including Day work\(^5\) items, where priced competitively;

(b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1;

(c) price adjustment due to discounts offered in accordance with ITB 14.4;

(d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32;

(e) price adjustment for nonconformities in accordance with ITB 30.3;

(f) the additional evaluation factors are specified in Section III (Evaluation and Qualification Criteria);

35.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

35.4 If this Bidding Document allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the contract combinations, including any discounts offered in the Letter of Bid, is specified in Section III (Evaluation and Qualification Criteria).

35.5 If the bid for an admeasurement contract, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front loaded or substantially below updated estimates in the opinion of the

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\(^4\) In lump sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule.”

\(^5\) Daywork is work carried out following instructions of the Project Manager and paid for on the basis of time spent by workers, and the use of materials and the Contractor’s equipment, at the rates quoted in the Bid. For Daywork to be priced competitively for Bid evaluation purposes, the Employer must list tentative quantities for individual items to be costed against Daywork (e.g., a specific number of tractor driver staff-days, or a specific tonnage of Portland cement), to be multiplied by the bidders’ quoted rates and included in the total Bid price.
Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated Contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

36. **Comparison of Bids**

36.1 The Employer shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 35.2 to determine the lowest evaluated bid.

37. **Qualification of the Bidder**

37.1 The Employer shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid meets the qualifying criteria specified in Section III (Evaluation and Qualification Criteria).

37.2 The determination shall be based upon an examination of the documentary evidence of the Bidder’s qualifications submitted by the Bidder, pursuant to ITB 17.1.

37.3 An affirmative determination of qualification shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Employer shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder’s qualifications to perform satisfactorily.

38. **Employer’s Right to Accept Any Bid, and to Reject Any or All Bids**

38.1 The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F. **Award of Contract**

39. **Award Criteria**

39.1 Subject to ITB 37.1, the Employer shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
40. Notification of Award

40.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, via the Letter of Acceptance included in the Contract Forms, that its bid has been accepted. At the same time, the Employer shall also notify all other Bidders of the results of the bidding, and shall publish online the results identifying the bid and lot (contract) numbers and the following information:

(i) name of each Bidder who submitted a Bid;

(ii) bid prices as read out at Bid Opening;

(iii) name and evaluated prices of each Bid that was evaluated;

(iv) name of bidders whose bids were rejected and the reasons for their rejection; and

(v) name of the winning Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.

40.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.

40.3 The Employer shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.
41. Signing Contract

41.1 Promptly upon notification, the Employer shall send the successful Bidder the Contract Agreement.

41.2 Within thirty (30) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.

42. Performance Security

42.1 Within thirty (30) days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security in accordance with the conditions of contract, subject to ITB 35.5, using for that purpose the Performance Security Form included in Section X (Contract Forms), or another form acceptable to the Employer. If the performance security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Employer. A foreign institution providing a bond shall have a correspondent financial institution located in the Employer’s Country.

42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the Employer may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily.

43. Adjudicator

43.1 The Employer proposes the person named in the BDS to be appointed as Adjudicator under the Contract, at the hourly fee specified in the BDS, plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in his Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the Particular Conditions of Contract (PCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.
APPENDIX TO INSTRUCTIONS TO BIDDERS

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

Qualification of Bidders

Eligibility Criteria

The prime bidder shall meet the following requirements:

1. High Mast Lighting/ Street Lighting

   a) The bidder should be competent Electrical contractor with financial capability to design, supply, erect, test and commission the complete lighting system (including luminaries, etc), involving Raising and Lowering type of High Mast Towers, various configurations of street lighting systems.

   b) Should obtain manufactures authorization for the major accessories of the mast/ street lighting poles (head frame, lantern carriage, winch, overreach arm, control pillar, etc.) shall be of same manufacturer as that of high mast shaft/ street lighting pole.

   c) The high mast and street lighting pole manufacturing plant and the galvanizing unit of the concerned manufacturer shall have an ISO 14001 certification. A valid ISO 14001 certification for manufacturing the relevant High Mast Lighting System, street lighting poles or a self attested copy of the same should be submitted with the bid

   d) Bidder should have adequate qualified and experienced Engineers to carry out the job. A self attested list of such people (with their educational qualification & experience mentioned), available with them, shall be enclosed along with the submission of bids.

   e) The bidder shall submit a list of similar works completed in the last five financial years giving description of work, organization for whom executed, approximate value of contract at the time of award, date of award and date of scheduled completion of work. The above mentioned certificates, or, duly self attested copies thereof, should be submitted along with the bid documents.
The procuring entity reserves the right to amend the scope of work, accept or reject any or all the offers, in part or in full or cancel/withdraw the invitation for bids without assigning any reasons whatsoever and in such case no bidder / intending bidder shall have any claim arising out of such action.

Bidders who meet the criteria given above are subject to be disqualified, if they have made untrue or false representation in the forms, statements and attachments submitted in proof of the qualification requirements or have a record of poor performance, not properly completing the contract, inordinate delays in completion or financial failure, etc.
Section II - Bid Data Sheet (BDS)

A. Introduction

<table>
<thead>
<tr>
<th>INSTRUCTIONS TO BIDDERS REFERENCE</th>
<th>PARTICULARS OF APPENDIX TO INSTRUCTIONS TO BIDDERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITB 1.1</td>
<td>The number of the Invitation for Bids is:</td>
</tr>
<tr>
<td></td>
<td>LHPP/MAUD/KUSP/RRU/002/2018/2019</td>
</tr>
<tr>
<td></td>
<td>The Employer is: <strong>Ruiru Municipality</strong></td>
</tr>
<tr>
<td>ITB 1.1</td>
<td>The name of the bidding process is: <strong>National Competitive Bidding (NCB)</strong></td>
</tr>
<tr>
<td></td>
<td>The bid name</td>
</tr>
<tr>
<td></td>
<td><strong>Installation, testing &amp; commissioning of Integrated solar street lights and High mast Lighting in Ruiru Municipality</strong></td>
</tr>
<tr>
<td>ITB 2.1</td>
<td>The Borrower is: <strong>N/A</strong></td>
</tr>
<tr>
<td>ITB 2.1</td>
<td>The name of the Project is: <strong>Kenya Urban Support Program (KUSP)</strong></td>
</tr>
<tr>
<td>ITB 2.1</td>
<td>Loan or Financing Agreement amount: <strong>N/A</strong></td>
</tr>
<tr>
<td>ITB 4.1</td>
<td>Maximum number of members in the JV shall be: <strong>NIL</strong></td>
</tr>
</tbody>
</table>

B. Bidding Documents

| ITB 7.1                           | For **clarification purposes** only, the Employer’s address is: |
|                                  | Attention: **Ruiru Municipality**                  |
|                                  | Street Address: **Ruiru Municipality offices P.O. BOX 170-00232,** |
|                                  | Town: **Ruiru**                                    |
|                                  | Country: **Kenya**                                 |
|                                  | Requests for clarification should be received by the Employer no later than: **7 days before Bid Submission Date.** |
| ITB 7.1                           | Web page: [www.kiambu.go.ke](http://www.kiambu.go.ke) contact |
**ITB 7.4** | A Pre-tender site visit is **Mandatory**. Bidders will be required to sign an attendance register.

The meeting point will be at Ruiru sub county offices, at the following date, time and place:

**Date:** 13\(^{th}\) **November 2018**  
**Time:** 10:00 AM  
**Place:** **Ruiru sub county offices**

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**C. Preparation of Bids**

| ITB 10.1 | The language of the bid is: **English**  
All correspondence exchange shall be in **English** language. |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>ITB 11.1 (b)</td>
<td>The following schedules shall be submitted with the bid: <strong>AS PROVIDED IN THE BID DOCUMENT</strong></td>
</tr>
<tr>
<td>ITB 11.1 (h)</td>
<td>The Bidder shall submit with its bid the following additional documents: <strong>AS PROVIDED IN THE BID DOCUMENT</strong></td>
</tr>
<tr>
<td>ITB 13.1</td>
<td>Alternative bids <strong>shall not be</strong> permitted.</td>
</tr>
<tr>
<td>ITB 13.2</td>
<td>Alternative times for completion <strong>shall not be</strong> permitted.</td>
</tr>
<tr>
<td>ITB 13.4</td>
<td>Alternative technical solutions shall <strong>not</strong> be permitted for the following parts of the Works: <strong>as per ITB 13.3</strong></td>
</tr>
<tr>
<td>ITB 14.5</td>
<td>The prices quoted by the Bidder <strong>shall not be</strong> subject to adjustment during the performance of the Contract.</td>
</tr>
<tr>
<td>ITB 15.1</td>
<td>The prices shall be quoted by the bidder in: <strong>Kenya Shillings</strong></td>
</tr>
<tr>
<td>ITB 18.1</td>
<td>The bid validity period shall be: <strong>120 days.</strong></td>
</tr>
<tr>
<td>ITB 18.3 (a)</td>
<td>The bid price shall be adjusted by the following factor(s): <strong>NIL</strong></td>
</tr>
</tbody>
</table>
| ITB 19.1 | A Bid Security **shall be** required.  
The amount and currency of the bid security shall be: **2\% of the contract sum and it shall be from a reputable bank.** |
| **ITB 19.3 (d)** | Other types of acceptable securities:  
None |
|-----------------|---------------------------------|
| **ITB 20.1**    | In addition to the original of the bid, the number of copies is one (1No.)  
Copies |
| **ITB 20.2**    | The written confirmation of authorization to sign on behalf of the Bidder shall consist of: [Power of attorney signed by legally authorized representatives of the firm. Sworn statement by authorized representative(s) of the firm confirming that they are dully authorized to legally represent the firm. (power of attorney and sworn statement must be from the commissioner of oaths dully stamped and signed) |
### D. Submission and Opening of Bids

<table>
<thead>
<tr>
<th>ITB 22.1</th>
<th>Bidders shall not have the option of submitting their bids electronically.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>ITB 22.1</th>
<th>Completed tender documents in plain sealed envelopes clearly marked with the relevant <strong>Tender Number</strong> should be dropped at the tender box located outside room <strong>15B</strong> at <strong>THIKA TOWN HALL OFFICES</strong> addressed to:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Chief officer,</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Municipal Administration And Urban Development.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>P.O Box 2344-00900</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Kiambu.</strong></td>
</tr>
<tr>
<td></td>
<td>To reach the above mentioned on/before <strong>21st November 2018 at 10:00 AM,</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ITB 25.1</th>
<th>The bid opening shall take place at: <strong>THIKA Town Hall Chambers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Town:</strong> <strong>THIKA</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Country:</strong> <strong>Kenya</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Date:</strong> <strong>21st November 2018</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Time:</strong> <strong>10:00 A.M.</strong></td>
</tr>
</tbody>
</table>

| 25.3     | The Letter of Bid and Priced Bill of Quantities shall be initialed by **tender opening committee.** |
E. Evaluation and Comparison of Bids

| ITB 32.1 | Not applicable. |
| ITB 33.1 | A margin of preference shall apply. |
| ITB 34.1 | Not applicable |
| ITB 34.3 | Not applicable |

F. Award of Contract

| ITB 43.1 | The Adjudicator proposed by the Employer is Chartered Institute of Arbitrators of Kenya, P.O. BOX 50163-00200 Nairobi, Kenya. The hourly fee for this proposed Adjudicator shall be: in accordance with scale of fees as spelt out by the professional body. |
Section III - Evaluation and Qualification Criteria

This section contains all the criteria that the Employer shall use to evaluate bids and qualify Bidders if the bidding was not preceded by a prequalification exercise and post-qualification is applied. In accordance with ITB 35 and ITB 37, no other methods, criteria and factors shall be used. The Bidder shall provide all the information requested in the forms included in Section 4 (Bidding Forms).

Wherever a Bidder is required to state a monetary amount, Bidders should indicate the USD equivalent using the rate of exchange determined as follows:

- For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.

- Value of single contract - Exchange rate prevailing on the date of the contract.

Exchange rates shall be taken from the publicly available source identified in the ITB 32.1. Any error in determining the exchange rates in the Bid may be corrected by the Employer.
Table of Criteria

1. **Margin of Preference** ............................................................................................................. 38

2. **Evaluation** .............................................................................................................................. 38
   2.1 Adequacy of Technical Proposal ............................................................... 38
   2.2 Multiple Contracts ......................................................................................... 38
   2.3 Alternative Completion Times ................................................................. 38
   2.4 Technical Alternatives .................................................................................... 38
   2.5 Specialized Subcontractors ............................................................................. 38

3. **Qualification** .......................................................................................................................... 39
   1. Eligibility ......................................................................................................................... 39
   2. Historical Contract Non-Performance ............................................................. 39
   3. Financial Situation and Performance ............................................................. 42
   4. Experience ......................................................................................................................... 44
   5. Personnel ......................................................................................................................... 48
   6. Equipment ......................................................................................................................... 48
1. **Margin of Preference – APPLICABLE**

2. **Evaluation**

In addition to the criteria listed in ITB 35.2 (a) – (e) the following criteria shall apply:

2.1 **Adequacy of Technical Proposal**

Evaluation of the Bidder’s Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section VII (Works Requirements).

2.2 **Multiple Contracts – NOT APPLICABLE**

2.3 **Alternative Completion Times – NOT APPLICABLE**

2.4 **Technical Alternatives – NOT APPLICABLE**

2.5 **Specialized Subcontractors**

Only the specific experience of sub-contractors for specialized works permitted by the Employer will be considered. The general experience and financial resources of the specialized sub-contractors shall not be added to those of the Bidder for purposes of qualification of the Bidder.

The specialized sub-contractors proposed shall be fully qualified for their work proposed, and meet the following criteria:
3. Qualification guidelines

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
<th>Compliance Requirements</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Single Entity</td>
<td>Joint Venture (existing or intended)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All Parties Combined</td>
<td>Each Member</td>
</tr>
<tr>
<td>1</td>
<td>Nationality</td>
<td>Nationality in accordance with ITB 4.3</td>
<td>Must meet requirement</td>
<td>Must meet requirement</td>
</tr>
<tr>
<td>1.2</td>
<td>Conflict of Interest</td>
<td>No conflicts of interest in accordance with ITB 4.2</td>
<td>Must meet requirement</td>
<td>Must meet requirement</td>
</tr>
<tr>
<td>1.3</td>
<td>Government Owned Entity</td>
<td>Meets conditions of ITB 4.5</td>
<td>Must meet requirement</td>
<td>Must meet requirement</td>
</tr>
</tbody>
</table>

2. Historical Contract Non-Performance

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
<th>Compliance Requirements</th>
<th>Documentation</th>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All Parties Combined</td>
<td>Each Member</td>
</tr>
<tr>
<td>2.1</td>
<td>History of Non-Performing Contracts</td>
<td>Non-performance of a contract did not occur as a result of contractor default since 1st January 2015</td>
<td>Must meet requirement</td>
<td>Must meet requirements</td>
</tr>
<tr>
<td>2.2</td>
<td>Suspension Based on Execution of Bid</td>
<td>Not under suspension based</td>
<td>Must meet requirement</td>
<td>Must meet requirement</td>
</tr>
</tbody>
</table>

---

6 Non-performance, as decided by the Employer, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

7 This requirement also applies to contracts executed by the Bidder as JV member.
<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
<th>Compliance Requirements</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Securing Declaration by the Employer or withdrawal of the Bid within Bid validity</strong></td>
<td>on execution of a Bid Securing Declaration pursuant to ITB 4.6 or withdrawal of the Bid pursuant ITB 19.9.</td>
<td>Must meet requirement</td>
<td>Form CON – 2</td>
</tr>
<tr>
<td>2.3</td>
<td><strong>Pending Litigation</strong></td>
<td>Bidder’s financial position and prospective long term profitability sound according to criteria established in 3.1 below and assuming that all pending litigation will be resolved against</td>
<td>Must meet requirement</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Subject</td>
<td>Requirement</td>
<td>Compliance Requirements</td>
<td>Documentation</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Single Entity</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Joint Venture (existing or intended)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All Parties Combined</td>
<td>Each Member</td>
</tr>
<tr>
<td>2.4</td>
<td>Litigation History</td>
<td>No consistent history of court/arbitral award decisions against the Bidder(^8) since 1(^{st}) January 2015</td>
<td>Must meet requirement</td>
<td>Must meet requirement</td>
</tr>
</tbody>
</table>

\(^8\) The Bidder shall provide accurate information on the letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.
### 3. Financial Situation and Performance

#### 3.1 Financial Capabilities

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
<th>Compliance Requirements</th>
<th>Documentation</th>
</tr>
</thead>
</table>
| 3.1 | Financial Capabilities | (i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as **Ksh 5 million for months without payment** for the subject contract(s) net of the Bidders other commitments  
   (ii) The Bidders shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for | Single Entity: Must meet requirement  
   Joint Venture (existing or intended): Must meet Requirement | Submission Requirements: Form FIN – 3.1, with attachments |
|     |                  |                                                                             | All Parties Combined: N/A |                                                                            |
|     |                  |                                                                             | Each Member: Must meet requirement |                                                                            |
|     |                  |                                                                             | One Member: Must meet requirement |                                                                            |
### QUALIFICATION GUIDELINES

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
<th>Single Entity</th>
<th>Joint Venture (existing or intended)</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>All Parties Combined</td>
<td>Each Member</td>
<td>One Member</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>future contract commitments. (iii) The audited balance sheets or, if not required by the laws of the Bidder’s country, other financial statements acceptable to the Employer, for the last one (1) year shall be submitted and must demonstrate the current soundness of the Bidder’s financial position and indicate its prospective long-term profitability.</td>
<td>Must meet requirement</td>
<td>Must meet requirement</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>Average Annual Construction Turnover</td>
<td>Minimum average annual construction turnover of <em>Kenya Shillings 100 Million</em> calculated as total certified payments received for contracts in progress and/or completed within the last two years, divided by <strong><strong>2</strong></strong> years</td>
<td>Must meet requirement</td>
<td>Must meet __________% of the requirement</td>
<td>Must meet __________% of the requirement</td>
</tr>
</tbody>
</table>
### Qualification Guidelines

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
<th>Single Entity</th>
<th>Joint Venture (existing or intended)</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>All Parties Combined</td>
<td>Each Member</td>
<td>One Member</td>
</tr>
</tbody>
</table>

#### 4. Experience

**4.1(a) Registration**
- Registered with NCA category 5 and above with the current registration license. Must have the current single business permit and must be tax compliant.
- Must meet requirement
- Must meet requirement
- N/A
- Form EXP – 4.1

**4.1(b) General Construction Experience**
- Experience under construction contracts in the role of prime contractor, JV member, subcontractor, or management contractor for at least the last 3 years, starting 1st January 2015.
- Must meet requirement
- N/A
- Must meet requirement
- N/A
- Form EXP – 4.1

**4.2(a) Specific Construction & Contract Management Experience**
- (i) A minimum number of similar contracts specified below that have been satisfactorily and substantially completed as a
- Must meet requirement
- Must meet requirement
- N/A
- N/A
- Form EXP 4.2(a)

---

9 The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in Section VII, Work’s Requirements.

Summation of number of small value contracts (less than the value specified under requirement) to meet the overall requirement will be accepted.

10 Substantial completion shall be based on 80% or more works completed under the contract.
<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>prime contractor, joint venture member(^{11}), management contractor or sub-contractor(^{11}) between 1st January [2015] and application submission deadline: (i) 1 contracts, each of minimum value Ksh 100 Million [In case the Works are to be bid as individual contracts under a slice and package (multiple contract) procedure, the minimum number of contracts required for purposes of evaluating qualification shall be selected from the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{12}\) In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

\(^{11}\) For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder’s share, by value, shall be considered to meet this requirement.
<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
<th>Compliance Requirements</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2</td>
<td>(b)</td>
<td>For the above and any other contracts completed and</td>
<td>Must meet requirements</td>
<td>Must meet the following requirements for Form EXP – 4.2 (b)</td>
</tr>
</tbody>
</table>

**Qualification Guidelines**

Compliance Requirements

<table>
<thead>
<tr>
<th>Options Specified in ITB 35.4</th>
<th>Single Entity</th>
<th>Joint Venture (Existing or Intended)</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Parties Combined</td>
<td>Each Member</td>
<td>One Member</td>
</tr>
</tbody>
</table>

**Submission Requirements**

- [Add the following if specialized subcontractor is permitted and describe nature and characteristics of specialized works:] *(ii) For the following specialized works, the Employer permits specialized sub-contractors as per ITB 34.3*
### QUALIFICATION GUIDELINES

<table>
<thead>
<tr>
<th>No.</th>
<th>Subject</th>
<th>Requirement</th>
<th>Compliance Requirements</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Single Entity</td>
<td>Joint Venture (existing or intended)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>under implementation as prime contractor, joint venture member, management contractor or sub-contractor(^{13}) on or after the first day of the calendar year during the period stipulated in 4.2 (a) above, a minimum construction experience in the following key activities successfully completed(^{14}): [list activities indicating volume, number or rate of production as applicable](^{15})</td>
<td>All Parties Combined</td>
<td>Each Member</td>
</tr>
</tbody>
</table>

\(^{13}\) For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder’s share shall be counted to meet this requirement.

\(^{14}\) Volume, number or rate of production of any key activity can be demonstrated in one or more contracts combined if executed during same time period. The rate of production shall be the annual production rate for the key construction activity (or activities).

\(^{15}\) The minimum experience requirement for multiple contracts will be the sum of the minimum requirements for respective individual contracts.

\(^{16}\) Requirement can be met through a Specialized Sub-contractor.
5 Personnel

The Bidder must demonstrate that it will have the personnel for the key positions that meet the following requirements:

[Specify requirements for each lot as applicable]

<table>
<thead>
<tr>
<th>No.</th>
<th>Position</th>
<th>Total Work Similar Experience (years)</th>
<th>In Similar Works Experience (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Site Agent (Bachelor of Science, Electrical Eng. Registrable/HND in Electrical Engineering)</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Deputy Site Agent (Bachelor of Science/Diploma, Electrical Eng.)</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Site Foremen (Diploma in Electrical Engineering)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Deputy Foremen (Diploma in Electrical Engineering,)</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Bidding Forms.

6. Equipment

The Bidder must demonstrate that they will have access to the key Contractor’s equipment necessary to complete to standards all the works involved.

The Bidder shall provide further details of proposed items of equipment using the relevant Form in Section IV.

7. Evaluation Assessment

These guidelines will be used in awarding marks to bidders but subject to meeting all the conditions of Section III.
**EVALUATION CRITERIA:**

<table>
<thead>
<tr>
<th></th>
<th>Stage1: Mandatory evaluation</th>
<th>YES/NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Certificate of Incorporation / Registration</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>CR12 For the last six months</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>KRA PIN Certificate</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>KRA Current Tax Compliance Certificate</td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>Valid Business Permit</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>Valid and Active NCA Registration certificate (NCA 5 and above for Electrical Works)</td>
<td></td>
</tr>
<tr>
<td>g</td>
<td>Valid and Active ERC Registration Certificate C2 and above</td>
<td></td>
</tr>
<tr>
<td>h</td>
<td>Duly filled Business Questionnaire</td>
<td></td>
</tr>
<tr>
<td>i</td>
<td>Pre-Tender site visit form duly signed and stamped by the authorized officer of the procuring entity</td>
<td></td>
</tr>
<tr>
<td>j</td>
<td>Bid Bond (2% of the tender sum) from a reputable financial institution</td>
<td></td>
</tr>
<tr>
<td>k</td>
<td>One original and one copy properly bound and the bid document should be clearly paginated/serialized.</td>
<td></td>
</tr>
</tbody>
</table>

**NB:** The above documents must be certified by commissioner for oaths
**Stage 2: Technical Evaluation**

The evaluation criteria tabulated below shall be applied.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TENDER REQUIREMENT</th>
<th>Total</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Experience of key personnel</strong></td>
<td>(15)</td>
<td></td>
</tr>
</tbody>
</table>
| A    | Site Agent (Bachelor of Science, Electrical Eng. Registrable/HND in Electrical Engineering) with four years’ experience. *attach academic certificates as proof.*  
YEAR 1 (1mark)  
YEAR 2 (1 mark)  
YEAR 3 (1 mark)  
YEAR 4 (1 mark) | 4     |       |
| B    | Deputy Site Agent (Bachelor of Science/Diploma, Electrical Engineering.) with 2 years’ experience *Attach academic certificates and recommendation letters*  
YEAR 1 (1 mark)  
YEAR 2 (1 mark) | 2     |       |
| C    | Site Foremen (Diploma in Electrical Engineering) with 2 years’ experience *attach recommendation letters*  
YEAR 1 (1.5 marks)  
YEAR 2 (1.5 marks) | 3     |       |
| D    | Deputy Foreman (Diploma in Electrical Engineering.)  
2 years of experience *attach recommendation letters*  
YEAR 1 (1 mark)  
YEAR 2 (1 mark) | 2     |       |
| E    | At least one staff member with ERC license minimum T1  
*Attach professional certificate* | 2     |       |
| F    | At least one staff member with ERC license minimum C2  
*Attach professional certificate* | 2     |       |
|      | **N.B. ALL DOCUMENTS SHOULD BE DULY SIGNED AND STAMPED. RECOMMENDATION LETTERS SHOULD HAVE LETTER HEAD AND CONTACT NUMBERS** |       |       |

2  **The experience of the firm** (30)

Detailed of Electrical works and size done for
<table>
<thead>
<tr>
<th>A</th>
<th>the last five (5) years with completion Certificates successfully undertaken or proof of work done. Each project completed successfully - attach ten completion certificates from public entities/ county government/central government ( 1mark)</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Detailed of solar works of similar nature and complicity done for last four (4) years with completion certificates of work successfully undertaken. <em>Attach a minimum of four completion certificates</em> Each successfully completed project (5 marks)</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td><strong>Tools and Equipment</strong> (30)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electrical tool kit with assorted tools (2 marks) Impedance tester (2 marks) Continuity tester (2 marks) Clamp meter (2 marks) Crane (2 marks) Pickup (2 marks) Truck (2 marks) Complete Solar Kit (5 marks) Insulation resistance tester (5marks) Multitester (3marks) Lux meter (3marks) NB: Attach proof of ownership or lease/serial numbers of each.</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td><strong>Execution of Works</strong> (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method statement on how the Tenderer Intends to execute the works. <em>Attach a detailed work Program with time lines duly signed, stamped by authorized person with letter head.</em></td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td><strong>Preference of Works</strong> (6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local preference (for bidders with valid business permit and letter of registration of works from Kiambu County)- attach valid business permit and letter of registration of works from Kiambu County. Business permit, 3marks</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td><strong>Financial Assessment</strong> (15)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certified Audited Accounts for the last three (3) years (demonstrates the soundness of the Applicant’s financial position)- <em>Should be duly stamped and signed by a recognized audit firm.</em></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Year 1 (3 marks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2 (3 marks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3 (3 marks)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b) Current bank statement for the last one year. *Should be duly stamped and signed by a recognized financial institution.* (6)

**Total Score 100%**

Only bidders who score 75% and above will be subjected to financial evaluation. Those who score below 75% will be eliminated at this stage from the entire evaluation process and will not be considered further.

The procuring entity will ensure due diligence is done to verify information submitted to be authentic, truthful and where necessary verify all the documents. Any form of forgery or misinformation will lead to cancellation of the bid. All machinery and equipments should be functional and operational.

**Stage 3: Financial Evaluation**

i) This will involve ranking of bid sum.

ii) Award criteria is the lowest evaluated tender.

iii) Make recommendation of award.
Section IV - Bidding Forms

Table of Forms

<table>
<thead>
<tr>
<th>Form Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter of Bid</td>
<td>55</td>
</tr>
<tr>
<td>Form of Certificate of pretender visit</td>
<td>53</td>
</tr>
<tr>
<td>Form of Bid Security (Bank Guarantee)</td>
<td>57</td>
</tr>
<tr>
<td>Form of Bid-Securing Declaration</td>
<td>59</td>
</tr>
<tr>
<td>Technical Proposal</td>
<td>61</td>
</tr>
<tr>
<td>Forms for Personnel</td>
<td>2</td>
</tr>
<tr>
<td>Technical Proposal Forms</td>
<td>1</td>
</tr>
<tr>
<td>Forms for Equipment</td>
<td>4</td>
</tr>
<tr>
<td>Bidder’s Qualification</td>
<td>5</td>
</tr>
<tr>
<td>Form ELI - 1.1: Bidder Information Confidential informationForm</td>
<td>61</td>
</tr>
<tr>
<td>Form ELI - 1.2: Information Form for JV Bidders</td>
<td>6</td>
</tr>
<tr>
<td>Form CON – 2: Historical Contract Non-Performance, Pending Litigation and Litigation History</td>
<td>7</td>
</tr>
<tr>
<td>Form CCC: Current Contract Commitments / Works in Progress</td>
<td>8</td>
</tr>
<tr>
<td>Form FIN – 3.1: Financial Situation and Performance</td>
<td>9</td>
</tr>
<tr>
<td>Form FIN3.3: Financial Resources</td>
<td>12</td>
</tr>
<tr>
<td>Form EXP - 4.1: General Construction Experience</td>
<td>13</td>
</tr>
<tr>
<td>Form EXP - 4.2(a): Specific Construction and Contract Management Experience</td>
<td>14</td>
</tr>
<tr>
<td>Form EXP - 4.2(b): Construction Experience in Key Activities</td>
<td>16</td>
</tr>
</tbody>
</table>
Letter of Bid

Date: .................................................................
Invitation for Bid No.:

To: Project Manager,

(a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8);
(b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
(c) We have not been suspended nor declared ineligible by the Employer based on execution of a Bid Securing Declaration in the Employer’s country in accordance with ITB 4.6

We offer to execute in conformity with the Bidding Documents the following Works: **Proposed Supply, Installation, Testing & Commissioning of Integrated Solar Street Lighting and Highmast Lighting in Ruiru Municipality**

(d) The total price of our Bid, excluding any discounts offered in item (f) below is: Ksh ........................................................................................................................................................................................................... (Kenya shillings) ........................................................................................................ and contract period is .................................................. weeks
(e) The discounts offered and the methodology for their application are:

(i) The discounts offered are: ....................................................

(ii) The exact method of calculations to determine the net price after application of discounts is shown below: .................................................................................................

(f) Our bid shall be valid for a period of ......................... days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(g) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;

(h) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;

(i) We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5;\(^\text{17}\)

(j) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: [insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]

\(^{17}\) Bidder to use as appropriate
We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and

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

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraudulent and corruption

Name of the Bidder

Name of the person duly authorized to sign the Bid on behalf of the Bidder

Title of the person signing the Bid

Signature of the person named above

Date signed
Form of Bid Security (Bank Guarantee)

[Bank’s Name, and address of issuing Bank or Swift Identifier Code]

Beneficiary:

County of Kiambu Government
ATT.Ruiru municipality
P.O. BOX 170-00232
TOWN RUIRU
Country: Kenya

Invitation for Bids No: ........................................

Date: ...............................................................

BID GUARANTEE No.: ........................................

Guarantor: ........................................................

We have been informed that .......................( name of the Bidder) hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of Proposed Supply, Installation, Testing & Commissioning Of Integrated Solar Street Lighting and Highmast Lighting In Ruiru Municipality

under Invitation for Bids No. ............................................. (“the IFB”).

Furthermore, we understand that, according to the Beneficiary’s conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we , as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of Ksh...................(amount in numbers) [Kenya Shillings]..........................................................(amount in words)] upon receipt by us of the Beneficiary’s complying supported by the Beneficiary’s statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating either that the Applicant:

(a) has withdrawn its Bid during the period of bid validity specified by the Applicant in the Letter of Bid, or any extension thereto provided by the Applicant; or

(b) having been notified of the acceptance of its Bid by the Beneficiary during the period of bid validity, (i) fails to execute the Contract Agreement or (ii) fails to furnish the performance
security, in accordance with the Instructions to Bidders (“ITB”) of the Beneficiary’s bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the performance security issued to the Beneficiary upon the instruction of the Applicant; and (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary’s notification to the Applicant of the results of the bidding process; or (ii) twenty-eight days after the Validity Period, which date shall be established by presentation to us of copies of the Letter of Bid and any extension(s) thereto, accompanied by the bidding document; or (c) three years after the date of issue of this guarantee.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

_____________________________
[signature(s)]
Form of Bid-Securing Declaration

Date: ..........................................................

Bid No.:

Alternative No.: ................................................

To: County of Kiambu Government

ATT. Ruiru municipality

We, the undersigned, declare that:

We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with the entity that invited Bids for the period of time of ......................starting on ..............., if we are in breach of our obligation(s) under the bid conditions, because we:

(a) have withdrawn our Bid during the period of bid validity specified in the Letter of Bid; or

(b) having been notified of the acceptance of our Bid by the Employer during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB.

We understand this Bid-Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of our Bid.

Name of the Bidder-------------------------------------------------------------

Name of the person duly authorized to sign the Bid on behalf of the Bidder-----------------------------

Title of the person signing the Bid -------------------------------------------------------------

Signature of the person named above-------------------------------------------------------------

Date signed ..........................................................
FORM CBV 5: CERTIFICATE OF BIDDER'S VISIT TO SITE

This is to certify that

[Name/s]………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Being the authorized representative/Agent of [Name of bidder]

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

participated in the organised inspection visit of the site of the works for the PROPOSED SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF INTEGRATED SOLAR STREET LIGHTS AND HIGHMAST LIGHTING IN RUIRU MUNICIPALITY.

held on......................day of........................................20..................

Signed..........................................................……………………………………..
(Employer’s Representative)

…………………………………………………………………………………………………………
(Name of Employer’s Representative) (Designation)

NOTE: This form is to be completed at the time of the organized site visit.
8.1 Form ELI-1.1: CONFIDENTIAL BUSINESS QUESTIONNAIRE FORM
You are requested to give the particulars indicated in Part 1 and either Part 2(a), 2(b) or 2(c) whichever applied to your type of business. You are advised that it is a serious offence to give false information on this form.

**Part 1 – General:**

<table>
<thead>
<tr>
<th>Business Name</th>
<th>Location of business premises.</th>
<th>Plot No.</th>
<th>Street/Road</th>
<th>Postal Address</th>
<th>Tel No.</th>
<th>Fax</th>
<th>E mail</th>
<th>Nature of Business</th>
<th>Registration Certificate No.</th>
<th>Maximum value of business which you can handle at any one time – Kshs.</th>
<th>Name of your bankers</th>
<th>Branch</th>
</tr>
</thead>
</table>

**Part 2 (a) – Sole Proprietor**

Your name in full | Age | Nationality | Country of origin |
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

- Citizenship details
  
- .......

**Part 2 (b) Partnership**

Given details of partners as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Nationality</th>
<th>Citizenship Details</th>
<th>Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
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<td>3.</td>
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<tr>
<td>4.</td>
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</tr>
</tbody>
</table>
**Part 2 (c) – Registered Company**

State the nominal and issued capital of company

<table>
<thead>
<tr>
<th>Nominal Kshs.</th>
<th>Issued Kshs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Given details of all directors as follows

<table>
<thead>
<tr>
<th>Name</th>
<th>Nationality</th>
<th>Citizenship Details</th>
<th>Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>1…</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2…</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3…</td>
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<td></td>
<td></td>
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<tr>
<td>4…</td>
<td></td>
<td></td>
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<tr>
<td>5…</td>
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</tr>
</tbody>
</table>

Date …………………………………………… Signature of Candidate ……………………………

- If a Kenya Citizen, indicate under “Citizenship Details” whether by Birth, Naturalization or registration.

Technical Proposal
Technical Proposal Forms

Personnel

Equipment

Site Organization

Method Statement

Mobilization Schedule

Construction Schedule

Others
Forms for Personnel

Form PER – 1: Proposed Personnel

Bidders should provide the names of suitably qualified personnel to meet the specified requirements for each of the positions listed in Section III (Evaluation and Qualification Criteria). The data on their experience should be supplied using the Form below for each candidate.

<table>
<thead>
<tr>
<th></th>
<th>Title of position</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
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<td>4</td>
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<td>5</td>
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<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>etc.</td>
<td>Title of position</td>
<td>Name</td>
</tr>
</tbody>
</table>
Form PER – 2: Resume of Proposed Personnel
The Bidder shall provide all the information requested below. Fields with asterisk (*) shall be used for evaluation.

<table>
<thead>
<tr>
<th>Position*</th>
<th>Personnel information</th>
<th>Professional qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name *</td>
<td>Date of birth</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Present employment</th>
<th>Name of Employer</th>
<th>Address of Employer</th>
<th>Telephone</th>
<th>Contact (manager / personnel officer)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Job title</th>
<th>Years with present Employer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

<table>
<thead>
<tr>
<th>From*</th>
<th>To*</th>
<th>Company, Project, Position, and Relevant Technical and Management Experience*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Forms for Equipment

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III (Evaluation and Qualification Criteria). A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder. The Bidder shall provide all the information requested below, to the extent possible. Fields with asterisk (*) shall be used for evaluation.

<table>
<thead>
<tr>
<th>Type of Equipment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment Information</td>
</tr>
<tr>
<td>Capacity*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current location</td>
</tr>
<tr>
<td>Details of current commitments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate source of the equipment</td>
</tr>
<tr>
<td>□ Owned</td>
</tr>
</tbody>
</table>

The following information shall be provided only for equipment not owned by the Bidder.

<table>
<thead>
<tr>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of owner</td>
</tr>
<tr>
<td>Address of owner</td>
</tr>
<tr>
<td>Telephone</td>
</tr>
<tr>
<td>Fax</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details of rental / lease / manufacture agreements specific to the project</td>
</tr>
</tbody>
</table>
Bidder’s Qualification

To establish its qualifications to perform the contract in accordance with Section III (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.
8.2 Form ELI-1.2: Information Form for JV Bidders

(to be completed for each member of Joint Venture)

<table>
<thead>
<tr>
<th>Date:</th>
<th>_________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICB No. and title:</td>
<td>_________________</td>
</tr>
<tr>
<td>Page ________________ of ___________ pages</td>
<td></td>
</tr>
</tbody>
</table>

Bidder’s Joint Venture name:

JV member’s name:

JV member’s country of registration:

JV member’s year of constitution:

JV member’s legal address in country of constitution:

JV member’s authorized representative information

Name: _________________________________

Address: _______________________________

Telephone/Fax numbers: __________________

E-mail address: _________________________

1. Attached are copies of original documents of

- [ ] Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.3.

- [ ] In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITB 4.5.

2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.
Form CON – 2: Historical Contract Non-Performance, Pending Litigation and Litigation History

Bidder’s Name: ____________________________
Date: ____________________________
Joint Venture Member’s Name: ____________________________
ICB No. and title: ____________________________
Page _______ of _________ pages

Non-Performed Contracts in accordance with Section III, Evaluation Criteria and Qualifications


☐ Contract(s) not performed since 1st January [insert year] specified in Section III, Evaluation Criteria and Qualifications, requirement 2.1

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-performed portion of contract</th>
<th>Contract Identification</th>
<th>Total Contract Amount (current value, currency, exchange rate and US$ equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contract Identification:
Name of Employer:
Address of Employer:
Reason(s) for non performance:

Pending Litigation, in accordance with Section III, Evaluation Criteria and Qualifications

☐ No pending litigation in accordance with Section III, Evaluation Criteria and Qualifications, Sub-Factor 2.3.

☐ Pending litigation in accordance with Section III, Evaluation Criteria and Qualifications, Sub-Factor 2.3 as indicated below.
Form CCC: Current Contract Commitments / Works in Progress

Bidders and each partner to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

<table>
<thead>
<tr>
<th>Name of contract</th>
<th>Employer, contact address/tel/fax</th>
<th>Value of outstanding work (current US$ equivalent)</th>
<th>Estimated completion date</th>
<th>Average monthly invoicing over last six months (US$/month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<td>2.</td>
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<td>5.</td>
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<tr>
<td>etc.</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Form FIN – 3.1: Financial Situation and Performance

Bidder’s Name: ___________________________
Date: ___________________________
Joint Venture Member’s Name ___________________________
ICB No. and title: ___________________________

Page ____________ of ____________ pages

1. Financial data

<table>
<thead>
<tr>
<th>Type of Financial Information in (currency)</th>
<th>Historic Information for previous ________ years, (amount in currency, currency, exchange rate, USD equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
</tr>
</tbody>
</table>

Statement of Financial Position (Information from Balance Sheet)

- Total Assets (TA)
- Total Liabilities (TL)
- Total Equity/Net Worth (NW)
- Current Assets (CA)
- Current Liabilities (CL)
- Working Capital (WC)

Information from Income Statement

- Total Revenue (TR)
- Profits Before Taxes (PBT)

Cash Flow Information

- Cash Flow from Operating Activities
Section VII- General Conditions of Contract

2. Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

<table>
<thead>
<tr>
<th>No.</th>
<th>Source of finance</th>
<th>Amount (US$ equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
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</tbody>
</table>

2. Financial documents

The Bidder and its parties shall provide copies of financial statements for __________ years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.2. The financial statements shall:

(a) Reflect the financial situation of the Bidder or in case of JV member, and not an affiliated entity (such as parent company or group member).

(b) Be independently audited or certified in accordance with local legislation.

(c) Be complete, including all notes to the financial statements.

(d) Correspond to accounting periods already completed and audited.

☐ Attached are copies of financial statements\(^{18}\) for the __________ years required above; and complying with the requirements

\(^{18}\) If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified.
### Form FIN - 3.2: Average Annual Construction Turnover

Bidder’s Name: ____________________

Date: ________________________

Joint Venture Member’s Name: ____________________________

ICB No. and title: ________________________________

Page __________ of __________ pages

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
<th>Exchange rate</th>
<th>USD equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>[indicate year]</td>
<td>[insert amount and indicate currency]</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Average Annual Construction Turnover *</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2.
Form FIN3.3: Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as specified in Section III (Evaluation and Qualification Criteria)

<table>
<thead>
<tr>
<th>Source of financing</th>
<th>Amount (US$ equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<td>2.</td>
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<tr>
<td>3.</td>
<td></td>
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<tr>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>
**Form EXP - 4.1: General Construction Experience**

<table>
<thead>
<tr>
<th>Bidder’s Name:</th>
<th>Name:</th>
<th>Joint Venture ICB No. and title:</th>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
<td></td>
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<td></td>
<td>Page of pages</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Starting Year</th>
<th>Ending Year</th>
<th>Contract Identification</th>
<th>Role of Bidder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Contract name:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brief Description of the Works performed by the Bidder:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amount of contract:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Name of Employer:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Address:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contract name:</th>
<th>Brief Description of the Works performed by the Bidder:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of contract:</td>
<td></td>
</tr>
<tr>
<td>Name of Employer:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Contract name:</th>
<th>Brief Description of the Works performed by the Bidder:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of contract:</td>
<td></td>
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<tr>
<td>Name of Employer:</td>
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<tr>
<td>Address:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Contract name:</th>
<th>Brief Description of the Works performed by the Bidder:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of contract:</td>
<td></td>
</tr>
<tr>
<td>Name of Employer:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
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</tbody>
</table>
**Form EXP - 4.2(a): Specific Construction and Contract Management Experience**

Bidder’s Name: ______________________

Date: ____________________________

Joint Venture Member’s Name: ______________________

ICB No. and title: ______________________

Page __________ of __________ pages

<table>
<thead>
<tr>
<th>Similar Contract No.</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Identification</td>
<td></td>
</tr>
<tr>
<td>Award date</td>
<td></td>
</tr>
<tr>
<td>Completion date</td>
<td></td>
</tr>
<tr>
<td>Role in Contract</td>
<td>Prime Contractor</td>
</tr>
<tr>
<td></td>
<td>□</td>
</tr>
<tr>
<td>Total Contract Amount</td>
<td>US$ *</td>
</tr>
</tbody>
</table>

If member in a JV or sub-contractor, specify participation in total Contract amount

Employer’s Name: ______________________

Address: ______________________

Telephone/fax number: ______________________

E-mail: ______________________
**Form EXP - 4.2(a) (cont.)**

Specific Construction and Contract Management Experience (cont.)

<table>
<thead>
<tr>
<th>Similar Contract No.</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:</td>
<td></td>
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<tr>
<td>1. Amount</td>
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<td>5. Construction rate for key activities</td>
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<tr>
<td>6. Other Characteristics</td>
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</table>
Form EXP - 4.2(b): Construction Experience in Key Activities

Bidder’s Name: _____________________

Date: ________________________________

Joint Venture Member’s Name: ___________________________

Sub-contractor’s Name (as per ITB 34.2 and 34.3): ___________________

ICB No. and title: ________________________________

Page ___________ of ___________ pages

Sub-contractor’s Name (as per ITB 34.2 and 34.3): ______________

All Sub-contractors for key activities must complete the information in this form as per ITB 34.2 and 34.3 and Section III, Qualification Criteria and Requirements, Sub-Factor 4.2.

1. Key Activity No One: __________________________

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<th>Year</th>
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<td>Award date</td>
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<td>Completion date</td>
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<td>Role in Contract</td>
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<td>Prime Contractor</td>
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<tr>
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<td>Sub-contractor</td>
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<tr>
<td></td>
<td>Total Contract Amount US$</td>
</tr>
<tr>
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<td>Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year</td>
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<td>Percentage participation (ii)</td>
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<td>Actual Quantity Performed (i) x (ii)</td>
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19 If applicable.
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<th>RUIRU MUNICIPALITY</th>
</tr>
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<tbody>
<tr>
<td>Address:</td>
<td>RUIRU SUB COUNTY OFFICE, P.O. BOX 170-00232, RUIRU, Kenya</td>
</tr>
<tr>
<td>Telephone number</td>
<td></td>
</tr>
<tr>
<td>Fax number</td>
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<td>E-mail:</td>
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</table>
### Employer’s Name:

**RUIRU MUNICIPALITY**

### Address:

**RUIRU SUB COUNTY,**  
**P.O. BOX 170-00232**  
**RUIRU, Kenya**

### Telephone/Fax number

### E-mail:

#### 2. Activity No. Two

#### 3. ..................

<table>
<thead>
<tr>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:</td>
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</table>

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<td></td>
</tr>
</tbody>
</table>
Eligible Countries


In reference to ITB 4.7, and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

- Under ITB 4.7 (a) and 5.1: NONE
- Under ITB 4.7 (b) and 5.1: NONE
SECTION VI

Corrupt and Fraudulent Practices

The procuring entity requires that the tenderer observes the highest standard of ethics during the procurement process and execution of the contract. A tenderer shall sign a declaration that he has not and will not be involved in corrupt and fraudulent practices.

The procuring entity will reject a tender if it determines that the tenderer recommended for award has engaged in corrupt and fraudulent practices in competing for the contract in question.

Further a tenderer who is found to have indulged in corrupt and fraudulent practices risks being debarred from participating in public procurement in Kenya.
Section VII - Work’s Requirements

Table of Contents

Specifications ............................................................................................................................................... 22
Standard Specifications .......................................................................................................................... 22

2.1 GENERAL ........................................................................................................................................ 24
SPECIAL SPECIFICATIONS .................................................................................................................... 38
PARTICULAR SPECIFICATIONS FOR HIGHMAST FLOOD LIGHTS AND STREET LIGHTING ........ 44

ANNEXURE - A ..................................................................................................................................... 56
ANNEXURE – B ..................................................................................................................................... 58
ANNEXURE - C ..................................................................................................................................... 68
ANNEXURE – D ..................................................................................................................................... 71

Drawings .................................................................................................................................................. 74

Bills of Quantities ................................................................................................................................. 75

Preamble ................................................................................................................................................ 75

PRELIMINARIES AND BILLS OF QUANTITIES ............................................................................. 77
Specifications

Standard Specifications

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

2.1 General

2.2 Standard of Materials

2.3 Workmanship

2.4 Procurement of Materials

2.5 Shop Drawings

2.6 Record Drawings

2.7 Regulations and Standards

2.8 Setting out Works

2.9 Position of Electrical Plant and Apparatus

2.10 M.C.B Distribution Panels and Consumer Units

2.11 Fused Switchgear and Isolators

2.12 Conduits and Conduit Runs

2.13 Conduit Boxes and Accessories

2.14 Labels

2.15 Earthing

2.16 Cables and Flexible Cords

2.17 Armoured PVC Insulated and Sheathed Cables

2.18 Cable Supports; Markers and Tiles

2.19 PVC Insulated Cables

2.20 Heat Resisting Cables

2.21 Flexible Cords
2.22 Cable Ends and phase Colours
2.23 Cable Insulation Colours
2.24 Sub-circuit Wiring
2.25 Space Factor
2.26 Insulation
2.27 Lighting Switches
2.28 Sockets and Switched sockets
2.29 Fused Spur Boxes
2.30 Cooker Outlets
2.31 Connectors
2.32 Lamp holders
2.33 Lamps
2.34 Lighting Fittings Street lighting Lanterns
2.35 Position of Points and Switches
2.36 Street/Security Lighting Columns
2.37 Timing Control Switch
2.38 Wiring System for Street Lighting
2.39 Metal control Pillar
2.40 Current Operated Earth leakage circuit breaker
2.41 MV Switchboard
2.42 Steel Conduits and Steel Trunking
2.43 Testing on Site
2.1 **GENERAL**
This specification is to be read in conjunction with the drawings which are issued with it. Bills of quantities shall be the basis of all additions and omissions during the progress of the works.

2.2 **STANDARD OF MATERIALS**
Where the material and equipment are specifically described and named in the Specification followed by approved equal, they are so named or described for the purpose of establishing a standard to which the sub-contractor shall adhere.

Should the contractor install any material not specified herein before receiving approval from the proper authorities, the Engineer shall direct the contractor to remove the material in question immediately. The fact that this material has been installed shall have no bearing or influence on the decision by the Engineer.

All materials condemned by the Engineer as not approved for use, are to be removed from the premises and suitable materials delivered and installed in their place at the expense of the Contractor or Sub-contractor for sub-contract works. All materials required for the works shall be new and the best of the respective kind and shall be of a uniform pattern.

2.3. **WORKMANSHIP**
The workmanship and method of installation shall conform to the best standard practice. All work shall be performed by a skilled tradesman and to the satisfaction of the Engineer. Helpers shall have qualified supervision.

Any work that does not in the opinion of the Engineer conform to the best standard practice will be removed and reinstated at the Sub-contractors expense.

Permits, Certificates or Licences must be held by all tradesmen for the type of work; in which they are involved where such permits, certificates or licences exist under Government legislation.

2.4. **PROCUREMENT OF MATERIALS**
The contractor is advised that no assistance can be given in the procurement or allotment of any materials or products to be used in and necessary for the construction and completion of the work.

Contractors are warned that they must make their own arrangements for the supply of materials and/or products specified or required.

2.5. **SHOP DRAWINGS**
Before manufacture or Fabrication is commenced the contractor shall submit Two copies of detailed drawings of all control pillars, meter cubicles, medium voltage switchboards including their components showing all pertinent information including sizes, capacities, construction details, etc, as may be required to determine
the suitability of the equipment for the approval of the Engineer. Approval of the detailed drawings shall not relieve the contractor of the full responsibility of errors or the necessity of checking the drawings himself or of furnishing the materials and equipment and performing the work required by the plans and specifications.

2.6. RECORD DRAWINGS
These diagrams and drawings shall show the completed installation including sizes, runs and arrangements of the installation. The drawings shall be to scale not less than 1:50 and shall include plan views and section.

The drawings shall include all the details which may be useful in the operation, maintenance or subsequent modifications or extensions to the installation.

Three sets of diagrams and drawings shall be provided, all to the approval of the Engineer.

One coloured set of line diagrams relating to operating and maintenance instructions shall be framed and, mounted in a suitable location.

Solar PV design drawings, manuals and software must be provided.

2.7. REGULATIONS AND STANDARDS
All work executed by the contractor shall comply with the current edition of the “Regulations” for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, and with the Regulations of the Local Electricity Authority.

Where the two sets of regulations appear to conflict, they shall be clarified with the Engineer. All materials used shall comply with relevant Kenya Bureau of Standards Specification.

2.8. SETTING OUT WORK
The contractor at his own expenses; is to set out works and take all measurements and dimensions required for the erection of his materials on site; making any modifications in details as may be found necessary during the progress of the works, submitting any such modifications or alterations in detail to the Engineer before proceeding and must allow in his bid for all such modifications and for the provision of any such sketches or drawings related thereto.

2.9. POSITIONS OF ELECTRICAL PLANT AND APPARATUS
The routes of cables and approximate positions of switchboards etc, as shown on the drawings shall be assumed to be correct for purpose of Tendering, but exact positions of all electrical Equipment and routes of cables must be agreed on site with the Engineer before any work is carried out.
2.10. **MCB DISTRIBUTION PANELS AND CONSUMER UNITS**

All cases of MCB Panels and consumer units shall be constructed in heavy gauge sheet with hinged covers.

Removable and drilled gland plates shall be provided on the top and bottom of the cases. Miniature circuit breakers shall be enclosed in moulded plastic with the tripping mechanism and arc chambers separated and sealed from the cable terminals.

The operating dolly shall be trip free with a positive movement in both make and break position. Clear indication of the position of the handle shall be incorporated.

The tripping mechanism shall be on inverse characteristic to prevent tripping in temporary overloads and shall not be affected by normal variation in ambient temperature.

A locking plate shall be provided for each size of breaker; A complete list of circuit details on typed cartridge paper glued to stiff cardboards and covered with a sheet of Perspex, and held in position with four suitable fixings, shall be fitted to the inner face of the lids of each distribution panel. The appropriate MCB ratings shall be stated on the circuit chart against each circuit in use: Ivorine labels shall be secured to the insulation barriers in such a manner as to indicate the number of the circuits shown on the circuit chart. Insulated barriers shall be fitted between phases, and neutrals in all boards, and to shroud live parts.

Neutral cables shall be connected to the neutral bar in the same sequence as the phase cables are connected to the MCB’s. This shall also apply to earth bars when installed.

2.11. **FUSED SWITCHGEAR AND ISOLATORS**

All fused switchgear and isolators whether mounted on machinery, walls or industrial panels shall conform to the requirements of KS 04 – 226 PART: 1: 1985.

All contacts are to be fully shrouded and are to have a breaking capacity on manual operations as required by KS 04 – 182 : 1980.

Fuse links for fused switches are to be of high rupturing capacity cartridge type, conforming to KS 04 – 183 : 1978.

Isolators shall be load breaking/fault making isolators.

Fused switches and isolators are to have separate metal enclosures. Mechanical interlocks are to be provided between the door and main switch operating mechanism so arranged that the door may not be opened with the switch in the ‘ON’ position. Similarly; it shall not be possible to close the switch with the door open except that provision to defeat the mechanical interlock and close the switch with
the door in the open position for test purposes. The ‘ON’ and ‘OFF’ positions of all switches and isolators shall be clearly indicated by a mechanical flag indicator or similar device. In T.P & N fused switch units, bolted neutral links are to be fitted.

2.12. **CONDUITS AND CONDUIT RUNS**

Conduit systems are to be installed so as to allow the loop-in system of wiring:

All conduits shall be black rigid super high impact heavy gauge class ‘A’ PVC in accordance with KS 04 – 179: 1988 and IEE Regulations. No conduit less than 20mm in diameter shall be used anywhere in this installation.

Conduit shall be installed buried in plaster work and floor screed except when run on wooden or metal surface when they will be installed surface supported with saddles every 600mm. Conduit run in chases shall be firmly held in position by means of substantial pipe hooks driven into wooden plugs.

The contractor’s attention is drawn to the necessity of keeping all conduits entirely separate from other piping services such as water and no circuit connections will be permitted between conduits and such pipes.

All conduits systems shall be arranged wherever possible to be self-draining to switch boxes and conduit outlet points for fittings:

The systems, when installed and before wiring shall be kept plugged with well fitting plugs and when short conduit pieces are used as plugs, they shall be doubled over and tied firmly together with steel wire; Before wiring all conduit systems shall be carried out until the particular section of the conduit installation is complete in every respect.

The sets and bends in conduit runs are to be formed on site using appropriate size bending springs and all radii of bends must not be less than 2.5 times the outside diameter of the conduit. No solid or inspection bends, tees or elbows will be used.

Conduit connections shall either be by a demountable (screwed up) assembly or adhesive fixed and water tight by solution. The tube and fittings must be clean and free of all grease before applying the adhesive. When connections are made between the conduit and switch boxes, circular or non-screwed boxes, care shall be taken that no rough edges of conduit stick out into the boxes.

Runs between draw in boxes are not to have more than two right angle bends or their equivalent. The contractor may be required to demonstrate to the Engineer that wiring in any particular run is easily withdrawable and the contractor may, at no extra cost to the contract; be required to install additional draw-in boxes required. If conduit is installed in straight runs in excess of 6000mm, expansion couplings shall be used at intervals of 6000mm.
Where conduit runs are to be concealed in pillars and beams, the approval of the Engineer, shall be obtained. The contractor shall be responsible for marking the accurate position of all holes, chases etc, on site, or if the Engineer so directs, shall provide the Engineer with dimensional drawings to enable him approve to mark out and form all holes and chases. Should the contractor fail to inform the engineer of any inaccuracies in this respect they shall be rectified at the contractor’s expense.

It will be the contractor’s responsibility to ascertain from site, the details existing facilities check the positions of existing facilities. No resettlement works or upgrading works shall be undertaken without first obtaining the written permission of the relevant authority and approved by the Engineer.

The drawings provided with these specifications indicate the proposed appropriate positions, and it shall be the contractor’s responsibility to mark out and centre on site the accurate positions where necessary in consultation with the stakeholders and the Engineer. The contractor alone shall be responsible for the accuracy of the final position.

2.13 CONDUIT BOXES AND ACCESSORIES

All conduit outlets and junction boxes are to be either malleable iron and of standard circular pattern of the appropriate type to suit saddles being used or super high impact PVC manufactured to KS 04 – 179 : 1983.

Small circular pattern boxes are to be used with conduits up to and including 25mm outside diameter. Rectangular pattern adaptable boxes are to be used for conduits of 32mm outside diameter and larger. For drawing in of cables in exposed runs of conduit, standard pattern through boxes are to be used:

Boxes are to be not less than 50mm deep and of such dimensions as will enable the largest appropriate number of cables for the conduit sizes to be drawn in without excessive bending.

Outlet boxes for lighting fittings are to be of the loop-in type where conduit installation is concealed and the contractor shall allow one such box per fitting, except where fluorescent fittings are specified when two such boxes per fitting shall be fitted flush with ceiling and if necessary fitted with break joint rings. Pattresses shall be fitted where required to outlets on surface conduit runs.

Adaptable boxes are to be of PVC or mild steel (of not less than 12swg) and black enamelled or galvanised finish according to location. They shall be of square or oblong shape location. They shall be of square or oblong shape complete with lids secured by four 2 BA brass roundhead screws; No adaptable box shall be less than 75mm x 75mm x 50mm or larger than 300mm x 300mm x 75mm and shall be adequate in depth in relation to the size of conduit entering it. Conduits shall only enter boxes by means of conduit bushes.
2.14 **LABELS**

Labels fitted to switches and fuse boards:-

(i) Shall be Ivorine engraved black on white.

(ii) Shall be secured by R.H brass screws of same manufacturing throughout.

(iii) Shall be indicated on switches:-

   a) Reference number of switch

   b) Special current rating

   c) Item of equipment controlled

(iv) Shall indicate on MCB panels

   a) Reference number

   b) Type of board, i.e., lighting, sockets, etc.

   c) Size of cable supplying panel

   d) Where to isolate feeder cable

(v) Shall be generally not less than 75mm x 50mm.

2.15 **EARTHING**

The earthing of the installation shall comply with the following requirements:-

(i) It shall be carried out in accordance with the appropriate sections of the current edition of the Regulations, for the Electrical Equipment of Buildings issued by Institute of Electrical Engineers of Great Britain.

(ii) At all main distribution panels and main service positions a 25mm x 3mm minimum cross sectional area Copper tape shall be provided and all equipment including the lead sheath and armouring of cables, distribution boards and metal frames shall be bonded thereto.

(iii) The earth tape in Sub-clause (ii) shall be connected by means of a copper tape or cable of suitable cross sectional area to an earth electrode which shall be a copper earth rod (see later sub-clause).

(iv) All tapes to be soft high conductivity copper, untinned except where otherwise specified and where run underground on or through walls, floors, etc., it shall be served with corrosion resisting tape or coated with corrosion compound and braided

(v) Where the earth electrode is located outside the building a removable test link shall be provided inside the building as near as possible to the point of entry to the tape, for isolating the earth electrode for testing purposes.

(vi) Earthing of sub-main equipment shall be deemed to be satisfactory where the sub-main cables are M.I.C.S. or conduit with separate earth wire, and installation is carried out in accordance with the figures stated in the current edition of the I.E.E Regulations.

(vii) Where an earth rod is specified (see Sub-clause (iii) it shall be proprietary manufacture, solid hand drawn copper of 15mm diameter driven into the ground to a minimum depth of 1.6m. It shall be made up to 1.2m sections
with internal screw and socket joints and fitted with hardened steel tip and driving cap.

(viii) Earth plates will not be permitted
(ix) Where an earth rod is used the earth resistance shall be tested in the manner described in the current edition of the IEE Regulations, by the Contractor in the presence of the Engineer and the Contractor shall be responsible for the supply of all test equipment.
(x) Where copper tape is fixed to the building structure it shall be by means of purpose made non-ferrous saddles which space the conductor away from the structure a minimum distance of 20mm. Fixings, shall be made using purpose made plugs; No fixings requiring holes to be drilled through the tape will be accepted.
(xi) Joints in copper tape shall be tinned before assembly riveted with a minimum of two copper rivets and seated solid.
(xii) Where holes are drilled in the earth tape for connection to items of equipment the effective cross sectional area must not be less than required to comply with the IEE regulations.
(xiii) Bolts, nuts and washers for any fixing to the earth tape must be of non-ferrous material.
(xiv) Attention is drawn to the need for the earthing metal parts of lighting fittings and for bonding ball joint suspension in lighting fittings.

2.16 **CABLES AND FLEXIBLE CORDS**

All cables used in this contract shall be manufactured in accordance with the current appropriate Kenya standard Specification which are as follows:-

- PVC Insulated Flexible Cords - Ks 04-192:1988
- PVC Insulated Armoured Cables - Ks 04-194:1990
- Armouring of Electric cables - Ks 04-290:1987

The successful Contractor will, at the Engineers discretion be required to submit samples of cables for the Engineers approval; the Engineer reserves the right to call for the cables of an alternative manufacture without any extra cost being incurred.

P.V.C. Insulated cables shall be 500/1000 volt grade. No cables smaller than 1.5mm² shall be used unless otherwise specified. The installation and the finish of cables shall be as detailed in later clauses. The colour of cables shall conform with the details stated in the “Cable Braid and insulation Colours” Clause.

**2.17 ARMOURED P.V.C. INSULATED AND SHEATHED CABLES:**

Shall be 600/1000 volt grade manufactured to Ks 04-194:1988 and Ks 04-187/188 with copper stranded conductors.
The wire armour of the cable shall be used wholly as an earth continuity conductor and the resistance of the wire armour shall have a resistance not more than twice of the largest current carrying conductor of the cable.

P.V.C./S.W.A./P.V.C. cables shall be terminated using “Telecom” “B” type or approved equal or approved equal glands and a P.V.C. tapered sleeve shall be provided to shroud each gland.

2.18 **CABLE SUPPORTS, MARKERS AND TILES**

In excessively damp or corrosive atmospheric conditions special finishes may be required and the contractor shall apply to the Engineer for further instructions before ordering cleats and channels for such areas.

Cables are to be kept clear of all pipe work and the contractor shall work in close liaison with other utility service providers.

The Contractor shall include for the provision of fixing of approved type coloured slip on cables end markers to indicate permanently the correct phase and neutral colours on all ends.

Provision shall be made for supplying and fixing approved non-corrosive metal cable markers to be attached to the outside of all PVC/SWA/PVC cables at 15mm intervals indicating cable size and distinction.

Where PVC/SWA/PVC cables are outside and need to be buried they shall be laid underground 750mm deep with protecting concrete interlocking cover tiles laid over which shall be provided and laid under this contract.

All necessary excavations and reinstatement of ground including sanding or trenches will be carried out by the Contractor.

2.19 **PVC INSULATED CABLES**

Shall be of non-braided type as CMA reference 6491 x 600/1000/1000 volt grade cables, or equal approved.

PVC cables shall conform to the details of the “Cables and Flexible cords” and “Cable Braid and Insulation Colours” clauses.

2.20 **HEAT RESISTING CABLES**

Final connections to calling the use of this cable, shall be made using butyl rubber insulated cable as CMA reference 610 butyl (Single core 600/1000 Volt).

This type of cable shall be used in all instances where a temperature exceeding 100°F, but not exceeding 150°F is likely to be experienced. Final connections to all lighting fittings (and other equipment where a temperature in excess of 150°C is
likely to be experienced) shall be made using silicon rubber insulated cable or equal and approved.

2.21 FLEXIBLE CORDS
Shall be in accordance with the “Cable and Flexible Cords” clause. No cord shall be less than 24/0.2mm in size unless otherwise specified.

Circular white twin TRS flex shall be used for plain pendant fittings up to 100 watts. For all other types of lighting fittings the flexible cable shall be silicone rubber insulated.

No polythene insulated flexible cable shall be used in any lighting fitting or other appliance (see “Heat Resisting Cables” Clause 30).

2.22 CABLE ENDS AND PHASE COLOURS
All cable ends connected up in switchgear, MCB panels etc., shall have the insulation carefully cut back and the ends sealed with Hellerman rubber slip on cable end markers.

The markers shall be of appropriate phase colour for switch and all other live feeds to the details of the “Cable Insulation Colours” clause. Black cable with black end markers shall only be used for neutral cables.

2.23 CABLE INSULATION COLOURS
Unless otherwise stated in later clauses the insulation colours shall be in accordance with the following table.

Where other systems are installed the cable colours shall be in accordance with the details stated in the appropriate clause.

<table>
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<th>SYSTEM MARKER</th>
<th>INSULATION COLOUR</th>
<th>CABLE END</th>
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<tbody>
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<td>i) Main and Sub-Main</td>
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<td>a) Phase</td>
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<td>Red</td>
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<tr>
<td>b) Neutral</td>
<td>Black</td>
<td>Black</td>
</tr>
<tr>
<td>ii) Sub-Circuits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Phase</td>
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</tr>
<tr>
<td>a) Phase</td>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>b) Neutral</td>
<td>Black</td>
<td>Black</td>
</tr>
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</table>
2.24 SUB-CIRCUIT WIRING
For all lighting and sockets wiring shall be carried out in the “looping in” system and there shall be no joints whatsoever. No lighting circuits shall comprise more than 20 points when protected by 10A MCB. Cables with different cross-section area of copper shall not be used in combination.

Lighting circuits P. V.C. cable.

1.5mm² for all lighting circuits indicated on the drawing.

Power circuits P.V.C cable (minimum sizes).

(i) 2.5mm² for one, two or three 5Amp sockets wired in parallel.

(ii) 2.5mm² for one 15Amp socket.

(iii) 2.5mm² for maximum of ten switched 13 Amp sockets wired from 30 Amp MCB.

The wiring sizes for lighting circuits and sockets are shown on the drawings. In such cases, the sizes shown on the drawings shall prevail over the sizes specified.

2.25 SPACE FACTOR
The maximum number of cables that may be accommodated in a given size of conduit or trunking or duct is not to exceed the number in Tables B.5 and B.6 or as stated in Regulation B.91, B.117 and B.118 of the I.E.E Regulations whichever is appropriate.

2.26 INSULATION
The insulation resistance to earth and between poles of the whole wiring system, fittings and lumps, shall not be less than the requirements of the latest edition of the I.E.E Regulations. Complete tests shall be made on all circuits by the Sub-contractor before the installations are handed over.

A report of all tests shall be furnished by the Contractor to the Engineer. The Engineer will then check test with his own instruments if necessary.

2.27 LIGHTING SWITCHES
These shall be mounted flush, shall be contained in steel or alloy boxes and shall be of the gangs’ ratings and type shown in the drawings. They shall be as manufactured in accordance to KS 04 – 247: 1988

2.28 SOCKETS AND SWITCHED SOCKETS
These shall be flush pattern in steel/pvc box and shall be of the gangs and type specified in the drawings.
They shall be 13- Amp, 3-pin, shuttered, switched and as manufactured in accordance to KS 04 – 246: 1987

2.29 **FUSED SPUR BOXES**
These shall be flush, D.P switched as in steel/pvc box and of type and make specified in the drawings complete with pilot light and as manufactured in accordance KS 04 – 247: 1988

2.31 **CONNECTORS**
Shall be specified in the drawings and appropriate rating. These shall be fitted at all conduit box lighting point outlets for jointing of looped P.V.C cables with flexible cables of specified quality.

2.32 **LAMPHOLDERS**
Shall be of extra heavy H.O skirted and shall be provided for every specified lighting fitting and shall be B.C.; E.S.; or G.E.S as required. All E.S. and G.E.S. holders shall be heavy brass type (except for plain pendants where the reinforced bakelite type shall be used). The screwed cap of the E.S and G.E.S. holders shall be connected to the neutral.

Where lampholders are supported by flexible cable, the holders shall have “cord grip” arrangements and in the case of metal shades earthing screws shall be provided on each of the holders.

The Contractor must order the appropriate type of holder when ordering lighting fittings, to ensure that the correct types of holders are provided irrespective of the type normally supplied by the manufacturers.

2.33 **LAMPS**
All lamps shall be suitable for normal stated supply voltage and the number and sizes of lamps detailed on the drawings shall be supplied and fixed. The Contractor must verify the actual supply voltage with the supply authority before ordering the lamps.

Tungsten filament lamps shall be manufactured in accordance with KS 04 – 112:1978 for general service lamps and KS 04 – 307:1985 for lamps other than general services. Tubular fluorescent lamps shall comply with KS 04 – 464:1982

Pearl lamps shall be used in all fittings unless otherwise specified.

2.34 **LIGHTING FITTINGS AND STREET LIGHTING LANTERNS**
This Contract shall include for the provision, handling charges, taking the delivery, safe storage, wiring (including internal wiring) assembling and erecting of all lighting fittings shown on the drawings.
All fittings and pendants shall be fixed to the conduit boxes with brass R/H screws. These to be in line with metal finish of fittings. The lighting fittings are detailed for the purpose of establishing a high standard of finish and under no circumstances will substitute fittings be permitted.

In case of rectangular shaped ceiling fittings, the extreme ends of the fittings shall be secured to suitable support in addition to the central conduit box fittings. Supports shall be provided and fixed by the Contractor.

The whole of the metal work of each lighting fittings shall be effectively bonded to earth. In the case of ball and/or knuckle joints short lengths of flexible cable shall be provided, bonded to the metal work on either side of the joints. If the above provisions are not made by the manufacturers, the contractor shall include cost of additional work necessary in his bid. Each lighting fitting shall be provided with number type and size of lamps as detailed on the drawings.

2.35 TESTING ON SITE

The contractor shall conduct during and at the completion of the installation and, if required, again at the expiration of the maintenance period, tests in accordance with the relevant section of the current edition of the Regulations for the electrical equipment of buildings issued by the I.E.E of Great Britain, the Government Electrical Specification and the Electric Supply Company’s By-Laws.

(a) Tests shall be carried out to prove that all single pole switches are installed in the ‘live’ conductor.

(b) Tests shall be carried out to prove that all socket outlets and switched socket outlets are connected to the ‘live’ conductor in the terminal marked as such, and that each earth pin is effectively bonded to the earth continuity system.

(c) Tests shall be carried out to verify the continuity of all conductors of each ‘ring’ circuit.

(d) Phase tests shall be carried out on completion of the installation to ensure that correct phase sequence is maintained throughout the installation. Triplicate copies of the results of the above tests shall be provided within 14 days of the witnessed tests and the Contractor will be required to issue to the Engineer the requisite certificate upon completion as required by the regulations referred to above.

(e) Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation made apparently by such inspections or tests shall be rectified by the Contractor at his own expense.

(f) The contractor shall provide accurate instruments and apparatus and all labour required to carry out the above tests. The instruments and apparatus shall be
made available to the services engineer to enable him to carry out such tests as he may require. The Contractor shall generally attend on other contractors employed on the project and carry out such electrical tests as may be necessary. The contractor shall test to the engineer’s approval and as specified elsewhere in this specification or in standards and regulations already referred to, all equipment, plant and apparatus forming part of the works and before connecting to any power or other supply and setting to work.

Where such equipment, etc., forms part of or is connected to a system whether primarily or of an electrical nature or otherwise (e.g. winch) the contractor shall attend on and assist in balancing, regulating testing and commissioning, or if primarily an electrical or other system forming part of works, shall balance, regulate, test and commission the system to the engineer’s approval.
APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

The electrical contractor shall comply with the following: -

1. IEE Regulations
2. Energy-Act 2012
3. All requirements of KPLC
5. Energy Regulatory Commission (ERC)
SPECIAL SPECIFICATIONS

PART 1 GENERAL SPECIFICATION

1.01 Description of the Works

The Works provided for under this Contract consist of: supply, installation, testing & commissioning of high mast and Solar streetlights

1.02 Location of the Works.

The Works will be carried out within RUIRU areas. The specific areas are as listed here below:

RUIRU AREA

A) RUIRU CBD area : 50 No. solar off-grid standalone integrated street lights

B) KAHAWA WENDANI Area: 21 No. Solar off-grid standalone integrated. Light

C) RUIRU /KIAMBU RD/ : 50 No. Solar off-grid standalone integrated street lights

D) RUIRU FORTY JESUS Area: 15 No Solar off-grid standalone integrated street lights

E) RUIRU/CORNER road : 20 No Solar off-grid standalone integrated. Light

RUIRU AREAS

A) Mwihoko near Kilili university. 1 No 15m high mast

B) Mwihoko near Mwihoko secondary 1No. 15m high mast

C) Githurai near Double m 1 No 15m high mast

D) Kiuu near Pefa church 1 No 15m high mast

E) Githurai near Mosque 1 No 15m high mast

F) Gatongora near Kwihota secondary 1NO 15M high mast

G)Gatongora near Kwihota primary 1 No 15m high mast
H) Gatongora near Kiratina primary 1 No 15m high mast
J) RUIRU Gikumari area 1 No 15m high mast
K) RUIRU Membly 1 No 15m high mast
L) Gitothua btl 1 No 15m high mast

1.03 The Site and Access Thereto

The Engineer will, by notice from the Employer, give the Contractor possession of site, including but not necessarily limited to:

a) A definite working area of roads and streets or way leaves or section of land thereof, within which the Contractor shall execute the Works.

b) All classified/unclassified public junctions and accesses joining the project roads or section of the road.

1.04 Definition of Commencement

For the purpose of this clause, the works shall be deemed to have commenced when all of the following conditions are satisfied:

a) The approved competent and authorized agent or the representative of the Contractor is resident in the Project Area and giving his whole time to the superintendence of the works.

b) The Contractor has an established office in the Project Area with postal address for the receipt of correspondence.

c) The principal items of Constructional Plant have been brought onto site and put to work in the execution of the Permanent Works.

1.05 Safety Measures

The Contractor shall provide adequate warning signs, barriers, and any other devices and personnel (if necessary) equipped to ensure the safe passage of traffic and of his employees throughout the works. The Contractor shall so arrange his work to ensure the safe passage of the traffic at all times and if necessary construct and maintain an adequate warning signs for traffic, complete with all the necessary road traffic signs.

When carrying out the Works the Contractor shall have full regard for the safety of all traffic and persons entitled to be upon the Site and shall ensure orderliness and convenience for all users. The Contractor shall ensure that the traffic disrupted by the execution of the Works shall not be held up for more than 15 minutes. The cost of the provision, placement and maintenance of all the necessary signs, barriers and the maintenance of deviations shall be included in the rate tendered in the Bill of Quantities. In selecting and positioning temporary signs, the Contractor shall:
a) Prior to the start of any activity affecting road traffic, submit to the Engineer for approval, a plan of the traffic control measures and signs he intends to use to ensure the safety of such traffic.

b) Use standard signs only.

c) Use signs which are clean and in good condition.

d) Display the standard signs in a standard layout in accordance with the drawings.

e) Ensure that the layout used gives drivers time to understand and respond to the information that the signs convey.

All temporary signs must be removed as soon as the work they relate to is complete.

1.06 Disposal of Waste Material

i. General

Waste materials including, but not restricted to, refuse, garbage, sanitary wastes, industrial wastes, and oil and other petroleum products, shall be disposed of by the Contractor. Disposal of combustible materials shall be by burying, where burial of such materials is approved by the Engineer; by burning, where burning of approved materials is permitted in accordance with local laws; or by removal from the construction area. Disposal of noncombustible materials shall be by burying, where burial of such materials is approved by the Engineer, or by removal from the construction area. Waste materials removed from the construction area shall be dumped at an approved dump area.

ii. Disposal of material by burying.

Only materials approved by the Engineer may be buried. Burial shall be in pits at locations shown on drawings or as otherwise approved by the Engineer. The pits shall be covered by at least 0.6 metres of earth material prior to abandonment.

iii. Disposal of material by burning

All burning shall be in accordance with local laws. All materials to be burned shall be piled in designated burning areas in such a manner as will cause the least fire hazards. Burning shall be thorough and complete and all charred pieces remaining after burning, except for scattered pieces, shall be removed from the construction area and disposed of as otherwise provided in this paragraph. The Contractor shall, at all times, take special precautions to prevent fire from spreading beyond the piles being burned and shall be liable for any damage caused by his burning operations. The Contractor shall have available, at all times, suitable equipment and supplies for use in preventing and suppressing fires and shall be subject to all laws and regulations locally applicable for pressure pression, suppression and prevention of fires.
iv. Disposal of material by removal

Material to be disposed of by removal from the construction area shall be removed from the area prior to the completion of the work under these specifications. Materials to be disposed of by dumping shall be hauled to an approved dump. It shall be the responsibility of the Contractor to make any necessary arrangements with private parties and with local officials pertinent to locations and regulations of such dumping. Any fees or charges required to be paid for dumping of materials shall be paid by the Contractor.

The Contractor shall be responsible for the removal and disposal from the site of all spoil arising from the execution of the Works with the exception of materials suitable for re-use in the Works which shall be stockpiled for later use as directed by the Engineer. Spoil arising from excavations shall be disposed of in a spoil dump approved by the Engineer. Vegetation, debris and all other biodegradable waste arising shall be disposed in accordance with applicable statutory regulations.

The Contractor shall be responsible for the acquisition of the secluded spot suitable for Engineer disposal of the spoil.

1.07 Working Hours

At the commencement of the works, the Contractor shall submit in writing to the Engineer the hours that shall be considered normal working hours for his approval, together with the day of the week that is to be set-aside for rest. When approved these shall be maintained throughout the duration of the contract. Notwithstanding the provision of Clause 108 of the Standard Specifications, the Engineer’s normal working hours shall be defined as 8.00a.m. to 5.00p.m. Excluding lunch hour on weekdays (Monday to Friday). Sundays will be set aside for the rest. Where the Contractor wishes to execute permanent work outside these hours, except for Saturdays between 7.45 am and 1.00pm, he shall obtain the written permission of the Engineer at least 24 hours in advance to enable the Engineer to make provision for proper inspection of any work.

The Engineer’s staff that are required, for any reason whatsoever which relates to the supervision of the Works, to work hours which are additional to the normal working hours herein before defined, shall be paid overtime and the full cost of such overtime shall be reimbursed by the Contractor to the Engineer at no extra cost to the Employer.

1.08 Execution of the Works

The Works under this Contract shall include the routine maintenance activities set out in the Bills of Quantities and as specified in the General and Particular Conditions of Contract, Drawings, the Standard Specification and Special Specifications.
1.09 Contract Sign boards

The Contractor shall supply contract name boards on all main roads entering the site of Works. The contract name boards shall comply with the requirements issued by the Engineer. The Contractor shall maintain the contract name boards in clean and good condition for the duration of the contract.

1.10 Contractor’s Site Office

The Contractor shall identify his base of operation for the contract within a distance of five kilometers of the site of the Works. He shall maintain at such base a facility whereby the Engineer can contact the Contractor’s representative to issue instructions for execution under the contract. Delivery of any information from Engineer to such base shall be deemed to be delivery to the Contractor.

The Contractor shall provide for the establishment of the necessary facilities at his base of operations, all general needs of his personnel, and shall include for the costs of these and all other general costs relating of the establishment for the Contract under the appropriate item in the Bill of Quantities.

1.11 Monthly commitments

Notwithstanding the establishment costs referred to in Clause 1.13, the Contractor shall provide for continued maintenance of the base of operations and all systems relating to the operations of the contract, for the entire period of the Contract, including any extension of the Contract agreed in terms of the Conditions of Contract. (These include passage of traffic, maintenance of engineer’s office e.t.c) The monthly cost of the maintenance of these systems together with any general incurred by the Contractor shall be provided for in the appropriate item in the Bill of Quantities.

1.12 Materials and Manufactured Articles

Notwithstanding the provision of clause 126 of the Standard Specification, the Contractor's attention is drawn to his obligation with regard to quality and delivery schedule of materials and goods obtained from suppliers.

Should the Engineer at any time be dissatisfied with any goods and materials intended for use or used by the Contractor upon the works, he shall be empowered to reject such goods and materials and shall order that they be replaced by others of acceptable quality. Any more work that may consequently have to be redone and the cost thereof of the new supplies shall be borne by the Contractor.
A provisional sum is included in the Bill of Quantities for use by the Engineer for quality assurance testing of the materials and workmanship used in the execution of the Works, by an independent testing agency, as deemed necessary by him. The provision of such sum and the use thereof shall not alleviate the need for the Contractor to make his own arrangements to test materials and the Works to ensure these comply with the Specifications.
PARTICULAR SPECIFICATIONS FOR HIGHMAST FLOOD LIGHTS AND STREET LIGHTING

1. SPECIFICATIONS OF MATERIALS AND WORKMANSHIP FOR HIGHMAST FLOODLIGHTING INSTALLATION

A. Scope of Works

Design, supply, erecting, testing, and commissioning of HIGH MAST, lighting system complete in all respect, including the Civil works, foundations for installation of HIGH MAST and its associated items. This will be in accordance with specifications and bills of quantities. (Detail specification & scope of work given in annexure -A&B respectively).

The Contractor shall include for all apparatus and appliances not particularly called for in this Specification but which are necessary for the completion and satisfactory functioning of the Works.

It is deemed that if, in the opinion of the Contractor at the time of quoting, there existed a discrepancy between the Specification and the actual work, that the Contractor clarifies this difference with the Engineer before quoting.

B. Specification

The work shall be executed and completed, unless expressly directed otherwise, in accordance with the following:-

i. The specification

ii. The current edition of the Institution of Electrical Engineers(I.E.E) regulations

iii. The Electric Power Act of Kenya

iv. The Kenya Power & Lighting Co. Bylaws

v. The British or Kenya Standard specification and relevant and applicable British code of practice.

C. Ordering

The Contractor shall order materials from the quantities taken from his own approved working drawings and not from the quantities shown on in the Specification.

D. Submission of materials and defective work

All materials to be installed must be new and the best of their respective kinds. The Contractor must examine carefully any materials and/or apparatus submitted to him for installation and/or connection. Any defects detected must be communicated to the Engineer.
E. **Samples and defective work**

All materials to be used in the installation work must be made available for Inspection and approval and samples must be submitted upon request to the Engineer.

If the Contractor wishes to install or use other types of materials different from those specified in the Tender document, then the manufacturers technical and any other relevant pamphlets must be submitted to the Engineer for consideration and approval.

The right is expressly reserved to order at the Contractors expense the removal from site of all materials not conforming to the specifications and the dismantling and re-execution of all works which by reason of inclusion of improper, specified or defective materials and /or poor class or defective workmanship are a contravention of any clause in the specification.

F. **Ratings**

Unless specified otherwise stated or where it does not apply all the materials shall be capable of being used on 240 volts 50 Hz. AC single phase and neutral supply.

G. **High mast floodlighting Columns**

They shall be galvanized root mounted, continuous taper, polygonal cross-section steel column. The columns shall be of mounting height as specified in the bills of quantities and shall be installed on reinforced concrete foundation. Space for mounting cutouts and hole for cable entry shall be provided as indicated on the drawing.

H. **Lanterns**

Enclosed floodlight with black aluminium body and frame housing flat glass sealed to IP65 complete with Integral control gear and asymmetrical as specified complete with lamp.

The lanterns will be with control gear complete with the specified lamp and reflector.

I. **System of Wiring**

Wiring to high mast and poles shall be in PVC/SWA/PVC cables installed in cable trench of specified dimensions in the bills of quantities as per cable size and routes. A layer of soft sand underneath and above the cable laid in trench shall be provided by the Contractor. Fused cut-outs shall be used to loop the cables in pole at lower level and wiring from cut-out to lantern shall be in 2.5mm² six core PVC insulated sheathed cable with earth. Copper earth clips shall be used on galvanized armoring while looping in poles and earth wire to lantern shall be connected from there by using
copper connectors. “DANGER/HATARI” cable tiles shall be supplied and installed throughout the length of the trench to protect the cables except for the road crossing and plot entrances where cables shall be passed through PVC ducts.

J. **Earthing**

All masts, lanterns and other metal parts shall be properly earthed. Electrical and mechanical continuity shall be preserved throughout the whole system from the Consumer unit to the remotest mast and the earth resistance must not exceed 0.5ohms. Every mast shall be efficiently earthed through earth electrode by means of substantial copper clamps secured by non-rusting bolts. The lead must be visible and adequately protected. No earthing lead shall be less than 6mm² in size except for the one used for earthing lanterns where 1.5mm² twin with earth wire shall be used.

Cable glands shall be used at every underground cable termination to bond the Cable armour onto the steel parts of the column and control pillar. The 1.5mm² copper wire of the twin and earth cable shall be used to provide the earth terminal continuity from the lantern to the columns earth terminal.

The earthing of the installation shall also comply with the following requirements:

i. It shall be carried out in accordance with the appropriate sections of the current edition of the Regulations, for the Electrical Equipment of buildings issued by Institute of Electrical Engineers of Great Britain.

ii. At all main distribution panels and main service positions a 25mm×3mm minimum cross sectional area Copper tape shall be provided and all equipment including the lead sheath and armoring of cables, distribution boards and metal frames shall be bonded thereto.

iii. The earth tape in Sub-clause (ii) shall be connected by means of a copper tape or cable of suitable cross sectional area to an earth electrode which shall be a copper earth rod (see later sub-clause).

iv. All tapes to be soft high conductivity copper, untinned except where otherwise specified and where run underground on or through walls, floors, etc., it shall be served with corrosion resisting tape or coated with corrosion compound and braided.

v. Where the earth electrode is located outside the building a removable test link shall be provided inside the building as near as possible to the point of entry to the tape, for isolating the earth electrode for testing purposes.

vi. Earthing of sub-main equipment shall be deemed to be satisfactory where the sub-main cables are M.I.C.S. or conduit with separate earth wire, and installation is carried out in accordance with the figures stated in the current edition of the I.E.E Regulations.
vii. Where an earth rod is specified (see Sub-clause (iii) it shall be proprietary manufacture, solid hand drawn copper of 15mm diameter driven into the ground to a minimum depth of 3.6m. It shall be made up to 1.2m sections with internal screw and socket joints and fitted with hardened steel tip and driving cap.

viii. Earth plates will not be permitted.

ix. Where an earth rod is used the earth resistance shall be tested in the manner described in the current edition of the IEE Regulations, by the Sub-Contractor in the presence of the Engineer and the Sub-Contractor shall be responsible for the supply of all test equipment.

x. Where copper tape is fixed to the building structure it shall be by means of purpose made non-ferrous saddles which space the conductor away from the structure a minimum distance of 20mm. Fixings, shall be made using purpose made plugs; No fixings requiring hole to be drilled through the tape will be accepted.

xi. Joints in copper tape shall be tinned before assembly riveted with a minimum of two copper rivets and seated solid.

xii. Where holes are drilled in the earth tape for connection to items of equipment the effective cross sectional area must not be less than required to comply with the IEE regulations.

xiii. Bolts, nuts and washers for any fixing to the earth tape must be of non-ferrous material.

xiv. Attention is drawn to the need for the earthing metal parts of lighting fittings and for bonding ball joint suspension in lighting fittings.

K. Control Pillar

This shall be a metal pillar manufactured from mild steel to BS 15 as per provided drawings. The control pillar shall be installed on 300mm. thick concrete plinth. The control pillar shall be with all switchgear, interconnections, labels and earthing as approved by the Engineer. The control of the flood lighting shall be through a photocell mounted on the mast at a height deemed convenient for repair and/ or maintenance.

L. Testing of the Installation

The Contractor shall carry out tests of the completed installation as provided hereunder and copies of the test results shall be provided to the Engineer.

a) Insulation Resistance

The insulation resistance between line (phase) and neutral, the line (phase) and earth and the neutral and earth shall not be less than one mega ohms when tested with 500 volts direct circuit (D.C.) supply.
b) **Earth Continuity**

The resistance measured from every earth electrode to the farthest point of the installation shall not exceed 0.5 ohms.

c) **Earth Electrode Resistance**

Test for earth electrode resistance shall not exceed 3 ohms using a null balance tester.

d) **Polarity Check**

Checks shall be carried out to verify that the neutral is correctly connected and that all fuses and switching (control) devices are connected to the phase (“LIVE”) conductors only.

e) **Parts concealed during construction**

The Contractor shall be expected to test and inspect the installation particularly those parts that are to be concealed, during the erection, as he shall be held responsible for and shall rectify at his own expense all faults, defects, omissions, faulty workmanship, incorrectly positioned or installed parts of the installation revealed by such inspection and tests.

f) **Test Instruments**

The Contractor shall provide accurate instruments and/or apparatus and the labour to carry out the above tests independently of any tests made by the Engineer or Kenya Power & Lighting Co. The instruments and apparatus shall be made available to the Engineer for him to carry out the tests as he may require. The Contractor shall give a seven days notice of his intention to carry out the test so as to enable the Engineer to witness the tests if he so wishes.

M. **Guarantee of the Installation**

a) The Contractor shall guarantee the whole installation for a period of 180 days from the date of final completion. During this period all defects arising out of faulty materials or workmanship shall be made good free of cost – fair wear and tear expected.

b) Any contravention of the clauses and conditions of the specifications discovered during the guaranteed period must be corrected free of charge. The submission of the completed Test Form cannot be offered by the Contractor as a final discharge of his responsibilities in respect of the soundness of the installation neither must it be inferred that the readings will normally be made accepted.

c) The acceptance of the Form shall in no manner vitiate claims that may subsequently be made under the terms of the guarantee.
N. Clearing of Site and damages

The Contractor must include for the clearing away from site immediately, after completion, all the unused materials and any rubbish or litter as may have been caused by his works.

O. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

(a) The documentary evidence of the goods and services eligibility shall consist of a statement on the country of origin of the goods.

(b) The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of:

i. A detailed description of the essential technical and performance characteristics of the goods;

ii. A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period of two years, following commencement of the use of the goods by the Purchaser; and

iii. An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

c) For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standards for workmanship, material and equipment, and references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

P. Method Statement

The successful tenderer will be expected to complete the Works within the time for completion specified in the tender documents. All tenderers shall provide a statement (hereinafter referred to as “the Method Statement”) giving a general description of the proposed work method, co-ordination of work to limit interference with traffic operations, and details of proposed sub-contractors if any. The tenderer, at his own responsibility, cost and risk, is encouraged to visit and examine the Site of the Works and its surroundings, and obtain all information that may be necessary for preparing the tender and entering into a contract for construction of the Works. The contact that the Tenderer shall liaise with for the purpose of examining the site of works shall be the PROJECT MANAGER - Kenya Urban Support Project.
2. **SPECIFICATIONS OF MATERIALS AND WORKMANKSHIP FOR STREET LIGHTING**

A. **Scope of Works**
Supply, erecting, testing, and commissioning of street lighting system complete in all respect, including the Civil works, foundations for installation of street lighting pole and its associated items. This will be in accordance with specifications and bills of quantities.

The Contractor shall include for lighting columns, lighting fittings, wiring, pole mounted metal control pillars, contactors, current operated instantaneous RCD, timing control switches, photoelectric cells, cable cover tiles and all apparatus and appliances not particularly called for in this Specification but which are necessary for the completion and satisfactory functioning of the Works. The contractor shall also carry out the excavation of all trenches and backfilling, the supply and installation of 100mm diameter PVC ducts across roads and driveways.

It is deemed that if, in the opinion of the Contractor at the time of quoting, there existed a discrepancy between the Specification and the actual work, that the Contractor clarifies this difference with the Engineer before quoting.

B. **Specification**
The work shall be executed and completed, unless expressly directed otherwise, in accordance with the following:

i) The specification

ii) The current edition of the Institution of Electrical Engineers (I.E.E) regulations

iii) The Electric Power Act of Kenya

iv) The Kenya Power & Lighting Co. Bylaws

v) The British or Kenya Standard specification and relevant and applicable British code of practice.

C. **Ordering**
The Contractor shall order materials from the quantities taken from his own approved working drawings and not from the quantities shown on in the Specification.

D. **Submission of materials and defective work**
All materials to be installed must be new and the best of their respective kinds.

The Contractor must examine carefully any materials and/or apparatus submitted to him for installation and/or connection. Any defects detected must be communicated to the Engineer.
E. **Samples and defective work**

All materials to be used in the installation work must be made available for Inspection and approval and samples must be submitted upon request to the Engineer.

If the Contractor wishes to install or use other types of materials different from those specified in the Tender document, then the manufacturers technical and any other relevant pamphlets must be submitted to the Engineer for consideration and approval.

The right is expressly reserved to order at the Contractors expense the removal from site of all materials not conforming to the specifications and the Dismantling and re-execution of all works which by reason of inclusion of Improper, specified or defective materials and/or poor class or defective Workmanship are a contravention of any clause in the specification.

F. **Ratings**

Unless specified otherwise or where it does not apply all the materials shall be capable of being used on 240 volts 50 Hz. AC single phase and neutral supply.

G. **Street Lighting Poles**

Street lighting poles shall be fabricated from concrete poles and shall be as shown on the drawings.

The poles shall be installed at a minimum depth of 1500mm in the ground. The top bracket shall be made of 900mm outreach with a 37mm x 225mm plain tubing nipple (B.S.S. 1387) suitable for either top or side entry lanterns. The vertical section of the poles shall be common to be interchangeable with all brackets.

H. **Light Fittings - Lanterns**

Lanterns for street lighting shall be of the completely enclosed type, and the entry of insects, dust and water must be safely prevented for side entry mounting on brackets with 38mm diameter plain tube. They shall consist of cast alloy housing with specula reflector and vandal and heat resistant bowl. They shall be capable of accommodating lamp, mounting to be effected on a porcelain B.S. type 3 slot lamp holder wiring and gasket must be thermal resistant. The lantern shall be of the semi-cut off type with a directional intensity ratio exceeding 3 and a light output ratio not less than 75%.

The lantern shall be complete with the necessary control gear, lamp, choke capacitors, polycarbonate vandal proof bowl for 240 volts 50 Hz A.C. supply. The control gear shall be incorporated within the lantern. The lantern shall be as specified in the BQ and specifications. If any alternative make is to be used the details shall be given at the time of submission of bids.
Section VII - General Conditions of Contract

I. **Photo Electric Cell**
   These shall be installed where shown on the drawings, and shall be of specifications as provided in the BQ

   The minimum operating “turn on” level shall be of 5 to 20 lux and “turn off” level 25-100lux with a time delay of 20 to 40 seconds. The rating shall be 30°C to 50°C. It shall have the current rating from 10 to 20 amps.

   The initial adjustment shall be done with the approval of the Engineer.

J. **Underground Cables.**
   PVC armored copper conductor cable shall be 600/1000 volt grade conforming to B.S.S. 6346, PVC/SWA/PVC cables shall be used for street lighting installation as indicated on the drawings.

   All cables shall terminate with brass glands of suitable size to maintain proper earth continuity throughout the system.

K. **Other cables**
   Insulated PVC sheathed twin with earth cable shall be used for wiring to the lanterns from the cut-outs mounted in the pole windows.

L. **System of Wiring**
   Cables shall be PVC/SWA/PVC, 2 core as indicated on the drawings. They shall be laid in a cable trench 600mm deep along road sides, 800mm deep across the roads, and 900mm away from the road kerbs or 1500mm away from edge of the road.

   The loop-in and loop-out arrangements shall be through a cut-out mounted in the pole windows. Galvanized armoring wires shall be properly earthed and to maintain earth continuity, earth clips and connectors shall be used. From the cut-out to the lantern 1.5mm² PVC twin insulated and sheathed cable with earth wire shall be used protected by 5A cartridge fuse. The lantern shall be earthed separately with earth wire taken from the main point. Cables across the roads, and drive ways shall be laid in ducts. Cables shall be laid on 50mm layer of sand, and be covered with 50mm thick layer of sand before covering with the tiles.

M. **Cables Cover Tiles**
   The cable in the trench shall be protected with concrete tiles marked “HATARI” “DANGER”. The cable tiles shall be of a pattern approved by the Engineer.

N. **Ducts**
   Ducts for road crossing and driveways shall be PVC with an internal diameter of not less than 100mm. The ducts shall be laid at least 800mm below the finished road level on a compact base.
O. **Earthing of Street Lighting Installation.**

The contractor shall ensure installation is earthed in accordance with the requirements of the current edition of the “Regulations for Electrical Installations” and as per Kenya Power and Lighting Company’s rules and regulations.

All poles, lanterns and other metal parts shall be properly earthed. Electrical and Mechanical continuity must be maintained throughout the whole system, and the resistance measured from the electrode to the remotest point must not exceed 0.5 ohms. Every 4th pole must be effectively earthed through a suitable copper earth electrode by means of substantial copper stamps secured by non rusting bolts. The lead must be visible and adequately protected. No earthing lead shall be less than 2.5mm² in size. Twin earth wire PVC insulated cable may be used. Provision for P.M.E. shall be made to comply with supply authority requirements.

P. **Control Pillar**

This shall be a metal pillar to be installed on the pole to KPLC standards.

The contractor shall supply, install, test and commission all associated electrical works including supplying, fixing and connecting all switchgear, interconnections, labels and earthing as approved by the Engineer.

Q. **Current Operated Earth Leakage Circuit Breakers**

Current operated earth leakage circuit breaker shall conform to B.S.S. 4293/68 rated 240volts D.P. 50Hz A.C. mains. The breaker shall be provided with a test switch and fitted in a weather proof enclosure for surface mounting. The rated load current and earth fault operating current shall be specified in the drawings. These shall be as manufactured by “CRABTREE” Cat. No. 13030/1, or other equivalent and approved.

R. **Testing of the Installation**

The Contractor shall carry out tests of the completed installation, copies of the test results shall be provided to the Engineer.

S. **Insulation Resistance**

The insulation resistance between line (phase) and neutral, the line (phase) and earth and the neutral and earth shall not be less than one mega ohms when tested with 500 volts direct circuit (D.C.) supply.

T. **Earth Continuity**

The resistance measured from every earth electrode to the farthest point of the installation shall not exceed 0.5 ohms.

U. **Earth Electrode Resistance**

Test for earth electrode resistance shall not exceed 3 ohms using a null balance tester.
V. **Polarity Check**

Checks shall be carried out to verify that the neutral is correctly connected and that all fuses and switching (control) devices are connected to the phase (“LIVE”) conductors only.

The Contractor shall be expected to test and inspect the installation particularly those parts that are to be concealed, during the erection, as he shall be held responsible for and shall rectify at his own expense all faults, defects, omissions, faulty workmanship, incorrectly positioned or installed parts of the installation revealed by such inspection and tests.

The Contractor shall provide accurate instruments and/or apparatus and the labour to carry out the above tests independently of any tests made by the Engineer or Kenya Power & Lighting Co. The instruments and apparatus shall be made available to the Engineer for him to carry out the tests as he may require.

The Contractor shall give a seven days notice of his intention to carry cut the test so as to enable the Engineer to witness the tests if he so wishes.

W. **Guarantee of the Installation**

The Contractor shall guarantee the whole installation for a period of 180 days from the date of final completion. During this period all defects arising out of faulty materials or workmanship shall be made good free of cost—fair wear and tear expected.

Any contravention of the clauses and conditions of the specifications discovered during the guaranteed period must be corrected free of charge. The submission of the completed Test Form cannot be offered by the Contractor as a final discharge of his responsibilities in respect of the soundness of the installation neither must it be inferred that the readings will necessary be made accepted.

The acceptance of the Form shall in no manner vitiate claims that may subsequently be made under the terms of the guarantee.

X. **Clearing of Site and damages**

The Contractor must include for the clearing away from site immediately, after completion, all the unused materials and any rubbish or litter as may have been caused by his works.

Y. **Documents Establishing Goods' Eligibility and Conformity to Bidding Documents**

(a) The documentary evidence of the goods and services eligibility shall consist of a statement on the country of origin of the goods.

(b) The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of:
i. A detailed description of the essential technical and performance characteristics of the goods;

ii. A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period of two years, following commencement of the use of the goods by the Purchaser; and

iii. An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

(c) For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standards for workmanship, material and equipment, and references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

The successful tenderer will be expected to complete the Works within the time for Completion specified in the tender documents. All tenderers shall provide a statement (hereinafter referred to as “the Method Statement”) giving a general description of the proposed work method, co-ordination of work to limit interference with traffic operations, and details of proposed sub-contractors if any. The tenderer, at his own responsibility, cost and risk, is encouraged to visit and examine the Site of the Works and its surroundings, and obtain all information that may be necessary for preparing the tender and entering into a contract for construction of the Works. The contact that the Tenderer shall liaise with for the purpose of examining the site of works shall be the Project Co-ordinator.
ANNEXURE - A

TECHNICAL DATA SHEET FOR HIGH MASTS WITH INTEGRAL POWER TOOL AND COMPONENTS SUITABLE FOR ENERGY EFFICIENT LUMINAIRES.

A. SUPPLY PART:

High Mast System:
Height of MAST: ................. Meters.
No. of sections: ................. sections.
Material of construction: BS-EN10 025, S-355 OR EQUIVALENT
Grade Fe 410WA as per IS 2062 or equivalent
Thickness of sections: Top: ........ mm, Middle: ...... mm, Bottom: ........ mm
No. of longitudinal welds/section: one
No. of circumferential welds/section: None
Cross section of Mast: ................. sided polygon
Length of Individual sections: Top: ................. mm
Middle: ................. mm
Bottom: ................. mm
Base diameter and top diameter: Top diameter: ................. mm
Bottom diameter: ................. mm
Type of joints: stress fit at site.
Length of overlap: top: ................. mm, bottom: ................. mm
Metal protection: Hot dipped galvanized (inside & outside as per BSEN ISO 1461.
Method of hot dipping: single dipping
Average thickness of galvanization: 85 micron (Bottom), 65 micron (top & middle)
Maximum weight: ................. kgs.
Base plate thickness: ................. mm
Lightning protection: GI single spike of length ................. mm
All dimensions are approximated, accurate and minor deviation can be allowed as per manufacturers design requirement.

Mast structure is continuously tapered of polygonal cross section presenting Good visual appearances.

**B. CONSTRUCTION PART**

Excavation of foundation to prepare fare face formwork for the foundation ready to cast in situ reinforced concrete for Masts and,

Excavation of cable trenches and ducts to prepare for power supply cable
ANNEXURE – B

Control gear shall be for operation at 240V AC., single phase, 50 Hz. The ballast shall be ELECTRONICS specially selected for use on the type of lamps used and lamps shall be able to start with at least ±10% variation of nominal voltage and continue in normal operation with dips of up to 20% for up to four seconds duration.

Control gear losses shall not exceed 10% of normal lamp wattage. Ripple frequency suppression device shall be provided. The power factor shall be compensated to at least 0.9 lagging. Ballasts shall be copper wound with insulation of Class F.

Lamps
Floodlighting fitting as Philips SNF111 NB/58 or equivalent and approved complete with 2X 400 watts as SON-TPP 400W but with option of fitting one 1298 watts tubular metal halide or high-pressure sodium lamps. (For our calculations Philips SNF111 Fittings as above has been used but equivalent and approved is allowed).

Obstacle lights
Each mast shall be equipped with two low intensity obstacle lights Type A, complying with Special Specification Section 4100.
The obstacle lights shall be securely attached to the moveable luminaire carriage, and shall protrude above the canopy for the top assembly.

High masts, general
The high masts for apron lighting shall be the type incorporating a lantern carriage which can be raised and lowered by using a winch in the base of the mast.
The columns of the high masts shall be continuously tapered with circular or polygonal cross section, to present an aesthetically good, slim visual appearance.
Stainless steel shall have adequate corrosion resistance to chlorides in the atmosphere, as 1.4401 or 1.4404 grade stainless steel to BS EN 10088-2, (316S31 or 316S11 to BS 1449-2), or equal to the Engineer's approval.

The masts shall be designed to Technical Report No. 7 of the Institution of Public Lighting Engineers (UK), for a maximum wind speed (3 seconds gust at 10 m above ground level) of 50 m/s. The deflection at the top of the masts at wind gusts of 30 m/s (105 km/h) shall not exceed 1/40 of the mast height.
The high mast columns shall be of mild steel BS EN 10025 grade Fe 430C / S275J0 or equivalent. The columns shall be hot dipped galvanized as specified for corrosion Class 4 in section 3000 of these Special Specifications.

High mast columns shall be supplied in sections not exceeding 15 m in length. The high mast columns shall be in the standard production range of the manufacturer.
Each high mast column shall have the facility of raising and lowering the luminaire carriage by means of a winch and wire ropes. The winch shall be built into the base compartment of the mast.
Provision for earthing the masts shall be provided by means of a 12 mm diameter stainless steel or brass stud with nuts and washers fixed to the main body of the mast structure in the base compartment.

Each mast shall be provided with effective means of lightning protection. The base flange shall be manufactured from steel plate free from lamination. The shaft shall penetrate the full depth of the base plate and shall be welded above and below using an approved method. The base flange shall be circular, approximately 700-750 mm in diameter and min. 25 mm thick. Gusset plates shall be provided between all bolt holes to give additional strength to the masts.

**Base compartment**

An access opening to the base compartment in each high mast shall be provided. The door to the opening shall be mounted by means of a substantial lug and secured at the top by a recessed socket head screw. A baseboard shall be provided for mounting electrical control equipment, power receptacle and winch. The cable entry to the base compartment shall be from a central hole in the base flange.

**Head frame assembly**

The head frame assembly shall be made of welded steel construction and hot dipped galvanized. Pulley wheels for the hoist rope and power cable shall be made of cast aluminium alloy or equal to be approved and shall be large diameter, and shall, as a minimum, suit the recommended bending radii of the power cable.

Close fitting removable guards shall be provided over the pulley wheels to ensure the correct location of the steel wire rope and power cable in their grooves when operating either in loaded or slack condition.

The shaft on which the pulley wheels revolve shall be of approved type corrosion resistant material. The shaft shall be positively secured in the head frame assembly to prevent rotation. Lubrication, if required, shall be for the lifetime of the pulley assembly. Separate pulleys shall be provided for the cable and the wire ropes. It shall be ensured that the wire rope and the power cable are separated before entering the pulleys by means of guards or other mechanisms. The assembly shall be arranged to fit on to the top of the mast and an approved arrangement shall be provided for locking it to the mast and to prevent rotation about the mast.

The head frame shall be covered by a canopy of spun aluminium, galvanized and painted or stainless steel or equal to the Engineer's approval. The canopy shall be fixed to the head frame by stainless steel bolts. The whole of the head frame assembly shall be designed and constructed for operation over the life of the mast without the necessity for any maintenance. The head frame shall incorporate a lightning protection rod air terminal permanently connected to the mast column by a min. 50 mm2 copper conductor.
**Luminaire carriage**

The luminaire carriage shall be of robust construction, keeping the number of individual components to a minimum. The frame of the carriage shall be capable of being fitted to and removed from the mast after erection of the mast.

Each carriage shall be designed to carry luminaires required for the specified lighting including accessories, cable junction box, one obstacle light, and one access point unit for wireless data coverage.

The access point will be approximately 0.3 x 0.2 x 0.2 m and have a maximum weight of 15 kg.

The luminaire carriage shall be of steel construction and hot dip galvanized, in the form of a ring or regular polygon, split on diameter. The required number of pre-drilled mounting plates designed for attaching the luminaires, accessories and wireless access points shall be welded to the luminaire carriage prior to galvanizing. The luminaire carriage shall be designed for raising and lowering the entire height of the mast. It shall be suspended from two or three steel wire ropes. Where three ropes are used they shall be connected to the winch rope by means of a transition plate. The transition plate shall have provision for connecting the suspension ropes and the wire rope from the winch. Suitable rollers, guides or rubbing surface shall be provided on the luminaire carriage so that they assist / prevent damage to the high mast surface during raising and lowering operations. Fixed, visually conspicuous guide rails along the length of the mast column will not be accepted.

Any loads needed for balancing shall be included in the Contract and shall be of an inconspicuous design

The carriage shall be arranged in such a way that it aligns firmly against guides and stops when in the service position. These stops shall be of adequate strength so as to ensure that they will not be damaged by over winding of the winch.

The luminaire carriage shall have provision for supporting and gripping the weight of the electric supply cable without causing damage to the cable. It shall be ensured that the cable will not make any abrading contact with the cable suspension point or other components at any time. Approved rubber/PVC/brass bushes shall be provided where the cable comes into Winch contact with sharp edges.

Approved weatherproof glands shall be provided for termination of cables. Each mast shall be provided with twin or single drum winch suitable for raising and lowering the luminaire carriage. The winch shall have a safe working load capacity to carry the weight of the luminaries, accessories, balancing weights and luminaire carriage with an addition of min. 10% weight.
A separate test certificate shall be issued with each winch, which shall be suitably identified in a permanent manner to correspond with the numbering of the applicable test certificate.

The winch shall be provided with a self-contained lubricated totally enclosed system and shall not require any maintenance during the service lifetime. The design of the winch shall be such that it can be installed in or removed from the mast through the door opening. The winch shall be fitted with a positive locking device, which shall remain engaged to prevent rotation in the lowering direction when the mast is in service.

The device shall automatically go to locked position whenever the operating handle or driving tool is removed.

The winch drum shall be made of cast aluminium alloy grade BS EN 1676LM6M, cast iron or equal construction to be approved.

The drum shall be grooved unless the first layer of wire rope remains fully applied during all the normal operation at the winch, in which case a plain drum may be provided.

The winch shall be suitable for operation both by hand and from a power tool drive. Necessary clamps or fixing devices to hold the tool in position shall be provided.

### Mast wire

The mast shall be fitted with flexible stranded stainless steel wire rope having a minimum tensile strength of 1625 N/mm², which shall have factor of safety of not less than 5 times the SWL of the winch and shall be suitable for the designed application.

The termination of the wire rope shall be by compression crimp joint or grip. In cases of termination of ropes at the shackle point on single drum winches, it shall only be made by a compression crimp joint.

Thimbles or eyes shall be fitted as required. Termination shall be made strictly in accordance with BS 302 and shall be certified.

Additional safety chain kits shall be provided and connected in between the rope shackle and the cleat, located inside the base when the luminaire carriage is in the raised position.

### Mast cable

Mast cable shall be of multi core construction to BS6977 or HD 22.4 typeH07RN-F, 600/1000V grade. The cable shall be copper conductor, ethylene propylene rubber (EPR) insulated and overall sheathed by heavy-duty polychloroprene (PCP). The cable shall be truly flexible, class 5 and suitable for the bending and load-carrying
stresses involved. The cable shall be circular in construction. The cable shall have minimum two (2) spare conductors for power supply to future components to be mounted on the luminaire carriage.

All conductors shall be the same size and shall be minimum 2.5 mm². The cable shall be fitted with correctly rated multi-pin weatherproof plug and socket within the base compartment of the mast, which will enable quick disconnection before lowering the luminaire carriage. The socket shall be connected to the supply side of the circuit and may be on either a free cable connected to the distribution panel or be fixed on the distribution panel in the base compartment.

The cable shall be suitably restrained to prevent it from falling down to the outside of the mast during the lowering of luminaire carriage due to its self weight.

A second terminal block shall be provided on the luminaire carriage terminal box. When the carriage is at ground level it shall be possible to connect the incoming supply cable directly into the terminal box to energize and test the luminaires.

Alternative systems where the electrical connections to the luminaire carriage are provided by guided contact blocks fixed at the mast top and on the carriage may be proposed by the Contractor for the Engineer's approval.

**Electrical wiring**

A terminal junction box shall be fixed on the luminaire carriage. It shall be constructed from corrosion resistant material such as aluminium alloy or equal to be approved by the Engineer, and shall be completely weatherproof, min. IP 66 to BS EN 60529. It shall contain a fixed terminal block provided with sufficient number of terminals of the correct size to accommodate all cores of the cable. Connections from the terminal box shall be by heat resistant cable via a flexible metal duct provided between luminaires and the terminal box. All cable cores shall be clearly identifiable at their point of connection preferably by numbers (size of cable: 2.5 mm² x 3 core). Terminal junction boxes not integral parts of the luminaires shall have ingress protection of IP 66. Only cables with copper conductors shall be accepted.

The high mast shall be fitted with a distribution- or junction box mounted inside the base compartment on the baseboard. The box shall be min. IP 65 to BS EN 60529 and shall contain terminals for receiving power supply cables from the apron lighting switchboards and for the outgoing cables, and protection devices for sub circuits for socket outlet and for constant supply to obstacle lights and data communication access points.

The box or cabinet shall be provided with fixing holes to attach to the baseboard. 1 no. 16 A industrial type 3-pin socket outlet for the portable electric winch power unit shall be mounted on the baseboard next to the distribution box.
Section VII - General Conditions of Contract

Foundation
The anchor bolts shall be supplied complete with anchor plate for casting into the foundation. The anchor bolts shall measure 12*30*3000mm manufactured from guaranteed performance high tensile steel Grade Fe510C minimum. A precision made steel template of steel Grade Fe430C with tube holes shall be used to ensure the correct vertical and horizontal bolt alignment. The Contractor or his sub-supplier shall, taking into consideration the soil conditions at site, the wind loading and the foundation bolts supplied, submit a foundation design calculation showing all details such as length and diameter of bolts, etc.

Electrical power units
Two (2) nos. power tools shall be provided for raising and lowering the luminaire carriage. The tool speed shall be related to the winch operation speed. The tool shall be heavy-duty type. The tool shall operate on 240 V, 50 Hz single phase supply. The power tool shall include an automatic torque limiter.

It shall be possible to operate the tool and winch from a remote position, minimum 5 m from the centre axis of the high mast. The remote operation shall rely on a removable cable connection between a remote hand-held control box and the electrical power unit.

Construction Requirements

Contractor's lighting design
The Contractor shall design the Street lighting based on 600W Power LEDs luminaires and verify his design by calculating all the lighting parameters for which values are required by standards and these specifications.

The lighting calculations shall be made by the point-by-point method and shall be in accordance with the guidelines set out in CIE 129 Clause 2.7.

In addition, vertical illumination shall be calculated, as a minimum along the sides of the roads positions. Horizontal illumination shall be calculated on inverted planes placed above the luminaire height, to calculate if any amount of light will be emitted above a horizontal plane through the luminaires. The calculations shall cover all illuminated areas. Luminaries will be non light polluting, eco friendly, and non CO² emitting

Construction tolerances, visual appearance
The street lighting masts will be visually conspicuous and shall not adversely disturb the architectural features of the environment. The Contractor shall select the slimmest type of mast columns which will fulfill the requirements to strength, stability and safety factors set out in the referenced standards and yet be acceptable to the Engineer.
The arrangement of luminaires and accessories on the individual masts shall be selected to give the most symmetrical visual impression possible within the limits given by the requirements to light distribution and -quality.

**Testing and commissioning**

Testing, inspection and commissioning shall be in accordance with appropriate standards and shall be carried out as per the relevant clauses of the Special Specifications.
Concrete Works

General

This Special Specifications is supplementary to the Standard Specifications and the two must be read in conjunction. In any case, where there appears to be conflict between the two then Special Specifications will take precedence.

Location and Extent of the Works

The works are located within the Municipality of RUIRU areas

The works to be executed under the contract consist of construction of 15 Metres floodlighting structures anchored in concrete footings and solar Street lighting installation.

Compliance with Specifications

All materials, plant, labour and workmanship in and connected with the execution of the works shall be the best of their respective kinds without regard to any trade terms and the contractor shall comply in these and all other respects with the following clauses and shall carry out the contract in a proper and workmanlike manner and in strict accordance with the specifications and the Engineer’s instructions.

Test Certificates

When the Contractor instructed by the Engineer shall submit certificates of Test from the suppliers of materials and goods to be used for contract to the Engineer.

Such certificates shall certify that the materials or goods concerned have been tested in accordance with requirements of the Specification and shall give the results of all the tests carried out. The Contractor shall provide adequate means of identifying the materials and goods delivered to the site with the corresponding certificates.

Approval of Suppliers

The contractor's attention is drawn to his obligations with regard to quality and delivery schedule of materials and goods obtained from his suppliers. Should the Engineer at any time be dissatisfied with any goods and materials intended for delivery to the Employer he shall be empowered to reject such goods and materials and shall order that others of acceptable quality replace them. The cost of removal and the new supplies shall all be borne by the contractor.
SPECIFICATIONS

1. Specifications For Gravel Material (Murram)

Definition
Gravel is any materials whose composition shall be of lateritic gravel, quartzite grave, calcareous grave, decomposed rock, soft stone, coral rag, clayey sands and crashed rock. It shall exclude vegetable matter loam, topsoil or clay.

Sources of Material
The material shall be sourced from
1. Borrow pits
2. Spoil Areas.
3. Excavation in cuttings

Material grading
The material shall be that in composition such that it shall provide a smooth curve within and approximately parallel to the following envelope:

<table>
<thead>
<tr>
<th>Sieve mm</th>
<th>Percentage by weight passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.5</td>
<td>100</td>
</tr>
<tr>
<td>28</td>
<td>85 – 100</td>
</tr>
<tr>
<td>20</td>
<td>85 – 100</td>
</tr>
<tr>
<td>14</td>
<td>65 – 100</td>
</tr>
<tr>
<td>10</td>
<td>55 – 100</td>
</tr>
<tr>
<td>5</td>
<td>35 – 92</td>
</tr>
<tr>
<td>2</td>
<td>23 – 77</td>
</tr>
<tr>
<td>1</td>
<td>18 – 62</td>
</tr>
<tr>
<td>0.425</td>
<td>14 – 50</td>
</tr>
<tr>
<td>0.075</td>
<td>10 – 40</td>
</tr>
</tbody>
</table>

The material shall also confirm to the following:

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBR at 95% MDD (Modified AASHTO) and 4 days soak</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>Los Angeles Abrasion</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Aggregate Crushing Value (ACV)</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Plasticity Index</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Plasticity Modulus</td>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>

2. Specification for Building Stone
All building stone shall be capable of withstanding when wet a crushing stress of 14 KN/m². The Municipal Engineer shall approve the source of stone and stone supplied there from shall be free from magadi, overburden, mudstone, cracks, stand holes, veins, laminations and other imperfections. The stone shall be chisel dressed into true rectangular blocks, with each surface even and at tight angles to all adjoining surfaces, to the size specified. For exposed stonework, the maximum permissible variations of any of the specified dimensions shall be 6mm provided that cut stone, supplied as rock face may be hammer dressed on one face, or on one end, if in other respects it conforms with this specification. Stones shorter than 37mm will not be
accepted. Unless the Municipal Engineer allows otherwise, the contractor shall at his own expense provide and dress 100mm cubes of stone for testing. The stone shall be sound when tested in accordance with BS 1438. Media for biological percolating Filters, Appendix B (Sodium Sulphate Soundness test) except that:

1. The treatment shall be repeated for 10 cycles only; and
2. The second criterion of failure shall be amended to allow for a loss of weight of not more than 20% of its original weight.

3. Specification for Quarry Chips

a) Sources of Material
   The material may be obtained from existing commercial quarries

b) General requirements
   The rock from which the stones are obtained shall comply with the following requirements:
   1. ACV - Max 40%
   2. LAA - Max 30%
   3. SSS - Max 12

The stones shall be free from excess of flat or elongated particles, soft and less durable rock, clays, loam, topsoil and other deleterious matter. The stones shall be of such grading and size that they pack firmly when laid by hand. The larger stones shall have a maximum dimension slightly greater than the thickness of required compacted layer and be of a shape acceptable to the Municipal Engineer. The smaller stones shall have a reasonably uniform grading and be of a nominal size suitable for filling surface roads to be approved by the Municipal Engineer. The nominal size of the smaller stones will be in the order of 50.
ANNEXURE - C

TECHNICAL DATA SHEET FOR SELF CONTAINED SOLAR LED LIGHTS AND COLUMNS FOR ROADWAY LIGHTING.

The contractor shall submit information of all the solar lighting systems lighting equipment and materials to be installed and furnish copies of all the certificates of compliance supplied by the equipment manufacturer(s). These shall include but not be limited to items mentioned in this annexure.

A. SUPPLY PART:

1) STREET LIGHT POLE AND FIXTURE(S):
   Pre-pressed concrete pole to KS1933 standard of Height: .................Meters.
   No. of sections: whole
   Material of construction: cement.at least class 42.5N
   Sand: clean uncrushed gravel sand (river sand)size between 0-5mm
   Course aggregate: machine crushed preferably of size between ¼‖ and ½”
   Thickness of sections: Top: ........ mm, Bottom: ........ mm
   Cross section of Pole: circular
   Length of Individual sections: Tapering
   Maximum weight: To manufacturer Specifications.
   Type of coupling Arm: Single or double
   Length of coupling Arm: .................mm
   Diameter of coupling Arm: .................mm
   Type of Connection of coupling arm to Main pole: Bolted on Upper part of Pole
   Length of Nipple: .....................mm
   Diameter of Nipple: .....................mm
   Support Bracket for Photovoltaic Panels
   Support Bracket for Advertising Box: none
   Support Bracket for Battery Housing: none
   Splices and pull Boxes
   Anchor Bolts, nuts, crimps, lugs
   All dimensions are approximated, accurate and minor deviation can be allowed as per manufacturers design requirement.
   Pole structure is continuously tapered of circular cross section presenting Good visual appearances.
2) SOLAR LIGHTING SYSTEM:

Photovoltaic Panels
Solar Panel of mono-crystalline type minimum 80W high efficiency

Overall dimensions per panel: .........................
Weight: .....+/- 1 Kg
Photovoltaic Cells: 36 Mono-6” Silicon
Junction Box: Solarlock with 3 bi-pass diodes, IP65
Connectors: Tyco or equivalent IP67 Rated
Front: Temered 4mm solar glass
Back: Composite film DyMat Pye
Operating temperature: -40C to +85C

Control Gear
Control gear shall be for operation for 12VAC. Solar power must be able to
start with at least ±10% variation of nominal voltage and continue in normal
operation.
Maximum Power Point Tracking Charge Controller 10A.
Overcharge, discharge, short circuit, open load and lightning protection

Batteries
Battery Type: LiFePO4 Battery 800WH, 12V 4000+life cycle
Series/ parallel/ combined arrangement of Batteries to support 3 days
continuous use at required voltage
Battery Storage options/ Housing Box: Intergrated
Rated:.............AH, ......V
Charge Duration: 20 Hours
5 year Guarantee
Working Temperature: -40C to +85C

Switch Gear and Electric Cable
Photoelectric Cells
Electric Cables and Control Systems
Wiring and Connectors
Fuse Holders, Fuses and Cable Disconnect Devices
Circuit Breakers
LAMPS

1) **Replaceable LED Modules**
   - Total Wattage: ……………W
   - 32-64 5w individual LEDs with reflectors set each module
   - Color Temperature : ………….K(Warm White)/ …………..K (Pure White)
   - Working Life: >=20,000 Hours
   - 12 Year Guarantee
   - IP65
   - Insulation Class: I
   - Working Temperature: -40C to +50C
   - Working Humidity: 10% to 95%
   - Working Voltage: 12VDC

2) **Luminaire**
   - Rating: …x…W
   - IP65 60 CREE LED’s with >50,000 hours life time
   - Photocell Control
   - Integral 12V Control Gear and Drivers
   - >7500Lm output
   - 12 Year Guarantee
   - Modular Lighting Cells with individual Lens Optics

B. **CONSTRUCTION PART**

   Excavation of foundation to prepare fare face formwork for the foundation ready to cast in situ reinforced concrete for columns and excavation of battery storage areas and ducts to vent battery gases where applicable
ANNEXURE – D

Control gear shall be for operation at 12V DC,. The ballast shall be ELECTRONICS specially selected for use on the type of lamps used and lamps shall be able to start with at least ±10% variation of nominal voltage and continue in normal operation with dips of up to 20% for up to four seconds duration.

Control gear losses shall not exceed 10% of normal lamp wattage. Ripple frequency suppression device shall be provided. The power factor shall be compensated to at least 0.9 lagging. Ballasts shall be copper wound with insulation of Class F.

Street Lights, general
The Solar Street lights shall be one or two light fixtures mounted on one pole with adjustable solar panel bracket to maximize light collection. It shall incorporate an coupling arm attached to the pole or being part of the pole, to give sufficient length with a nipple to attach the luminaire. There shall be an allowance for mounting the solar panels at the top.

The columns of the Street lights shall be continuously tapered with circular cross section, to present an aesthetically good, slim visual appearance.

The system shall work 12 hour a day (dusk to dawn) and have a 5 year maintenance free and system warranty

Photovoltaic Modules
The Solar Photovoltaic module shall be mono-crystalline have peak power rating of 80 to 150Wp to energize a 12V lighting system and 13 to 15% energy conversion efficiency.
The modules should have more than 25 year’s generation capacity and a warranty of more than 10 years for 10% power loss and 25 years for 20% power loss.

Luminaires
Roadway Solar-LED lighting fitting as approved shall be complete with 32 - 218- LED beam lamp units providing 80 to 150 watts output and 7500 Lumens of illumination, all mounted in a corrosion resistant die-cast Aluminium housing. The average maintained 25Lux LED lights shall be of color temperature 5000-7000k, input voltage of 12V; maximum ambient temperature of 40-50°C; humidity range 10-85RH%, enclosure class IP65 and 50000 hour life.

Pole Standards
The pole shall be Pre-pressed concrete pole to KS1933 standard of Height not more than 10Meters.
Material of construction shall be cement.at least class 42.5N and the specification for
Sand shall be clean uncrushed gravel sand (river sand) size between 0-5mm with a Course aggregate, machine crushed preferably of size between ¼” and ½” to details. The pole shall be circular cross-section with a top diameter of 190mm and 330mm bottom diameter Tapering.

The poles shall be designed for a maximum wind speed (3 seconds gust at 10 m above ground level) of 50 m/s or AASHTO 150mph wind force rating.

Street light poles shall be supplied in sections not exceeding 10m in length. The Street light poles shall be in the standard production range of the manufacturer.

Provision for Earthing for the poles shall be provided by means of a 12 mm diameter stainless steel or brass stud with nuts and washers fixed to the main body of the pole structure in the access compartment.

**Charge Controller**

The charge controller shall be a multi-function IP65 24V 10A digital micro-controller for automatic regulation of battery charging, load control and lighting control. It shall be dawn to dusk activated and capable of switching the lights ‘ON’ or ‘OFF’ according to a pre-determined sequence or with a motion detector.

**Battery**

Highly reliable Lithium Ferrous Phosphate Battery as to be specified in the bill of quantities.

**Electronic Protections and additional**

Battery overcharge, deep discharge, reverse flow of current, load short circuit, reverse polarity, charging indication and battery low indication are electronically provided where applicable.

Hybrid systems with either on-grid or wind energy or both incorporated shall have inverters and change-over components, dully rated and sized to suit the peak power, short circuit current and open circuit voltages of the system where applicable.

**Base Foundation**

The Contractor or his sub-supplier shall, taking into consideration the soil conditions at site, the wind loading and the foundation type required, submit a foundation design calculation showing all details such as concrete ratio, depth and soil-bearing capacity, etc.
CONSTRUCTION REQUIREMENTS

Contractor's Working Lighting Design
The Contractor shall verify the compliance to these specifications of solar lighting equipments and ascertain that quality of workmanship and materials meet the required standards.

The Contractor’s working lighting calculations shall be made by the point-by-point method in accordance with the guidelines set out in CIE 129 Clause 2.7.

In addition, vertical illumination shall be calculated, as a minimum along the sides of the roads positions. Horizontal illumination shall be calculated on inverted planes placed above the luminaire height, to calculate if any amount of light will be emitted above a horizontal plane through the luminaires. The calculations shall cover all illuminated areas. Luminaries will be non light polluting, eco friendly, and non CO² emitting

Construction tolerances, visual appearance
The street lighting will be visually conspicuous and shall not adversely disturb the aesthetic and functional features of the environment. The Contractor shall select the specified type or declared equivalent of poles to fulfill the requirements to strength, stability and safety factors set out in the referenced standards and yet be acceptable to the Engineer.

The positioning and spacing of poles and the mounting and orientation of luminaires and accessories on them shall be done to give the most symmetrical visual impression possible within the limits given by the requirements to light distribution and quality.

Testing and commissioning
Testing, inspection and commissioning shall be in accordance with appropriate standards and shall be carried out as per the relevant clauses of the Special Specifications.
CONCRETE WORKS

General

This Special Specifications is supplementary to the Standard Specifications and the two must be read in conjunction. In any case, where there appears to be conflict between the two then Special Specifications will take precedence.

Location and Extent of the Works

The works are located within the Municipality of RUIRU areas
The works to be executed under the contract consist construction of 15M highmast floodlighting structures anchored in concrete footings and Street lighting installation.

Compliance with Specifications

All materials, plant, labour and workmanship in and connected with the execution of the works shall be the best of their respective kinds without regard to any trade terms and the contractor shall comply in these and all other respects with the following clauses and shall carry out the contract in a proper and workmanlike manner and in strict accordance with the specifications and the Engineer’s instructions.

Test Certificates

When instructed by the Engineer the Contractor shall submit certificates of Test from the suppliers of materials and goods to be used for contract to the Engineer. Such certificates shall certify that the materials or goods concerned have been tested in accordance with requirements of the Specification and shall give the results of all the tests carried out. The Contractor shall provide adequate means of identifying the materials and goods delivered to the site with the corresponding certificates.

Approval of Suppliers

The contractor's attention is drawn to his obligations with regard to quality and delivery schedule of materials and goods obtained from his suppliers. Should the Engineer at any time be dissatisfied with any goods and materials intended for delivery to the Employer he shall be empowered to reject such goods and materials and shall order that others of acceptable quality replace them. The cost of removal and the new supplies shall all be borne by the contractor.

Drawings

All standard drawings can be viewed during normal working hours as provided in the Tender advertisement.
Bills of Quantities

Preamble

The Bills of Quantities shall be read in conjunction with the Invitation for Bids Instruction to Bidders, Contract Forms, Special Specifications, Standard Specifications, Drawings and Bidding Forms

1. The prices and rates inserted in the Bills of Quantities are to the full inclusive costs of the works described under the items, complete as a functioning entity, including all costs and expenses which may be required in and for the construction of the work described, together with any temporary works and installations which may be necessary and general risks, liabilities and obligations set forth or implied in the documents on which the bid is based.

2. The brief description of the items in the Bills of Quantities are purely for the purpose of identification and in no way modifies or supersedes the detailed description given in the Conditions of Contract, Standard and special specifications or drawings. When pricing items, reference is to be made to the conditions of contract, Standard and special specifications and drawings for full directions and description of work and materials.

3. The quantities in the Bills of Quantities are estimated and provisional and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered out, as measured by the contractor and verified by the Engineer. These quantities will be valued at the rates and prices tendered in the priced Bill of Quantities where applicable and such rates and prices as the Engineer may fix within the terms of Contract.

4. The rates and prices tendered in the priced Bills of Quantities shall, except in so far as it is otherwise specified under the contract, include but not necessarily be limited to, execution of the complete works, maintenance, insurance, profit, together with all general risk, liabilities and obligations set out or implied in the contract.

5. A rate or price shall be entered against each item in the priced Bills of Quantities whether a quantity is 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 tendered in the Bills of Quantities.

6. Rates entered in the Bills of Quantities shall be valid irrespective of any change in the quantity of work done during the execution of the contract. Employer shall have the right to call for any item of work for which the rate has been entered by the Bidder, such item of work to be paid for at the rate entered by the Bidder.

7. The whole cost of complying with the provisions of the contract shall be included in the items provided in the priced Bills of Quantities, and shall be deemed to be distributed among the rates and prices entered for the related items of works.
8. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bills of Quantities. References to the relevant sections of the specifications in the contract documents shall be made before entering prices against each item in the priced Bills of Quantities.

9. The Bidder is required to satisfy himself that all the pages of the Bills of Quantities are there and should any be found missing or in duplicate or the figures or writing indistinct, the Bidder must notify the Employer at once and have the matter rectified before the Bid is submitted. No liability whatsoever will be entertained in respect of any claim for errors in the contractors Bid resulting from failure to comply with the foregoing. Errors in the pricing of the Bills of Quantities will be corrected in accordance with Clause 14 of the Instructions to Bidders.

10. Provisional sums included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction of the Engineer.

11. The method of measurement of completed work for payment shall be in accordance with part 5 of the Project Specifications.

12. The following abbreviations are made in the Bills of Quantities.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Millimetre</td>
<td>mm</td>
</tr>
<tr>
<td>b. Metre</td>
<td>m or lm</td>
</tr>
<tr>
<td>c. Square Metre</td>
<td>SM</td>
</tr>
<tr>
<td>d. Cubic Metre</td>
<td>CM</td>
</tr>
<tr>
<td>e. Provisional Contract Sum</td>
<td>P.C.S</td>
</tr>
<tr>
<td>f. Lump Sum</td>
<td>L.S</td>
</tr>
<tr>
<td>g. Kilometre</td>
<td>Km</td>
</tr>
<tr>
<td>h. Kilogram</td>
<td>Kg</td>
</tr>
<tr>
<td>i. Litre</td>
<td>L</td>
</tr>
<tr>
<td>j. Hectare (=10,000m²)</td>
<td>Ha.</td>
</tr>
<tr>
<td>k. Monthly Lump Sum</td>
<td>M.L.S.</td>
</tr>
<tr>
<td>l. Kenya Shillings</td>
<td>Kshs.</td>
</tr>
<tr>
<td>m. Number</td>
<td>No.</td>
</tr>
<tr>
<td>n. Tonne</td>
<td>Metric Ton.</td>
</tr>
</tbody>
</table>

13. Bidders are to price the Bills of Quantities in Kenya Shillings.
PRELIMINARIES AND BILLS OF QUANTITIES

Kenya Urban Support Program (KUSP)

<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Qty</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Prime cost of PC sum KShs.600,000.00 for Engineer's supervisory staff.</td>
<td>1</td>
<td>PC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Include 10% of P.C sum in item A for Contractor's overhead and profit.</td>
<td></td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Allow for insurance of the works in accordance with the Conditions of the Contract</td>
<td>1</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Allow for 2% of PC the cost of performance bond in accordance with Conditions of the Contract</td>
<td>2</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Allow KShs.50,000.00 for the preparation of all Working Drawings.</td>
<td>1</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Allow KSh. 50,000.00 for the preparation of all &quot;As Built&quot; Drawings.</td>
<td>1</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Provide ,erect and maintain Publicity sign boards</td>
<td>18</td>
<td>Item</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
as directed by the Engineer

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Qty</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount (KES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Provide 10m round pre -pressed reinforced concrete pole as KS1933 with earthling ferrule</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Prepare foundation works as per specifications ditto.</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Provide brackets as specified for fitting the lighting system on to the concrete pole c/w</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>accessories as per design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Supply, install Solar Panel of mono-crystalline type not less than 80W high efficiency</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Supply, install LiFePO4 Battery 400WH 4000 plus life cycle</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Light Emitting Diode Chips of 7500lm, beam angle adjustable.</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Maximum Power Point Tracking Charge Controller 10AMP</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Provide overcharge, discharge, short cct, open load and lightning protection.</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Provide software to control illumination levels remotely and switch on and off the system automatically c/w short messaging services notifying system.</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Provide earthing fastened to steel strap c/w accessories as specified in the drawings.</td>
<td>156</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Provide HDE Lx1010B 50000 Lux LCD Display Digital lux-meter light-meter</td>
<td>1</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>Provide the latest edition of the IEE REGULATIONS c/w its guide.</td>
<td>1</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Provide laptop as per Engineers specifications fitted with software for solar PV maintenance and troubleshooting</td>
<td>1</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Allow for six months maintenance of the solar PV system</td>
<td>1</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>Allow for testing and certification of the systems</td>
<td>1</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Allow for solar PV Training and complete solar kit</td>
<td>1</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL FOR STREET LIGHTS INSTALLATION WORKS C/F TO PRICE SUMMARY PAGE
# BILL NO.3 15M HIGHMAST LIGHTS INSTALLATION WORKS FOR RUIRU MUNICIPALITY –Ruiru

<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
<th>Qty</th>
<th>Unit</th>
<th>Rate</th>
<th>Amount (KES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>16.5M High flood mast pole made from Galvanized iron Pipe as per drawing attached</td>
<td>11</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Luminaire carriage assembly for mounting the floodlights</td>
<td>11</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>200W, LED Floodlight fittings complete as Philips or approved equivalent with control gear</td>
<td>44</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Foundation work as described in the specifications</td>
<td>11</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Burglar Proof lockable control pillar to house KPLC meter and associated switchgear as specified</td>
<td>11</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Power surge protector Lv&amp; Hv protector</td>
<td>11</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>30Amp 4pole contactor with ant surge as Schneider or Lovato or approved equivalent</td>
<td>11</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>6A Miniature Circuit Breaker</td>
<td>22</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>32A Miniature Circuit Breaker</td>
<td>22</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>63A Double pole switch</td>
<td>11</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Earth comprising of a 6.0mm² earth lead and 1800mm long by 15mm diameter copper earth electrode with driving tip and clamp</td>
<td>11</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>6.0mm² 4 core PVC/SWA/PVC copper cable to connect power from control pillar to the high mast</td>
<td>500</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>10.00mm² single core PVC/SWA/PVC aluminium cable to connect power from the control pillar to the KPLC power pole</td>
<td>500</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Trenching, cable laying, tilling and backfilling</td>
<td>500</td>
<td>M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### RUIRU - SECURITY LIGHTS INSTALLATION - PRICE SUMMARY PAGE

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BILL NO. 1 PRELIMINARIES AND GENERAL ITEMS B/F</td>
</tr>
</tbody>
</table>
| 2    | BILL NO. 2: RUIRU  
SCHEDULE A: INSTALLATION OF RENEWABLE ENERGY/INTEGRATED SOLAR STREETLIGHTS B/F |
<table>
<thead>
<tr>
<th></th>
<th>BILL NO. 3: RUIRU</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>SCHEDULE B: 15M HIGHMAST INSTALLATION B/F</td>
</tr>
<tr>
<td></td>
<td><strong>4</strong> SUB-TOTAL FOR ALL SECURITY LIGHTING INSTALLATIONS</td>
</tr>
<tr>
<td></td>
<td><strong>5</strong> TOTAL FOR SECURITY LIGHTING INSTALLATIONS</td>
</tr>
<tr>
<td></td>
<td><strong>6</strong> ADD 3% CONTINGENCY</td>
</tr>
<tr>
<td></td>
<td><strong>7</strong> ADD 5% AMOUNT FOR AUTHORIZED VARIATIONS</td>
</tr>
<tr>
<td></td>
<td><strong>8</strong> CORRECTED BID PRICE</td>
</tr>
</tbody>
</table>

**TOTAL TO FORM OF TENDER**

NAME OF TENDERER ____________________________________________________________

ADDRESS ________________________________________________________________

TEL. NO. __________________________ FAX NO. ________________________________

SIGNATURE OF TENDERER ___________________________ DATE _______________

OFFICIAL RUBBER STAMP ___________________________________________________

WITNESS ___________________________ SIGNATURE ___________________________ DATE ______

ADDRESS ___________________________ TEL. NO. ____________________________
PART 3 – Conditions of Contract and Contract Forms
Section VIII. General Conditions of Contract

These General Conditions of Contract (GCC), read in conjunction with the Particular Conditions of Contract (PCC) and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

These General Conditions of Contract have been developed on the basis of considerable international experience in the drafting and management of contracts, bearing in mind a trend in the construction industry towards simpler, more straightforward language.

The GCC can be used for both smaller measurement contracts and lump sum contracts.
Table of Clauses

A. General ................................................................................................................. 88

1. Definitions ........................................................................................................... 88
2. Interpretation ....................................................................................................... 90
3. Language and Law ............................................................................................. 91
4. Project Manager’s Decisions ............................................................................. 91
5. Delegation ........................................................................................................... 91
6. Communications ................................................................................................. 91
7. Subcontracting .................................................................................................... 91
8. Other Contractors ............................................................................................... 91
9. Personnel and Equipment ................................................................................... 92
10. Employer’s and Contractor’s Risks ..................................................................... 92
11. Employer’s Risks ............................................................................................... 92
12. Contractor’s Risks ............................................................................................. 93
13. Insurance ........................................................................................................... 93
14. Site Data ............................................................................................................ 94
15. Contractor to Construct the Works ...................................................................... 94
16. The Works to Be Completed by the Intended Completion Date ....................... 94
17. Approval by the Project Manager ..................................................................... 94
18. Safety ................................................................................................................ 94
19. Discoveries ....................................................................................................... 94
20. Possession of the Site ....................................................................................... 94
21. Access to the Site .............................................................................................. 95
22. Instructions, Inspections and Audits ................................................................. 95
23. Appointment of the Adjudicator ........................................................................ 95
24. Procedure for Disputes ..................................................................................... 96
25. Corrupt and Fraudulent Practices ..................................................................... 96

B. Time Control ....................................................................................................... 96

26. Program ............................................................................................................. 96
27. Extension of the Intended Completion Date ....................................................... 97
28. Acceleration ...................................................................................................... 97
29. Delays Ordered by the Project Manager ........................................................... 97
30. Management Meetings ...................................................................................... 98
31. Early Warning .................................................................................................. 98

C. Quality Control ................................................................................................ 98

32. Identifying Defects ......................................................................................... 98
33. Tests ............................................................................................................... 98
34. Correction of Defects ....................................................................................... 98
35. Uncorrected Defects ....................................................................................... 99
D. Cost Control

36. Contract Price

37. Changes in the Contract Price

38. Variations

39. Cash Flow Forecasts

40. Payment Certificates

41. Payments

42. Compensation Events

43. Tax

44. Currencies

45. Price Adjustment

46. Retention

47. Liquidated Damages

48. Bonus

49. Advance Payment

50. Securities

51. Dayworks

52. Cost of Repairs

E. Finishing the Contract

53. Completion

54. Taking Over

55. Final Account

56. Operating and Maintenance Manuals

57. Termination

58. Payment upon Termination

59. Property

60. Release from Performance
General Conditions of Contract

A. General

1. Definitions

1.1 Boldface type is used to identify defined terms.

(a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

(b) The Activity Schedule is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.

(c) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.

(d) Bank means the financial institution or SACCO.

(e) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.

(f) Compensation Events are those defined in GCC Clause 42 hereunder.

(g) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.

(h) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below.

(i) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer.

(j) The Contractor’s Bid is the completed bidding document submitted by the Contractor to the Employer.

(k) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.

(l) Days are calendar days; months are calendar months.

(m) Dayworks are varied work inputs subject to payment on a
time basis for the Contractor’s employees and Equipment, in addition to payments for associated Materials and Plant.

(n) A Defect is any part of the Works not completed in accordance with the Contract.

(o) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor.

(p) The Defects Liability Period is the period named in the PCC pursuant to Sub-Clause 34.1 and calculated from the Completion Date.

(q) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Engineer for the execution of the Contract.

(r) The Employer is the party who employs the Contractor to carry out the Works, as specified in the PCC.

(s) Equipment is the Contractor’s machinery and vehicles brought temporarily to the Site to construct the Works.

(t) “In writing” or “written” means hand-written, typewritten, printed or electronically made, and resulting in a permanent record;


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

(w) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.

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

(y) The Project Manager is the person named in the PCC (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) and administering
the Contract.

(z) PCC means Particular Conditions of Contract.

(aa) The Site is the area defined as such in the PCC.

(bb) Site Investigation Reports are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.

(cc) Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

(dd) The Start Date is given in the PCC. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.

(ee) A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

(ff) Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

(gg) A Variation is an instruction given by the Project Manager which varies the Works.

(hh) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the PCC.

(ii) Engineer (resident engineer is the person named in the bid who is responsible for supervising the execution of the works.)

2. Interpretation

2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.

2.2 If sectional completion is specified in the PCC, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion
Date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority:

(a) Agreement,
(b) Letter of Acceptance,
(c) Contractor’s Bid,
(d) Particular Conditions of Contract,
(e) General Conditions of Contract, including Appendix,
(f) Specifications,
(g) Drawings,
(h) Bill of Quantities,\(^{20}\) and
(i) any other document listed in the PCC as forming part of the Contract.

3. Language and Law

3.1 The language of the Contract and the law governing the Contract are stated in the PCC.

4. Project Manager’s Decisions

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

5. Delegation

5.1 Otherwise specified in the PCC, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

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

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the PCC. The Contractor shall also provide facilities and services for them as described in the Schedule. The

\(^{20}\) In lump sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule.”
Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel and Equipment

9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Engineer. The Engineer shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

9.2 If the Engineer asks the Contractor to remove a person who is a member of the Contractor’s staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9.3 If the Employer, Engineer or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above.

10. Employer’s and Contractor’s Risks

10.1 The Employer carries the risks which this Contract states are Employer’s risks, and the Contractor carries the risks which this Contract states are Contractor’s risks.

11. Employer’s Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer’s risks:

(a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to

(i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or

(ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.

(b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer’s design, or due to war or radioactive contamination directly affecting the country
where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer’s risk except loss or damage due to

(a) a Defect which existed on the Completion Date,

(b) an event occurring before the Completion Date, which was not itself an Employer’s risk, or

(c) the activities of the Contractor on the Site after the Completion Date.

12. Contractor’s Risks

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer’s risks are Contractor’s risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the PCC for the following events which are due to the Contractor’s risks:

(a) loss of or damage to the Works, Plant, and Materials;

(b) loss of or damage to Equipment;

(c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and

(d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager’s approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
13.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Data

14.1 The Contractor shall be deemed to have examined any Site Data referred to in the PCC, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works

15.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

16. The Works to Be Completed by the Intended Completion Date

16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

17. Approval by the Engineer

17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the engineer, for his approval.

17.2 The Contractor shall be responsible for design of Temporary Works.

17.3 The Engineer’s approval shall not alter the Contractor’s responsibility for design of the Temporary Works.

17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before this use.

18. Safety

18.1 The Contractor shall be responsible for the safety of all activities on the Site.

19. Discoveries

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

20. Possession of the Site

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

21. Access to the Site

21.1 The Contractor shall allow the Engineer and any person authorized by the Engineer 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.

22. Instructions, Inspections and Audits

22.1 The Contractor shall carry out all instructions of the Engineer which comply with the applicable laws where the Site is located.

22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub consultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

22.3 The Contractor shall permit and shall cause its Subcontractors and sub consultants to permit, the Employer and/or persons appointed by the Employer to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Employer if requested by the Employer. The Contractor’s and its Subcontractors’ and sub consultants’ attention is drawn to Sub-Clause 25.1 which provides, inter alia, that acts intended to materially impede the exercise of the Employer’s inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Employer’s prevailing sanctions procedures).

23. Appointment of the Adjudicator

23.1 The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer’s issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the PCC, to appoint the Adjudicator within 14 days of receipt of such request.

23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the PCC at the request of either party, within 14 days of receipt of such
24. Procedure for Disputes

24.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager’s decision.

24.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

24.3 The Adjudicator shall be paid by the hour at the rate specified in the PCC, together with reimbursable expenses of the types specified in the PCC, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator’s written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator’s decision shall be final and binding.

24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place specified in the PCC.

25. Corrupt and Fraudulent Practices

25.1 The Employer requires compliance with Kenya in regard to corrupt and fraudulent practices.

25.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program

26.1 Within the time stated in the PCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.

26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any
changes to the sequence of the activities.

26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the PCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the PCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.

26.4 The Project Manager’s approval of the Program shall not alter the Contractor’s obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

27. Extension of the Intended Completion Date

27.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Acceleration

28.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.

28.2 If the Contractor’s priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.

29. Delays Ordered by the

29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
Project Manager

30. Management Meetings

30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

31. Early Warning

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

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

C. Quality Control

32. Identifying Defects

32.1 The Engineer shall check the Contractor’s work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor’s responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.

33. Tests

33.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

34. Correction of Defects

34.1 The Engineer 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 PCC. The Defects Liability
Period shall be extended for as long as Defects remain to be corrected.

34.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager’s notice.

35. Uncorrected Defects

35.1 If the Contractor has not corrected a Defect within the time specified in the Engineer’s notice, the Engineer shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

36. Contract Price

36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

37. Changes in the Contract Price

37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.

37.2 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

38. Variations

38.1 All Variations shall be included in updated Programs produced by the Contractor.

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21 In lump sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule,” and replace GCC Sub-Claus 36.1 and 36.2, as follows:

36.1 The Contractor shall provide updated Activity Schedules within 14 days of being instructed to by the Project Manager. The activities on the Activity Schedule shall be coordinated with the activities on the Program.

36.2 The Contractor shall show delivery of Materials to the Site separately on the Activity Schedule if payment for Materials on Site shall be made separately.

22 In lump sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule,” and replace entire GCC Clause 37 with new GCC Sub-Clause 37.1, as follows:

37.1 The Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor’s own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

23 In lump sum contracts, add “and Activity Schedules” after “Programs.”
38.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

38.3 If the Contractor’s quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager’s own forecast of the effects of the Variation on the Contractor’s costs.

38.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

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

38.6 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 39.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.  

39. Cash Flow Forecasts

39.1 When the Program, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

40. Payment Certificates

40.1 The Contractor shall submit to the Engineer monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

40.2 The Engineer shall check the Contractor’s monthly statement and certify the amount to be paid to the Contractor.

40.3 The value of work executed shall be determined by the .

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24 In lump sum contracts, delete this paragraph.
25 In lump sum contracts, add “or Activity Schedule” after “Program.”
Engineer

40.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed.

40.5 The value of work executed shall include the valuation of Variations and Compensation Events.

40.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

41. Payments

41.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

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

41.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.

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

42. Compensation Events

42.1 The following shall be Compensation Events:

(a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.

(b) The Employer modifies the Schedule of Other Contractors

26 In lump sum contracts, replace this paragraph with the following: “The value of work executed shall comprise the value of completed activities in the Activity Schedule.”
in a way that affects the work of the Contractor under the Contract.

(c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.

(d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.

(e) The Project Manager unreasonably does not approve a subcontract to be let.

(f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.

(g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.

(h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.

(i) The advance payment is delayed.

(j) The effects on the Contractor of any of the Employer’s Risks.

(k) The Project Manager unreasonably delays issuing a Certificate of Completion.

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

42.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor’s forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor’s forecast is deemed unreasonable,
the Project Manager shall adjust the Contract Price based on the Project Manager’s own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

42.4 The Contractor shall not be entitled to compensation to the extent that the Employer’s interests are adversely affected by the Contractor’s not having given early warning or not having cooperated with the Project Manager.

43. Tax

43.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 30 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 44.

44. Currencies

44.1 Where payments are made in currencies other than the currency of the Employer’s country specified in the PCC, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor’s Bid.

45. Price Adjustment

45.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the PCC. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type specified below applies to each Contract currency:

\[ P_c = A_c + B_c \frac{\text{Imc}}{\text{Ioc}} \]

where:

- \( P_c \) is the adjustment factor for the portion of the Contract Price payable in a specific currency “c.”
- \( A_c \) and \( B_c \) are coefficients specified in the PCC, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency “c,” and
- \( \text{Imc} \) is the index prevailing at the end of the month being

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27 The sum of the two coefficients \( A_c \) and \( B_c \) should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulae for all currencies, since coefficient \( A_c \) for the nonadjustable portion of the payments, is a very approximate figure (usually 0.15) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency are added to the Contract Price.
Section IX – Particular Conditions of Contract

invoiced and Ioc is the index prevailing 28 days before Bid opening for inputs payable; both in the specific currency “c.”

45.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

46. Retention

46.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the PCC until Completion of the whole of the Works.

46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 51.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an “on demand” Bank guarantee.

47. Liquidated Damages

47.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the PCC for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the PCC. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor’s liabilities.

47.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus

48.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the PCC for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.
49. Securities

49.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in the PCC, by a bank or surety acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond.

50. Day works

50.1 If applicable, the Day works rates in the Contractor’s Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

50.2 All work to be paid for as Day works shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.

50.3 The Contractor shall be paid for Day works subject to obtaining signed Day works forms.

51. Cost of Repairs

51.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor’s cost if the loss or damage arises from the Contractor’s acts or omissions.

E. Finishing the Contract

52. Completion

52.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

53. Taking Over

53.1 The Employer shall take over the Site and the Works within seven days of the Project Manager’s issuing a certificate of Completion.

54. Final Account

54.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor’s account if it is correct and
complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

55. Operating and Maintenance Manuals

55.1 If “as built” Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the PCC.

55.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the PCC pursuant to GCC Sub-Clause 56.1, or they do not receive the Engineer approval, the Engineer shall withhold the amount stated in the PCC from payments due to the Contractor.
56. Termination  

56.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

56.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

(a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;

(b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days;

(c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

(d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager’s certificate;

(e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;

(f) the Contractor does not maintain a Security, which is required;

(g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the PCC; or

(h) if the Contractor, in the judgment of the Employer, has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Client may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site.

56.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental or not.

56.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

56.5 If the Contract is terminated, the Contractor shall stop work
immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

57. Payment upon Termination

57.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as specified in the PCC. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

57.2 If the Contract is terminated for the Employer’s convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor’s personnel employed solely on the Works, and the Contractor’s costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

58. Property

58.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor’s default.

59. Release from Performance

59.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.
APPENDIX TO GENERAL CONDITIONS

Corrupt and Fraudulent Practices

2.1 The procuring entity requires that the tenderer observes the highest standard of ethics during the procurement process and execution of the contract. A tenderer shall sign a declaration that he has not and will not be involved in corrupt and fraudulent practices.

2.2 The procuring entity will reject a tender if it determines that the tenderer recommended for award has engaged in corrupt and fraudulent practices in competing for the contract in question.

2.3 Further a tenderer who is found to have indulged in corrupt and fraudulent practices risks being debarred from participating in public procurement in Kenya.
Section IX. Particular Conditions of Contract

Except where otherwise specified, all PCC should be filled in by the Employer prior to issuance of the Bidding Documents. Schedules and reports to be provided by the Employer should be annexed.

A. General

| GCC 1.1 (d) | The financing institution is: N/A |
| GCC 1.1 (s) | NONE |
| GCC 1.1 (v) | The Intended Completion Date for the whole of the Works shall be Six (6) months |
| GCC 1.1 (y) | The Project Manager is CHIEF OFFICER, MUNICIPAL ADMINISTRATION AND URBAN DEVELOPMENT |
| GCC 1.1 (aa) | The Sites are located at RUIRU areas |
| GCC 1.1 (dd) | The Start Date shall be immediately after signing the contract |
| GCC 1.1 (hh) | The Works consist of Proposed Supply, Installation, Testing & Commissioning Of Integrated Solar Street Lighting and High mast Lighting In Ruiru Municipality |
| GCC 2.2 | Sectional Completions are: N/A |
| GCC 2.3(i) | The following documents also form part of the Contract: N/A |
| GCC 3.1 | The language of the contract is English |
| | The law that applies to the Contract is the law of the Republic of Kenya |
| GCC 5.1 | The Project manager may delegate any of his duties and responsibilities to the Engineer |
| GCC 8.1 | Schedule of other contractors: to be inserted subject to approval of Engineer |
| GCC 13.1 | The minimum insurance amounts and deductibles shall be: |
| | (a) for loss or damage to the Works, Plant and Materials: Equivalent to the value of works, Plants and Materials |
| | (b) For loss or damage to Equipment: Equivalent to the value of Equipment |
| | (c) for loss or damage to property (except the Works, Plant, Materials, and |

...
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX</td>
<td>Equivalents to the Value of Property</td>
</tr>
<tr>
<td>(d)</td>
<td>for personal injury or death:</td>
</tr>
<tr>
<td>(i)</td>
<td>of the Contractor’s employees: As per the Laws of Kenya</td>
</tr>
<tr>
<td>(ii)</td>
<td>of other people: As per the Laws of Kenya</td>
</tr>
<tr>
<td>GCC 14.1</td>
<td>Site Data are: As per the drawings and site visit</td>
</tr>
<tr>
<td>GCC 20.1</td>
<td>The Site Possession Date(s) shall be: within 30 days after signing of contract</td>
</tr>
<tr>
<td>GCC 23.1 &amp; GCC 23.2</td>
<td>Appointing Authority for the Adjudicator: Institution of Chartered Arbitrators of Kenya</td>
</tr>
<tr>
<td>GCC 24.3</td>
<td>Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: Ksh. 2,500.00</td>
</tr>
<tr>
<td>GCC 24.4</td>
<td>Institution whose arbitration procedures shall be used: Institution of Chartered Arbitrators of Kenya The place of arbitration shall be: Nairobi, Kenya</td>
</tr>
</tbody>
</table>

**B. Time Control**

| GCC 26.1 | The Contractor shall submit for approval a Program for the Works within 14 days from the date of the Letter of Acceptance. |
| GCC 26.3 | The period between Program updates is 30 days. The amount to be withheld for late submission of an updated Program is N/A |

**C. Quality Control**

| GCC 34.1 | The Defects Liability Period is: 365 days. |

**D. Cost Control**

| GCC 44.1 | The currency of the Employer’s country is: Kenya Shillings |
| GCC 45.1 | The Contract is not subject to price adjustment in accordance with GCC Clause 45, and the following information regarding coefficients does not apply. |
| GCC 46.1 | The proportion of payments retained is: 10 Percent |
| GCC 47.1 | The liquidated damages for the whole of the Works are 0.05% of the final Contract Price per day. The maximum amount of liquidated damages for |
the whole of the Works is **0.1%** of the final Contract Price.

**GCC 48.1**  
The Bonus for the whole of the Works is **0% of final Contract Price** per day. The maximum amount of Bonus for the whole of the Works is **0%** of the final Contract Price.

**GCC 49.1**  
The Performance Security amount is [insert amount(s) denominated in the types and proportions of the currencies in which the Contract Price is payable, or in a freely convertible currency acceptable to the Employer]

Performance Bond: **2% of the contract price** (Bank guarantee)

### E. Finishing the Contract

**GCC 55.1**  
The date by which operating and maintenance manuals are required is **7 days on completion of works**

The date by which “as built” drawings are required is **7 days on completion of works**

**GCC 55.2**  
The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required in GCC 55.1 is **Kenya Shillings Five Hundred Thousand Only**

**GCC 57.2**  
The maximum number of days is: **30 days**

**GCC 58.1**  
The percentage to apply to the value of the work not completed, representing the Employer’s additional cost for completing the Works, is **10%**
Section X - Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security, when required, shall only be completed by the successful Bidder after contract award.

Table of Forms

Letter of Acceptance.................................................................Error! Bookmark not defined.

Contract Agreement ................................................................................................................. 116

PERFORMANCE SECURITY (BANK GUARANTEE)......................................................... 118
REPUBLIC OF KENYA

COUNTY GOVERNMENT OF KIAMBU

RUIRU MUNICIPALITY

Letter of Acceptance

[Date]. . . . . . . . . . . . . . . . . . . . . . . . . .

To: ........................................................................
........................................................................
........................................................................
........................................................................
(name and address of the Contractor )

Subject: Notification of Award Contract

This is to notify you that your Bid dated ............... for execution of the Kenya Urban Support Program Project:- Proposed Supply, Installation, Testing & Commissioning Of Integrated Solar Street Lighting and High mast Lighting In Ruiru Municipality for the Accepted Contract Amount of Ksh. . . . . . . . . [Kenya Shillings..........................], as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 30 days in accordance with the Conditions of Contract, using for that purpose the of the Performance Security Form included in Section X (Contract Forms) of the Bidding Document.

[Choose one of the following statements:]

We accept that __________________________ [insert the name of Adjudicator proposed by the Bidder] be appointed as the Adjudicator.
We do not accept that ______________________
[insert the name of the Adjudicator proposed by the Bidder] be appointed as the Adjudicator, and by sending a copy of this Letter of Acceptance to ________________________
[insert name of the Appointing Authority], the Appointing Authority, we are hereby requesting such Authority to appoint the Adjudicator in accordance with ITB 43.1 and GCC 23.1.

Authorized Signature: ..............................................................................................................................................................................

Name and Title of Signatory: ........................................................................................................................................................................

Name of Agency: .........................................................................................................................................................................................

Attachment: Contract Agreement
Contract Agreement

THIS AGREEMENT made this. . . . day of . . . . . . . . . . . . , between RUIRU MUNICIPALITY (hereinafter “the Employer”), of the one part, and . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Kenya on the day, month and year specified above.

Signed by: ..........................................................  Signed by: ..........................................................

..........................................................  ..........................................................

for and on behalf of the Employer  for and on behalf the Contractor

In the presence of: ..........................................................  in the presence of: ..........................................................

..........................................................  ..........................................................

Witness, Name, Signature, Address, Date  Witness, Name, Signature, Address, Date
PERFORMANCE SECURITY (BANK GUARANTEE)

(BANK GUARANTEE)

[Guarantor letterhead or SWIFT identifier code]

Beneficiary:  County government of KIAMBU – RUIRU municipality of P.O. Box 2344-00900 Nairobi

Date:  ........................................

PERFORMANCE GUARANTEE No.:  .........................................

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

We have been informed that _ [insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture] (hereinafter called "the Applicant") has entered into Contract No. LHPP/MAUD/KUSP/RRU/002/2018/2019 dated ............ with the Beneficiary, for the execution of Kenya urban support program Project: - Proposed Supply, Installation, Testing & Commissioning Of Integrated Solar Street Lighting And Highmast Lighting In Ruiru Municipality (hereinafter called "the Contract").

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

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

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

---

2 Insert the date twenty-eight days after the expected completion date as described in GC Clause 53.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate
This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

____________________
[signature(s)]

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

paragraph: “The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary’s written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.”