

**Bihar Urban Infrastructure Development Corporation  
Ltd., (BUIDCo.), Patna**

**REQUEST FOR PROPOSAL (RFP)**

for

**“Supply, Fitting, Testing and Commissioning of 376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 number of LED lights on exiting Poles and 10 numbers High Mast Lights having 16 mtr. height and Operation & Maintenance of the same for One (1) year in Patna City.”**



**The Managing Director,  
Bihar Urban Infrastructure Development Corporation Ltd.,  
2nd floor, SFC Building, Road No-2, Daroga Rai Path,  
R. Block, Patna-800 001  
Telephone : +91-612-2506208**

# **REQUEST FOR PROPOSAL (RFP)**

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## **SECTION 1: LETTER OF INVITATION**

**SECTION 1 – LETTER OF INVITATION**

Ref: No. BUIDCo/SIU-7/17/16-57

Date: 30-06-2016

From:

Managing Director

BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

2nd Floor, SFC Building, Road No. 2, DarogaRai Path, R. Block, Patna - 800001

Tel: 0612-2506109

Email: md@BUIDCo.in

Website: <http://www.BUIDCo.in>

To:

**All Prospective Bidders**

Attention: Mr/Ms .....

1. Managing Director, BUIDCo, Bihar invites Bids to provide the following services: **“SUPPLY, FITTING, TESTING AND COMMISSIONING OF LED STREET LIGHTS, HIGH MAST LIGHT AND OPERATION & MAINTENANCE OF THE SAME FOR ONE (1) YEAR ON THE OCCASION OF 350th BIRTH ANNIVERSARY OF SHRI GURU GOVIND SINGH IN PATNA CITY, BIHAR”**.

2. The Background Information and Terms of Reference for the services are provided in Section 6 of the Request for Proposal (RFP)

3. This RFP is available to all eligible prospective Bidders/firms.

4. An Agency/firm will be selected on procedures described in this RFP.

5. The RFP includes the following documents:

Section 1 - Letter of Invitation

Section 2 - Instructions to Bidders

Section 3 –Data Sheet

Section 4 - Forms

Section 5 - Financial Bid

Section 6 - Terms of Reference

6. A Pre-Bid meeting will be held on the date notified in Notice Inviting Request for Bids wherein all issues/clarifications sought by bidders will be discussed and finalized. The deadline for receipt of Bids shall be on the date mentioned in Notice Inviting Request for Bids.

7. BUIDCo reserves the right to accept or reject any or all Bids, and to annul the selection process and reject all Bids at any time prior to the award of contract, without thereby incurring any liability or any obligation in any form to the affected firms on any grounds.

Yours sincerely,

**Managing Director,BUIDCo**

## **SECTION 2: INSTRUCTIONS TO BIDDERS**

## SECTION 2- INSTRUCTIONS TO BIDDERS

### 1. GENERAL

- 1.1 Bihar Urban Infrastructure Development Corporation Ltd. (BUIDCo), Govt. of Bihar (GoB) undertaking, Patna, Bihar, INDIA will select a Bidder/ firm /organization (the Bidder) in accordance with the method of selection specified in the Data Sheet in Section-3.
- 1.2 BUIDCo is not bound to accept any Bid and reserves the right to annul the selection process at any time prior to contract award, without thereby incurring any liability to the Bidders.
- 1.3 In preparing their Bids, bidders are expected to examine in detail the documents comprising the RFP. Material deficiencies in providing the information requested may result in rejection of a Bid.

### FRAUD AND CORRUPTION

- 1.4 The BUIDCo requires that Bidders observe the highest standard of ethics during the procurement and execution of such contracts. In such pursuance of this policy, the BUIDCo :
  - i. Defines, for the purposes of this provision, the terms set forth as follows:
    - a. "corrupt practice" means behaviour on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and
    - b. "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the borrower, and includes collusive practices among bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive the borrower of the benefits of free and open competition).
  - ii. will reject a Bid for award if it determines that the bidder recommended for award has engaged in **corrupt** or fraudulent practices in competing for the contract; and
  - iii. will declare a Bidder/firm ineligible, either indefinitely or for a stated period of time, to be awarded any BUIDCo contract if it at any time determines that the Bidder/firm has engaged in corrupt or fraudulent practices in competing for or in executing, any BUIDCo contract.

### TERMS OF BIDDING

- 1.5 This Request for Proposal (RFP) is open to all Bidders.
- 1.6 Joint venture is not allowed.
- 1.7 NA
- 1.8 Bidders shall not be under a declaration of ineligibility for delay, failure or corrupt and fraudulent practices by any of the State Govt. or Central Govt. or Public Undertaking or any Autonomous Body

- 1.9** Notwithstanding anything to the contrary contained in this RFP, the detailed terms specified in the Contract Agreement as given in **Sample Form under Forms in Section-3** shall have overriding effect; provided, however, that any conditions or obligations imposed on the Bidder hereunder shall continue to have effect in addition to its obligations under the Contract Agreement.
- 1.10** The Bid shall be unconditional. In case there is any condition or any other stipulation contained in the Bid, the Bid shall be liable for rejection as a non-responsive Bid.
- 1.11** The Bid and all communications in relation to or concerning the Bidding Documents and the Bid shall be in English language.
- 1.12** The Bidding Documents including this RFP and all attached documents are and shall remain the property of BUIDCo and are transmitted to the Bidders solely for the purpose of preparation and the submission of their Bids in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use this information for any purpose other than for preparation and submission of their Bid. BUIDCo will not return any Bid or any information provided along therewith.
- 1.13** A Bidder shall be liable for disqualification and forfeiture of Bid Security if any legal, financial or technical adviser of BUIDCo in relation to the Project is engaged by the Bidder in any manner for matters related to or incidental to such Project during the Bidding Process or subsequent to the (i) issue of the LOA or (ii) execution of the Contract Agreement. In the event any such adviser is engaged by the Selected Bidder or Contractor, as the case may be, after issue of the LOA or execution of the Contract Agreement for matters related or incidental to the Project, then notwithstanding anything to the contrary contained herein or in the LOA or the Contract Agreement and without prejudice to any other right or remedy of BUIDCo, including the forfeiture and appropriation of the Bid Security or Performance Security, as the case may be, which BUIDCo may have there under or otherwise, the LOA or the Contract Agreement, as the case may be, shall be liable to be terminated without BUIDCo being liable in any manner whatsoever to the Selected Bidder or Contractor for the same. For the avoidance of doubt, this disqualification shall not apply where such adviser was engaged by the Bidder in any manner for matters related to or incidental to such Project in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of RFP for the Project. Nor will this disqualification apply where such adviser is engaged after a period of 3 (three) years from the date of commercial operation of the Project.
- 1.14** Any award of Contract pursuant to this RFP shall be subject to the terms of Bidding Documents.

### **COST OF BIDDING**

- 1.15** The Bidders shall be responsible for all of the costs associated with the preparation of their Bids and their participation in the Bidding Process. Costs might include site visit; collection of information; power point presentations before or after award of contract and, if selected, attendance at contract negotiations etc. BUIDCO will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.

## Site visit and verification of information

**1.16** Bidders should familiarize themselves with local conditions and take them into account in preparing their Bids. To obtain first-hand information on the assignment and local conditions, bidders are encouraged to visit the project sites. Bidders are suggested to submit their respective Bids after visiting the project sites and ascertaining for themselves the stretches, the field conditions, applicable laws and regulations and any other matter considered relevant by them.

BUIDCo and/or ULB shall facilitate the selected bidder on best effort basis in maintaining/obtaining applicable approvals/laws/ regulations as required for the project.

Any cost incurred for this purpose shall not be claimed from BUIDCo. The BUIDCo or ULBs will not be responsible for providing space or any other infrastructure facility for the project.

**1.17** BUIDCo shall not be liable for any omission, mistake or error on the part of the Bidder in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to the RFP Documents or the Bidding Process, including any error or mistake therein or in any information or data given by BUIDCo or respective ULBs.

**1.18** It shall be deemed that by submitting a Bid, the Bidder have:

- ✓ made a complete and careful examination of the Bidding Documents;
- ✓ made site visit to ascertain the information relating to the Project as per Clause 1.16
- ✓ received all relevant information requested from BUIDCO and respective ULBs;
- ✓ acknowledged and accepted the risk of inadequacy, error or mistake in the information provided in the Bidding Documents or furnished by or on behalf of BUIDCo relating to any of the matters referred to in Clause 1.17 above;
- ✓ satisfied itself about all matters, things and information necessary and required for submitting an informed Bid, execution of the Project in accordance with the Bidding Documents and performance of all of its obligations there under;
- ✓ acknowledged and agreed that inadequacy, lack of completeness or incorrectness of information provided in the Bidding Documents or ignorance of any of the matters referred to in Clause 1.16 herein above shall not be a basis for any claim for compensation, damages, extension of time for performance of its obligations, loss of profits etc. from BUIDCo, or a ground for termination of the Contract Agreement;
- ✓ acknowledged that it does not have a Conflict of Interest; and
- ✓ Agreed to be bound by the undertakings provided by it under and in terms hereof.

## VERIFICATION AND DISQUALIFICATION

**1.19** BUIDCo reserves the right to verify all statements in a manner as it considers appropriate, information and documents submitted by the Bidder in response to, the RFP or the Bidding Documents and the Bidder shall, when so required by BUIDCo, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification, by BUIDCo shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of BUIDCo there under.

**1.20** In case it is found during evaluation or at any time before signing of the Contract Agreement or after its execution and during the period of subsistence thereof, including the Contract thereby granted by the BUIDCo, that the Bidder has made material misrepresentation or has given any materially incorrect or false information, the Bidder shall be disqualified forthwith if not yet appointed as the Contractor either by issue of the LoA or signing of the Contract Agreement, and if the Bidder has already been issued the LoA or has signed the



Contract Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable to be terminated, by a communication in writing by BUIDCO to the Bidder as the case may be, without BUIDCO being liable in any manner whatsoever to the Bidder or Contractor, as the case may be. In such an event, BUIDCO shall appropriate the Bid Security or Performance Security, as the case may be, compensation and damages payable to BUIDCO, inter alia, time, cost and effort of BUIDCO, without prejudice to any other right or remedy that may be available to BUIDCO.

## **2. DOCUMENTS**

### **CONTENTS OF RFP**

- 2.1** This RFP comprises the Disclaimer set forth hereinabove, the contents are as listed below, and will additionally include any Addenda issued in accordance with Clause 2.5.

#### **Invitation for Bids**

Section 1 - Letter of Invitation

Section 2 - Instructions to Bidders

Section 3 –Data Sheet

Section 4 - Forms

Section 5 - Financial Bid

Section 6 - Terms of Reference

### **CLARIFICATIONS**

- 2.2** Bidders requiring any clarification on the RFP may notify BUIDCo in writing or by fax and e-mail. They should send in their queries before the date mentioned in Data Sheet to Instructions to Bidders. BUIDCo shall endeavour to respond to the queries within the period specified therein, but no later than 7 (seven) days prior to the Bid Due Date. The responses will be sent by fax or e-mail. BUIDCo will forward all the queries and its responses thereto, to all Bidders. The minutes of pre-bid meeting and response to queries will be uploaded on BUIDCo website.
- 2.3** BUIDCo shall endeavour to respond to the questions raised or clarifications sought by the Bidders. However, BUIDCo reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring BUIDCo to respond to any question or to provide any clarification.
- 2.4** BUIDCo may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidders. All clarifications and interpretations issued by BUIDCo shall be deemed to be part of the Bidding Documents. Verbal clarifications and information given by BUIDCo or its employees or representatives shall not in any way or manner be binding on BUIDCo.

### **AMENDMENT OF RFP**

- a) At any time prior to the Bid Due Date, BUIDCo may, for any reason, whether at its own initiative or in response to clarifications requested by a Bidder, modify the RFP and the draft Contract Agreement by the issuance of addendum in writing.
- b) In order to afford the Bidders a reasonable time for taking an Addendum into account, or for any other reason, BUIDCo may, at its own discretion, extend the Bid Due Date by issuing corrigendum.

- c) Any Addendum or Corrigendum thus issued will be sent in writing and email to all the Bidders. Addendum or Corrigendum so issued will be uploaded on BUIDCo website.

### 3 PREPARATION AND SUBMISSION OF BIDS

#### FORMAT AND SIGNING OF BID

**3.1** The Bidder shall provide all the information sought under this RFP. BUIDCo will evaluate only those bids that are received in the required formats and complete in all respects.

**3.2** The Bid and its copy shall be typed or written in indelible ink and signed by the authorized signatory of the Bidder who shall initial each page. All the alterations, omissions additions or any other amendments made to the Bid shall be initialled by the person signing the Bid.

#### SUBMISSION OF BIDS

**3.3** Bids submitted by fax, telex, telegram or e-mail shall not be entertained and shall be rejected.

**3.4** The bidder shall download the blank document from the site website: [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in) and upload the scanned copy of required documents together with filled up documents on the website. : [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in)

- a) The Bidder shall submit the Technical Proposal using the appropriate forms furnished in Qualification Information Forms. These forms must be completed without any alterations to their format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested on e-proc.
- b) The Bidder shall submit the Price Proposal, using the price proposal submission sheet and bill of quantities furnished in the bid document on e-proc.
- c) **Form FIN-1** is an acknowledgement that, in preparation and submission of the Technical and Financial Bids, Bidders have:
- I. not taken any action which is or constitutes a corrupt or fraudulent practice; and
  - II. agreed to allow the Client, at their option, to inspect and audit all accounts, documents, and records relating to the Bidder's Bid and to the performance of the ensuing Bidder's Contract.
- d) The rates to be quoted shall include all costs / expenses and statutory taxes. The Client shall pay Service Tax as applicable on prevailing rates.
- e) The hard copy of the BID with the following contents shall be submitted within 24 hrs of BID submission date through e-proc.
- a. Covering letter in the format provided in **Form Tech-1**
  - b. General information & experience of the Bidder, Average Annual Turnover, Net Worth and Working Capital for meeting the Eligibility Criteria for the Bidder in the format provided in **Form Tech-2**. The bidders are required to provide completion certificates of assignments.
  - c. Power of Attorney for Bid signatory
  - d. Bid Security in the format provided in **Annexure-A**

- e. Cost of Bid Document.
- f. Schedule of Manpower as per the formats specified in **Form Tech-3**
- g. For the purpose of evaluating the Eligibility Criteria, Net Worth (shall mean Total Assets less Total Liability) and Working Capital (shall mean current assets less current liability plus lines of credit from a reputed Bank). The Bidder should provide Auditors Certificate specifying the Net Worth and also specify the methodology adopted for calculations.
- h. Original RFP duly signed by the authorized signatory of the Bidder.
- i. The detail technical proposal with all specifications, data, drawing and work plan showing in graphical format (bar chart) the timing of major activities, anticipated coordination meetings, and deliverables such as reports required under the **TOR as given Section-6**. The Technical Bid shall not include information related to financial Bid. Technical Bid containing information related to financial Bid shall be declared non responsive.
- j. Completed Technical Proposal Sheet submitted during e-proc submission.

#### **BID OPENING**

- f) Initially, only the Technical Proposals will be opened through e-proc site on date and time specified in Data Sheet. The Technical Proposals are evaluated by the Employer. No amendments or changes to the Technical Proposals are permitted. Bids with Technical Proposals which do not conform to the specified requirements will be rejected as deficient Bids.
- g) Price Proposals of technically compliant Bids are opened in public at a date and time advised by the Employer. The Price Proposals are evaluated and the Contract is awarded to the Bidder whose Bid has been determined to be the lowest evaluated substantially responsive Bid.

#### **PRE-BID MEETING**

- h) A pre-bid meeting is scheduled to be held on the date & time specified in the Data Sheet at the venue specified in the Data Sheet.

#### **LATE BIDS**

- i) Bids received by BUIDCo after the specified time on the Bid Due Date shall not be eligible for consideration and shall be summarily rejected.

#### **MODIFICATIONS/ SUBSTITUTION/ WITHDRAWAL OF BID**

- j) Withdrawal of Bid is not permitted during the Bid Validity Period. In case of withdrawal, the Bid Security will be forfeited by BUIDCo.
- k) The Bidder may withdraw, modify or substitute its Bid after submission, provided that written notice of the withdrawal, modification or substitution is received by BUIDCo prior to Bid Due Date. No Bid shall be modified or substituted by the Bidder on or after the Bid Due Date.
- l) *The* withdrawal, modification or substitution notice shall be prepared, sealed, marked, and delivered with the envelopes being additionally marked "MODIFICATION", or "SUBSTITUTION" as appropriate.
- m) Any alteration / modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by BUIDCo, shall be disregarded.

## REJECTION OF BID

- n) Notwithstanding anything contained in this RFP, BUIDCo reserves the right to reject any or all Bid/s and to annul the Bidding Process at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.

## VALIDITY OF BID

- o) The Bid shall be valid for a period specified in Data Sheet. Such period shall be referred to as "Bid Validity Period". The validity of Bids may be extended by the respective Bidders if desired by the BUIDCo.

## CONFIDENTIALITY

- p) Information relating to the examination, clarification, evaluation and recommendation for the Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising BUIDCo in relation to or matters arising out of, or concerning the Bidding Process. BUIDCo will treat all information, submitted as part of the Bid, in confidence and will require all those who have access to such material to treat the same in confidence. BUIDCo may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and / or the BUIDCo.

## CORRESPONDENCE WITH THE BIDDER

- q) BUIDCo shall not entertain any correspondence with any Bidder in relation to acceptance or rejection of any Bid.

## 4 BID SECURITY

**4.1A** Bidder is required to deposit, along with its Bid, a bid security equivalent amount specified in the Data Sheet, the Bid Security may be in the form of an unconditional and irrevocable Bank Guarantee or a Demand Draft drawn in favour of 'Managing Director, Bihar Urban Infrastructure Development Corporation Ltd. (BUIDCo) from a Scheduled Commercial Bank in India payable at Patna. The format of the Bank Guarantee is attached as **Annexure -A**. In case of Bank Guarantee, the validity period of the Bank Guarantee shall not be less than **148 (One hundred and forty eight) days** from the Bid Due Date and may be extended as may be mutually agreed between BUIDCo and the Bidder from time to time.

**4.2** Any Bid not accompanied by the Bid Security shall be rejected by BUIDCo as non-responsive.

**4.3** The Bid Security of unsuccessful Bidders will be returned by BUIDCo, without any interest, as promptly as possible on acceptance of the Bid of the Selected Bidder or when the Bidding Process is cancelled by BUIDCo.

**4.4** The Selected Bidder's Bid Security shall be returned, without any interest, upon the Bidder signing the Contract Agreement and furnishing the Performance Security in accordance with the provisions thereof.

**4.5** BUIDCo shall be entitled to appropriate the Bid Security as damages inter alia in any of the events specified in Clause 4.6 herein below. The Bidder, by submitting its Bid pursuant to this RFP, shall be deemed to have acknowledged and confirmed that BUIDCo will suffer loss and damage on account of withdrawal of its Bid or for any other default by the Bidder during the Bid Validity Period as specified in this RFP. No relaxation of any kind on Bid Security shall be given to any Bidder.

**4.6** The Bid Security shall be forfeited as damages without prejudice to any other right or remedy that may be available to BUIDCo under the Bidding Documents and / or under the Contract Agreement, or otherwise, under the following conditions:

- a) If a Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as specified in Clause 1.4 of this RFP;
- b) If a Bidder withdraws its Bid during the Bid Validity Period as specified in this RFP and as extended by mutual consent of the respective Bidder(s) and BUIDCo;
- c) In the case of Selected Bidder, if it fails within the specified time limit:
  - I. to accept the Letter of Award issued by BUIDCo; and / or
  - II. to sign the Contract Agreement and/or
  - III. to furnish the Performance Security by the means of a revolving bank guarantee, renewable at the end of every three years before signing the Contract Agreement;

## **5 BIDDERS ELIGIBILITY:**

The invitation to bid is open to all bidders who meet the following qualification criteria:

### **5.1 TECHNICAL QUALIFICATION CRITERIA:**

**General Experience:** They should have experience in similar nature and size works contract for each of the last five years in the role of contractor prior to the bid submission deadline.

The term “similar nature works contract” will mean Outdoor/Street Lighting Works Contract.

#### **Specific Work Experience:**

The bidder should have successfully completed at least one similar nature and size works contract as given below over a period of five (5) years ending on deadline for bid submission.

<b>Specific Work Experience</b>	<b>Requirement</b>
For Patna	One Contract of at least Rs.29.70Lac.

The above experience is required for each of the ULBs as specified above. In case bidders wish to apply for multiple cities, bidder is required to demonstrate cumulative experience for each of the cities. eg. if the bidder wishes to apply for both Patna, bidder should demonstrate experience of contracts worth 29.70 Lac.

In support of above experience criteria, the Bidder shall submit the documents and information, which will include the copy of contract/work order, completion certificate, reference on past performance etc., required to demonstrate that the Bidder meets the above requirements.

### **5.2 FINANCIAL QUALIFICATION CRITERIA:**

**Annual Turnover:** The Bidder’s annual turnover in any of last Three (3) years should be as per the table below for the number of cities applied for. Annual turnover is total certified payments received for contracts in progress or completed during the financial year.

**Availability of Financial Resources:** The Bidder must produce evidence of access to or availability of credit facility certified by a reputed Bank to meet the cash-flow requirement of amount specified in the following table for the number of cities applied for.

The Bidder must produce undertaking that the bidder would be able to invest a minimum cost of as per the table below for the number of cities applied for during implementation of the works contract.

<b>Financial Criteria</b>	<b>Qualification</b>	<b>Annual Turnover</b>	<b>Availability of Financial Resources</b>	<b>Investment capability</b>
For Patna		Rs.148.50 Lac.	Rs.29.70lacs	Rs.74.22lacs

The above experience is required for each of the ULBs as specified above. In case bidders wish to apply for multiple cities, bidder is required to demonstrate cumulative experience for each of the cities. eg. if the bidder wishes to apply for both Patna, bidder should demonstrate Annual Turnover of 148.50 Lac.

For above, the Bidder is to submit audited balance sheets of their financial turnover/accounts for the last Three (3)years, along with the bid. Where necessary the Employer will make enquiries with the Bidder's Bankers.

## **6 BID EVALUATION**

### **GENERAL**

**6.1** From the time the Bids are opened to the time the contract is awarded, the Bidder should not contact the Client on any matter related to its Technical and/or Financial Bid. Any effort by a Bidder to influence the Client in examination, evaluation, ranking of Bids or recommendation for award of contract may result in rejection of the Bidder's Bid.

**6.2** If the bid security is not found to be in order then the Bid shall be treated as non-responsive and shall not be evaluated further.

**6.3** The Employer will examine the bids to determine whether they are complete, whether the documents have been properly signed, and whether the bids are generally in order. Any bids found to be non-responsive for any reason or not meeting the minimum levels of the performance or other criteria specified in the bidding documents will be rejected by the Employer and not included for further consideration.

## **7 EVALUATION AND COMPARISON**

### **7.1 TECHNICAL PROPOSAL**

**a)** The Employer will carry out a detailed evaluation of the bids in order to determine whether the bidders are qualified and whether the technical aspects are complete in all respects to the requirements set forth in the bidding documents. In order to reach such a determination, the Employer will examine the information supplied by the Bidders and other requirements in the bidding documents, taking into account the following factors:

**b)** The eligibility criteria will be first evaluated as defined in Bidders Eligibility under clause No-5. Detailed technical evaluation will be taken up in respect of only those bidders, who meet with the prescribed eligibility criteria.

**c)** The determination will take into account the Bidder's technical capabilities and past performance; it will be based upon the examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Employer deems necessary and appropriate.

d) Overall completeness and compliance with the Technical Specifications; the technical merits of plant and equipment offered and suitability of the facilities offered in relation to the environmental and climatic conditions prevailing at the site; quality, function and operation of any process control concept included in the bid.

e) Compliance with the time schedule.

f) Type, quantity and long-term availability of spare parts and maintenance services.

g) At the end of the evaluation of the technical proposals and after approval, the Employer will invite bidders who have submitted substantially responsive technical proposals and who have been determined as being qualified for award to attend the bid opening of the price proposals. Bidders shall be given reasonable notice of the price proposal bid opening.

## 7.2 PRICE PROPOSALS

a) The Price Proposals of technically compliant Bids will be opened in public at a date and time advised by the Employer. The Price Proposals are evaluated and the Contract is awarded to the Bidder whose Bid has been determined to be the lowest evaluated substantially responsive Bid.

b) The bidder's names, the Bid Prices, the total amount of each bid, any discounts, and such other details as the Employer may consider appropriate, will be announced and recorded by the Employer at the opening. The bidder's representatives will be required to sign this record.

## 8 CONTRACT NEGOTIATIONS AND AWARD OF CONTRACT

8.1 The Bidder who is invited for contract negotiations will, as a pre-requisite for attendance at the negotiations, confirm the process of electrification of street lights. He will also confirm the safety and security of street lights.

8.2 The selected Bidder is expected to commence the Assignment on the date mentioned and at the location specified in the work plan attached with the bid.

## 9 PERFORMANCE SECURITY

The Bidder will furnish within 7 days of the issue of Letter of Acceptance (LOA), an Account Payee Demand Draft/ Fixed Deposit Receipt/ Unconditional Bank Guarantee (in **Sample Form No 3** in Forms under Section - 4)/ in favour of "**Managing Director, Bihar Urban Infrastructure Development Corporation Ltd.in Bihar**" payable/en-cashable at **Patna**, from any nationalized or scheduled commercial Bank in India for an amount equivalent to **5% (five percent)** of the total value of procurement, installation and commissioning of LED Street Lights towards Performance Security for the contract valid **till the completion of O&M period.**

## 10 SCHEDULE OF PAYMENT

### 10.1 Payment Certificates

The Contractor shall submit to the Employer monthly statements of the estimated value of the work completed less the cumulative amount certified previously.

The Employer shall check the Contractor's monthly statement within 14 days and certify the amount to be paid to the Contractor.

The value of work completed is determined by the Employer. The value of work completed comprises the value of the quantities of the items in the Bill of Quantities completed.

The value of work completed includes the valuation of Variations, advance payments, price adjustments and deductions for retention.

The Employer 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.

## **10.2 Payments**

The Employer shall pay the Contractor, the amounts certified within 28 days of the date of each certificate. The amount to be credited to the Contractor shall be as under:

### **10.2.1 Advance Payment:**

- (a) The Employer will make, if requested by the contractor, an interest-bearing advance at the rate of 10% per annum to the contractor for the cost of mobilization in respect of the Works in an amount equivalent to not more than 10% (ten percent) of the Contract Price for the construction, payable in two equal instalments against the submitted bank guarantee.

The payment for the Advance to the Contractor shall be made only on proof of mobilizing either equipment or procurement of materials on site as considered necessary, by the Contractors for the execution of the Contract.

- (b) Payment of the first instalment of the Advance will be due under separate certification by the Employer after (i) execution of the Agreement-Works and Operation and Maintenance by the parties thereto, (ii) furnishing the Performance Security by the Contractor and, (iii) furnishing of an Unconditional Bank Guarantee from a scheduled Bank in India for an amount equal to the total amount of the Advance Payment. Such Bank Guarantee shall remain effective until the total amount of the Advance has been completely repaid by the contractor out of his current earnings under the contract and certified accordingly by the Employer.
- (c) The Advance Payment shall be used by the Contractor exclusively for mobilization expenditures, as per programme approved by the Employer for its utilization. In case the advance payment is not utilized by the Contractor as per the approved programme and within the stipulated period to the satisfaction of BUIDCo, default proceedings shall be initiated against the Contractor leading to the termination of the contract.
- (d) No advance payment shall be made to Contractor for the Operation & Maintenance Program of the proposed works for One (1) year.

### **10.2.2 Works Payment**

#### **All Equipment**

- 50% (percent) of payment on supply of equipment at site.
- 30% (percent) on completion of erection
- 20% (percent) after successful testing and commissioning of equipment.

#### **Civil Works**

- The payment of the civil work shall be made as per actual work done and measured for as per the provision of this contract.



**10.2.3 Operation and Maintenance Payment:**

- The payment for Operation and Maintenance will be made on monthly basis as per the Price Bid for O&M period which shall be 1/12<sup>th</sup> of the amount for that particular year.
- The contractor shall submit their Service Bill on satisfactory completion of Services for One (1) month which shall be duly approved by the Engineer-In-Charge.

**Currencies**

All payments under this contract shall be paid in Indian Rupees (INR).

**Deduction**

Deductions from the Payment Certificates will be made towards Income Tax, Sales Tax, Turnover Tax, and Royalties, as per provisions of the statutory authorities, in force from time to time in the State of Bihar.

The Employer shall repay the retention money to the Contractor after the Defect Liability period of the system in its entirety.

**11 TIMESCHEDULE:**

The successful bidder shall complete the works within the period stated in the Data sheet and from the date of signing of the Agreement-Works.

The Works shall be completed in its entirety within **the schedule as given below.**

**Commissioning period:**

Supply, Fitting, Testing and Commissioning of 376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 number of LED lights on exiting Poles and 10 numbers High Mast Lights having 16 mtr. height and Operation & Maintenance of the same for One (1) year in Patna City.	3 months
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**Defect Liability period:**

**The defect Liability period** shall be for **One (1) Year** which shall follow on satisfactory completion of installation and Commissioning period. The expenditure of Defect and liability period shall be borne by the contractor.

**Operation and Maintenance period:**

The Operation and Maintenance period for all proposed shall be of **One (1) year** which shall follow on satisfactory completion of the Defect Liability period of **One (1) Year**.

## **SECTION 3: DATA SHEET**

**SECTION 3: DATA SHEET**

Sl. No	Item	Description	Reference Clause No.		
1	Name of Project	Supply, Fitting, Testing and Commissioning of 376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 number of LED lights on exiting Poles and 10 numbers High Mast Lights having 16 mtr. height and Operation & Maintenance of the same for One (1) year in Patna City.	Letter of Invitation in Section-1		
2	Name of Employer	Managing Director BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED 2nd Floor, SFC Building, Road No. 2, Daroga Rai Path, R. Block, Patna - 800001 Tel: 0612-2506109 Email: <a href="mailto:md@BUIDCo.in">md@BUIDCo.in</a> , <a href="mailto:tenders@buidco.in">tenders@buidco.in</a> Website: <a href="http://www.BUIDCo.in">http://www.BUIDCo.in</a>	Letter of Invitation in Section-1		
3	Brief Scope of Works	<p><b>Scope of the Works:</b></p> <ul style="list-style-type: none"> <li>—Supply and installation of mtr of octagonal Hot Dip Galvanized Street Lighting Pole with Single and Double arm as per specifications. The distance between 2 Poles shall be approximately 30 m.</li> <li>—supply, installation, testing and commissioning of LED High Mast with 300W LED Flood light 16 Mtrs Mast (The Details of works are specified on the Schedule of work at Technical Specification No. 24/2/2016 Under Item No. C).</li> <li>—The contractor shall also supply all items like junction boxes, MCBs, anchor fasteners, screws, bolts, Nuts, washers, cable glands and lugs etc. and carry out associated minor works for successful completion of work.</li> <li>—Any other items that are not indicated but form part of the execution shall be deemed to be included in the scope and vendor shall include the cost of such items in their offer</li> <li>—Supply and fitting of LED Luminaires as per specifications with minimum Three(3) years Guarantee against satisfactory performance wrt to Lux levels as specified.</li> <li>—Supply of wire, conduit and all other accessories as required for energizing luminaires.</li> <li>—Fitting and Testing of entire works.</li> <li>—Rectification of all troubles as and when required for efficient working of the lighting system during Defect Liability period.</li> <li>—Operation &amp; Maintenance of the entire Works for One year i/c supply of Man-power, Spares, Consumables and T&amp;P.</li> <li>—The Materials supplied by the agency must undergo the Third Party Inspection report for the empaneled agency in BUIDCo. The cost incurred will be born by the Bidder.</li> </ul>	Cl.No.2 in TOR and Annexure-B under Section-6		
4	Completion Schedule	<p>The Works shall be completed in its entirety within:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; padding: 5px;">376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 number of LED lights on exiting Poles and 10 numbers High</td> <td style="width: 30%; padding: 5px;">3 Months</td> </tr> </table>	376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 number of LED lights on exiting Poles and 10 numbers High	3 Months	Cl.No.11 in Instruction to Bidder under Section-2
376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 number of LED lights on exiting Poles and 10 numbers High	3 Months				

		Mast Lights having 16 mtr. height and Operation & Maintenance of the same for One (1) year in Patna City.	
		Defect Liability period shall be for <b>One (1) Year</b> which shall follow on satisfactory completion of O & M period of One (1) Year. The expenditure during Defect liability period shall be borne by the contractor. The O&M period shall be of <b>One (1) year</b> from the date of satisfactory completion of DLP.	
5	Type of Contract	Item Rate Contract as per BOQ	Form FIN-2 under Section-4
6	Bid Validity	120 days from the bid due date.	Cl.No.3.4- o) in section-2
7	Bid Security	A Bid Security in the amount of :  For Patna City Rs. 5.94 lakhs  shall be provided as a part of the bid, in the form of bank guarantee which shall remain valid for a period of 28 (Twenty Eight) days beyond the BID validity date.	Cl.No.4.1 in Instruction to Bidder under Section-2
8	Performance Security	Performance Security shall be 5% (Five Percent) of the Contract Price in the form of Unconditional bank guarantee valid for till the completion of Operation and Maintenance period.	Cl.No.9 in Instruction to Bidder under Section-2
9	Payment Terms	<b>Advance Payment:</b> - 10% (ten percent) of the Contract Price in two equal instalments against bank guarantee. No advance payment for Operation & Maintenance.  <b>Works Payment</b>  <b>For all Equipment</b> <ul style="list-style-type: none"> <li>• 50% (percent) of payment on supply of equipment at site.</li> <li>• 30% (percent) on completion of erection</li> <li>• 20% (percent) after successful testing and commissioning of equipment.</li> </ul> <b>For Civil Works</b> <ul style="list-style-type: none"> <li>• As per actual work done and measured for as per the provision of this contract.</li> </ul> <b>Operation and Maintenance Payment :</b> <ul style="list-style-type: none"> <li>• As per the Price Bid for O&amp;M period which shall be 1/12<sup>th</sup> of the amount for that particular year on submission of Service Bill on satisfactory completion of Services for One(1) month duly approved by the Engineer-in-charge.</li> </ul>	Cl.No.10.2.1,10.2.2 and 10.2.3in Instruction to Bidder under Section-2
10	Joint Venture/	Joint Venture/ Consortium are not allowed. In case bidders wish to apply for multiple cities, bidder is required to demonstrate	Cl.No.1.6in Instruction to

	Consortium	cumulative experience for each of the cities.	Bidder under Section-2				
11	Deviation/Conditional Bid	Any deviation from the specifications mentioned in the Bid document shall not be accepted. Conditional Proposal shall not be entertained. Contractors are required not to put any condition.	Sl.No.5 in Cl.No.6.7 of Preamble to BOQ under Section-6				
12	Evaluation Process	Technical and Financial Bid evaluation shall be as per Bidders Eligibility Criteria.	Cl.No.6 and 7 in Instruction to Bidder under Section-2				
13	Bidders Eligibility	<p><b><u>Technical Qualification Criteria:</u></b></p> <p><b>General Experience:</b> <i>They should have experience in similar nature and size works contract for each of the last Five years in the role of contractor prior to the bid submission deadline.</i></p> <p><b>Specific Work Experience:</b>  <i>In the event bidder is a contractor the contractor must furnish latest authorization letter from the manufacturing LED Street Light brand to participate in this tender, each LED Street Light and High Mast Light manufacturing brand can only authorized one intending contractor to participated and bid for the subject job.</i></p> <p><i>Apart from bidding contractor past experience for similar nature of job, authorized LED Street Light and High Mast Light brand credential can be also considered to qualify eligibility criteria of the bidder in the event bidder is a contractor.</i></p> <p><i>The bidder as main contractor should have successfully completed at least one similar nature and size works contract as given below over a period of <b>five (5) years</b> ending on dead line for bid submission.</i></p> <table border="1" data-bbox="483 1339 1162 1451"> <tr> <td colspan="2"><b>Specific Work Experience</b></td> </tr> <tr> <td>For Patna City</td> <td>One Contract of at least Rs.29.70 Lac.</td> </tr> </table> <p><i>In support of above experience criteria, the Bidder shall submit the documents and information, which will include the copy of contract / work order, completion certificate, reference on past performance etc, required to demonstrate that the Bidder meets the above requirements.</i></p> <p><b>Financial Qualification Criteria:</b>  Annual Turnover : The Bidder's annual turnover in any of last Three (3) years should be at least as mentioned in the table below. Annual turnover is total certified payments received for contracts in progress or completed during the financial year.  Availability of Financial Resources: The Bidder must produce evidence of access to or availability of credit facility certified by a reputed Bank to meet the cash-flow requirement of as mentioned in the table below..  The Bidder must produce undertaking that the bidder would be able to</p>	<b>Specific Work Experience</b>		For Patna City	One Contract of at least Rs.29.70 Lac.	Cl. No. 5.1 and 5.2 in Instruction to Bidder under Section-2
<b>Specific Work Experience</b>							
For Patna City	One Contract of at least Rs.29.70 Lac.						

		invest a minimum cost of as mentioned in the table below during implementation of the works contract.									
		<table border="1"> <thead> <tr> <th>Financial Qualification Criteria</th> <th>Annual Turnover</th> <th>Availability of Financial Resources</th> <th>Investment capability</th> </tr> </thead> <tbody> <tr> <td>For Patna</td> <td>Rs.148.50 Lac.</td> <td>Rs.29.70lacs</td> <td>Rs.74.22lacs</td> </tr> </tbody> </table>	Financial Qualification Criteria	Annual Turnover	Availability of Financial Resources	Investment capability	For Patna	Rs.148.50 Lac.	Rs.29.70lacs	Rs.74.22lacs	
Financial Qualification Criteria	Annual Turnover	Availability of Financial Resources	Investment capability								
For Patna	Rs.148.50 Lac.	Rs.29.70lacs	Rs.74.22lacs								
		For above, the Bidder is to submit audited balance sheets of their financial turn over/ accounts for the last Five (5) years, along with the bid. Where necessary the Employer will make enquiries with the Bidder's Bankers.									
14	Bid Capacity	<p>Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under :</p> <p>Assessed Available Bid capacity = (A*N*3 – B)</p> <p>Where</p> <p>A =Maximum value of civil engineering works executed in any one year during the last five years (updated to the price level of the year indicated in Appendix) taking into account the completed as well as works in progress.</p> <p>N =Number of years prescribed for completion of the works for which bids are invited.</p> <p>B =Value (updated to the price level of the year indicated in Appendix) of existing commitments and on-going works to be completed during the next 0.25 years (period of completion of the works for which bids are invited)</p> <p>Note :The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Project Director or <i>equivalent</i>.</p>									
15	Contents of RFP Document	The RFP includes the following documents: Section 1 - Letter of Invitation, Section 2 - Instructions to Bidders, Section 3 – Data Sheet, Section 4 - Forms Section 5 - Financial Bid, Section 6 - Terms of Reference	Cl.No.2.1 of in Instruction to Bidder under Section-2								
16	RFP Submission Procedure	Submission of Bid through e-procshould include the following -Technical Bid -Financial Bid	Cl.No.3 in Instruction to Bidder under Section-2								
17	Important dates	Pre-bid Meeting : <b>11.07.2016 at 3.00 PM.</b> Downloading of bid document : <b>07.07.16 to 12.07.16up to 3:00 PM</b> Last date and time for receipt of bids: <b>14.07.2016up to 4.00 PM</b> Last date and time for submission hard copy of bid:15.07.2016upto3.00 PM Time and date of opening technical bids: <b>15.07.2016 at 3:30 PM</b>	NIT								
18	Key Personal	Bidder must have one diploma in Electrical Engg. And one diploma in Civil Engg. The that bidders and diploma holders have an affidavit.									
19	Electrical Licence	Bidder must have valid Electrical Licence.									

## **SECTION 4: FORMS**

**FORM TECH-1: TECHNICAL BID SUBMISSION FORM (ON THE LETTERHEAD OF THE BIDDER)**

[Location, Date]

To:

Managing Director

BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION  
2nd Floor, SFC Building, Road No. 2, DarogaRai Path, R. Block, Patna - 800001  
Tel: 0612-2506109  
Email: md@BUIDCo.in  
Website: <http://www.BUIDCo.in>

Sub: Bid for “**Supply, Fitting, Testing and Commissioning of 376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 number of LED lights on exiting Poles and 10 numbers High Mast Lights having 16 mtr. height and Operation & Maintenance of the same for One (1) year in Patna City**”.

Dear Sir/Madam:

- 1) With reference to your RFP document dated \*\*\*\*\*, I/we, Being duly authorized to represent and act on behalf of.....{name of the Bidder}, having examined the RFP Document and understood their contents, hereby submit my/our Bid for **Supply, fitting, testing and commissioning of LED street lights, High Mast Lights and Operation & Maintenance of the same for One (1) year in Patna City, Bihar** on behalf of (Name of the Bidder) in response to and as per the requirements of the RFP for your evaluation.
- 2) The Bid is unconditional and qualified. I/ We acknowledge that Bihar Urban Infrastructure Development Corporation Ltd.in Bihar (BUIDCO) will be relying on the information provided in the Bid and the documents accompanying the Bid for selection of the Contractor for the aforesaid Project, and we certify that all information provided therein is true and correct; nothing has been omitted/concealed which renders such information misleading; and all documents accompanying the Bid are true copies of their respective originals.
- 3) This statement is made for the express purpose of qualifying as a Bidder for **Supply, fitting, testing and commissioning of LED street lights, High Mast Lights and Operation & Maintenance of the same for One (1) year in Patna City, Bihar**.
- 4) I/ We shall make available to BUIDCO any additional information it may find necessary or require to supplement or authenticate the Bid.
- 5) I/ We acknowledge the right of BUIDCO to reject our Bid without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
- 6) We certify that in the last **five** years, we have neither failed to perform on any contract, as evidenced by imposition of a penalty or a judicial pronouncement or arbitration award, nor been expelled from any project or contract nor have had any contract terminated for breach on our part.
- 7) I/ We declare that:
  - a. I/ We have examined and have no reservations to the RFP Document, including any Addendum issued by BUIDCO.



- b. I/ We do not have any conflict of interest in accordance with Clauses 1.4 of Information to Bidder in Section-2 of RFP document;
  - c. I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in Clauses 1.4 of Information to Bidder in Section-2 of RFP document; in respect of any tender or request for Bid issued by or any agreement entered into with BUIDCO or any other public sector enterprise or any government, Central or State; and
  - d. I/ We hereby certify that we have taken steps to ensure that in conformity with the provisions of Clauses 1.4 of Information to Bidder in Section-2 of RFP document, no person acting for us or on our behalf has engaged or will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.
- 8) I/ We understand that you may cancel the Bidding Process at any time and that you are neither bound to accept any Bid that you may receive nor to invite the Bidders to Bid for the Project, without incurring any liability to the Bidders.
  - 9) I/ We certify that in regard to matters other than security and integrity of the country, we have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which could cast a doubt on our ability to undertake the Project or which relates to a grave offence that outrages the moral sense of the community.
  - 10) I/ We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any Bidder of the Government or convicted by a Court of Law.
  - 11) I/ We further certify that no investigation by a regulatory authority is pending either against us or against our Associates or against our CEO or any of our Directors/ Managers/ employees.
  - 12) I/ We undertake that in case due to any change in facts or circumstances during the Bidding Process, we are attracted by the provisions of disqualification in terms of the guidelines referred to above, we shall intimate BUIDCO of the same immediately.
  - 13) I/We hereby irrevocably waive any right which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by BUIDCO in connection with the selection of the Bidder, or in connection with the Bidding Process itself, in respect of the above mentioned Project and the terms and implementation thereof.
  - 14) In the event of my/ our being declared as the Selected Bidder, I/We agree to enter into a Contract Agreement in accordance with the draft that has been provided to me/us as part of the bid documents. We agree not to seek any changes in the aforesaid draft and agree to abide by the same, in case we become the contractor.
  - 15) I/We have studied the RFP Document carefully and also surveyed the project sites. We understand that except to the extent as expressly set forth in the Contract Agreement, we shall have no claim, right or title arising out of any documents or information provided to us by BUIDCO or in respect of any matter arising out of or concerning or relating to the Bidding Process including the award of Contract.
  - 16) I/We offer a Bid Security of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) to Managing Director, BUIDCO in accordance with the RFP Document.
  - 17) The Bid Security in the form of a Demand Draft/ Bank Guarantee is attached.
  - 18) I/We undertake, if our Bid is accepted, to initiate the work/ services related to the project not later than the date indicated in the Data Sheet .

- 19) I/We agree and understand that the Bid is subject to the provisions of the Bidding Documents. In no case, I/We shall have any claim or right of whatsoever nature if the Project / Contract is not awarded to me/us or our Bid is not opened.
- 20) I/ We agree and undertake to abide by all the terms and conditions of the RFP document.
- 21) I/We agree to keep this offer valid for 120 (one hundred and Twenty) days from the Bid Due Date specified in the RFP.

In witness thereof, I/we submit this Bid under and in accordance with the terms of the RFP document.

Yours faithfully,

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name and seal of Bidder

Address:

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

Place: \_\_\_\_\_

**FORM TECH-2: BIDDER'S ORGANIZATION AND EXPERIENCE**

*[Provide here a brief (two pages) description of the background and organization of the Bidder with following summary sheet.]*

<b>Name of the Bidder:</b>	
Address of Registered Office:	
Registration No :	
ST/VAT Clearance Certificate	
IT Clearance Certificate	
Contact Person with Contact Details	
Turnover* in last Three years (in Lakhs) FY 2014-15: FY 2013-14: FY 2012-13: Average Annual Turnover for above three Financial Years: *Audited Statements to be enclosed	
Net worth of Bidder (Positive/ Negative):	
Current Contract Commitments: (in Lakhs)	
Working Capital: (in Lakhs)	
Experience in Similar Assignment: Number of street lights installed during last 5 years: Total assignments of street lights for Maintenance: No. of Assignments: Maintenance done for number of years: Maintenance being done for number of years:	
Any Award or Felicitation received by the Bidder:	
Any Other Relevant Details:	

*Attach the completion certificates for street lights installed and maintenance completed. Also attach the certificates issued by the authority for on-going projects.*

**FORM TECH-3: SCHEDULE OF MANPOWER**

Details of technical &amp; administrative personnel of the Bidder

S. No.	Designation	Total Number	Number Available for this work	Name Qualifications Professional Experience	Details of work carried out

## Annexure – A Form of Bid Security (Bank Guarantee)

To:  
 The Managing Director,  
 Bihar Urban Infrastructure Development Corporation Ltd  
 2<sup>nd</sup> Floor, SFC Building, Road No.-2, Daroga Rai Path, Patna-800001.

Subject:

Bank Guarantee No \_\_\_\_\_ dated \_\_\_\_\_ for Rs. \_\_\_\_\_  
**(Rupees \_\_\_\_\_ only)** on behalf of  
 \_\_\_\_\_ *[Name of the Bidder]* against the Bid  
 Security for Bid of Contract No. **BUIDCo/SIU-7/17/16-57** (“**Supply, Fitting, Testing and  
 Commissioning of LED Street Lights, High Mast Lights and Operation & Maintenance of the  
 same for One(1) year in Patna City, Bihar**”)

WHEREAS, \_\_\_\_\_ *[name of Bidder with address]*  
**(hereinafter called “the Bidder”)** has submitted his Bid dated \_\_\_\_\_ *[date]* for the  
 execution of: “**Supply, Fitting, Testing and Commissioning of LED Street Lights, High Mast  
 Lights and Operation & Maintenance of the same for One(1) year in Patna City, Bihar**” .  
 Contract No. BUIDCo/SIU-7/17/16-57 (hereinafter called “the Bid”).

**KNOW ALL PEOPLE** by these presents that We \_\_\_\_\_  
 \_\_\_\_\_ *[name of Bank]* of  
 \_\_\_\_\_ *[name of country]* having our  
 registered office at \_\_\_\_\_ **(hereinafter  
 called “the Bank”)** are bound unto the Bihar Urban Infrastructure Development Corporation,  
 BUIDCo, represented by the Managing Director of Bihar Urban Infrastructure Development  
 Corporation (hereinafter called “the Employer”) in the sum of Rupees \_\_\_\_\_ *[Amount of  
 Security in figures][in words]* only for which payment well and truly to be made to the said  
 Employer, the Bank binds himself, its successors, and assigns by these presents.

**SEALED** with the Common Seal of the said Bank this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

THE CONDITIONS of this obligation are:

- (1) If the Bidder withdraws his Bid during the period of Bid validity specified in the Form of Bid;  
 or
- (2) If the Bidder refuses to accept the correction of errors in his Bid;  
 or
- (3) If the Bidder, having been notified of the acceptance of his Bid by the Employer during the  
 period of Bid validity;
  - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to  
 Bidders, or
  - (b) fails or refuses to furnish the Performance Security, in accordance with the Instructions  
 to Bidders;

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or more of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date 28 days after the date of expiration of the Bid Validity, as stated in the Instructions to Bidders, or any such extension thereto as may be agreed by the Bidder, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_ SIGNATURE OF THE BANK \_\_\_\_\_

WITNESS \_\_\_\_\_ SEAL \_\_\_\_\_

*[Signature, name, and address]*

**[Note: To be furnished on appropriate non-judicial stamps]**

## **SAMPLE FORM (To be used as applicable)**

### **1. LETTER OF ACCEPTANCE**

*(Letterhead paper of Employer)*

*(Date)*

**To:** \_\_\_\_\_

*(Name and Address of the Contractor)*

Dear Sirs,

This is to notify you that your bid dated \_\_\_\_\_ for execution of the Works **“Supply, Fitting, Testing and Commissioning of LED Street Lights, High Mast Lights and Operation & Maintenance of the same for One(1) year in Patna City, Bihar”**.

**Contract Package No BUIDCo/SIU-7/17/16-57** for the Contract Price of Rs. \_\_\_\_\_  
(Rupees \_\_\_\_\_) *(amount in number and words)*, as corrected and modified in accordance with the Instructions to Bidders<sup>1</sup>, is hereby accepted by our Agency.

We request that, within 15 days of the date of this Letter of Acceptance, you:

- (a) Provide the requisite Performance Security in accordance with the provisions of the Data Sheet in Instruction to Bidders in the amount of 5% of the above Contract Price;
- (b) Provide the requisite proof of insurance in accordance with the provisions of Contract; and
- (c) Prepare the Form of Agreement, in duplicate, on Government Stamp Paper and meet with the undersigned at the address provided during normal office hours on any working day the to sign the said Agreement.

One copy of the signed Agreement will be provided to you for your files, while the other copy will remain with us.

Yours faithfully,

*(Signature, name, title and address of signatory authorized to sign on behalf of the Employer)*

\_\_\_\_\_

<sup>1</sup> Delete "as corrected and modified in accordance with the Instructions to Bidder" if corrections or modifications have not been effected.

## 2. FORM OF CONTRACT AGREEMENT

### AGREEMENT FOR EXECUTION OPERATION AND MAINTENANCE

**This Agreement** made this day of 20 between Bihar Urban Infrastructure Development Corporation Ltd., (BUIDCo), represented by the Managing Director, Bihar Urban Infrastructure Development Corporation Ltd (hereinafter called the Employer) of the first part, the Executive Officer of the Municipality Corporation as the second part and

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of \_\_\_\_\_ (hereinafter called the Contractor) of the third part.

**Whereas** the Employer and the ULB desires that the Construction and Operation and Maintenance of the Works known as “**Supply, Fitting, Testing and Commissioning of LED Street Lights, High Mast Light and Operation & Maintenance of the same for One(1) year in Patna City, Bihar**”.

**Contract Package No BUIDCo/SIU-7/17/16-57 should** be executed by the Contractor, and has accepted a Bid by the Contractor.

**BUIDCo and the Contractor agree** as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - (a) The Letter of Acceptance
  - (b) The said Bid;
  - (c) The Contract Data;
  - (d) The Terms of Reference (TOR)
  - (e) The Drawings;
  - (f) The Priced Bill of Quantities;
3. In consideration of the payments to be made by BUIDCo/ ULB or his legal successors to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the BUIDCo/ ULB to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract and also operate and maintain the Works at its rated capacity, including maintaining the plant and equipment in good operating condition, normal wear and tear excepted, and remedying any defects therein in conformity in all respects with the provisions of the Contract.
4. BUIDCo/ ULB hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works and the remedying of defects and operation and maintenance of the Works and the remedying of defects therein, the Contract Price or such other sum as



may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

**In Witness** whereof the parties hereto have caused this Agreement to be executed the day and year first before written.

The Common seal of \_\_\_\_\_ was hereunto affixed in the presence of:

or

Signed, Sealed and Delivered by the said \_\_\_\_\_ in the presence of:

Binding Signature of Managing Director, Bihar Urban Infrastructure Development Corporation Ltd

\_\_\_\_\_

Binding Signature of Executive Officer, \_\_\_\_\_ ULB

Binding Signature of Contractor \_\_\_\_\_

### 3. PERFORMANCE BANK GUARANTEE (UNCONDITIONAL)

**To:** The Managing Director,  
Bihar Urban Infrastructure Development Corporation Ltd  
2nd floor, SFC Building ,Road No-2, Daroga Rai Path, R. Block,  
Patna- 800 001

**WHERE AS** *[name and address of Contractor]* (hereinafter called the Contractor) has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute the work **“Supply,Fitting, Testing and Commissioning of LED Street Lights, High Mast Light and Operation & Maintenance of the same for One (1) year in Patna City, Bihar”**.

**Contract Package No. BUIDCo/SIU-7/17/16-57**

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

**AND WHEREAS** we have agreed to give the Contractor such a Unconditional Bank Guarantee;

**NOW THEREFORE** we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of **Rs.** \_\_\_\_\_ *[Amount of Guarantee][in words]*, such sum being payable in Indian Rupees in which the contract price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument any sum or sums within the limits of *[amount of Guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

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

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

The guarantee shall be valid until the end of the Operation and Maintenance period.

SIGNATURE AND SEAL OF THE GUARANTOR: \_\_\_\_\_

NAME OF BANK: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

DATE: \_\_\_\_\_

**4. FORM OF ADVANCE PAYMENT SECURITY****(BANK GUARANTEE)****To:** *[name of Employer]**[address of Employer]**[name of Contract]***Gentlemen:**

In accordance with the provisions of the Instruction to Bidders, Sl.No.10 ("Advance Payment") of the above mentioned Contract, \_\_\_\_\_ *[name and address of Contractor]* (hereinafter called "the Contract") shall deposit with \_\_\_\_\_ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of \_\_\_\_\_ *[amount of Guarantee]* \_\_\_\_\_ *[in words]*.

We, the *[bank or financial institution]*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligatory and not a Surety merely, the payment to \_\_\_\_\_ *[name of Employer]* on its first demand without whatsoever right of objection on our part and without its first claim to the Contractor, in the amount not exceeding \_\_\_\_\_ *[amount of Guarantee]*1 \_\_\_\_\_ *[in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed there under or of any of the Contract documents which may be made between *[name of Employer]* and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until *[name of Employer]* receives full repayment of the same amount from the Contractor.

Yours truly,

SIGNATURE AND SEAL: \_\_\_\_\_

Name of Bank/Financial Institution: \_\_\_\_\_

Address: \_\_\_\_\_

1An amount is to be inserted by the bank or financial institution representing the amount of the Advance Payment, and denominated either in the currency(ies) of the Advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.

Date:

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**5. FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT FACILITIES(To be submitted along with BID )**

**BANK CERTIFICATE**

This is to certify that M/s. \_\_\_\_\_ is a reputed company with a good financial standing.

If the contract for the work“**Supply, Fitting, Testing and Commissioning of LED Street Lights, High Mast Lights and Operation & Maintenance of the same for One (1) year in Patna City,Bihar**”.is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs.\_\_\_\_\_ to meet their working capital requirements for executing to the above contract during the contract period.

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

Name of Bank

Senior Bank Manager

Address of the Bank

**6. AFFIDAVIT(To be submitted along with BID )**

**AFFIDAVIT**

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.

2. The undersigned also hereby certifies that neither our firm M/s\_\_\_\_\_ has been blacklisted nor has abandoned any work in any government department, India nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.

3. The undersigned hereby authorises and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by BUIDCo to verify this statement or regarding my (our) competence and general reputation.

4. The undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of BUIDCo.

\_\_\_\_\_  
(Signed by an Authorized Officer of the Firm)

\_\_\_\_\_  
Title of Officer

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
*DATE*

**7. UNDERTAKING(To be submitted along with BID )**

**UNDERTAKING**

I, the undersigned do hereby undertake that our firm M/s \_\_\_\_\_  
\_\_\_\_\_ would invest a minimum cash up to 25% of the value of the work  
and as per Cl.No.5.2 in Instruction to Bidder under Section-2 during implementation of the  
Contract.

\_\_\_\_\_  
(Signed by an Authorised Officer of the Firm)

\_\_\_\_\_  
Title of Officer

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
DATE

**8. Availability of Equipment .**

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment necessary for execution and operation and maintenance of the assignment.

Sl.No	Name of Equipment	Requirement		Availability proposals			Remarks (from whom to be purchased)
		No.	Capacity	Owned/ to be procured	Nos./ Capacity	Age/ Condition	



## **SECTION 5: FINANCIAL BID**

**FORM FIN-1: FINANCIAL BID SUBMISSION FORM**

[Location, Date]

To:

Managing Director

BIHAR URBAN INFRASTRUCTURE DEVELOPMENT CORPORATION  
2nd Floor, SFC Building, Road No. 2, Daroga Rai Path, R. Block, Patna - 800001  
Tel: 0612-2506109  
Email: md@BUIDCo.in  
Website: <http://www.BUIDCo.in>

Dear Sir /Madam:

We, the undersigned, offer for **“Supply, Fitting, Testing and Commissioning of LED Street Lights, High Mast Lights and Operation & Maintenance of the same for One(1) year in Patna City, Bihar”** in accordance with your Request for Bid dated [Insert Date] and our Technical Bid. Our attached Financial Bid is for the sum of [Insert amount(s) in words and figures<sup>1</sup>]. This amount is inclusive of all applicable taxes and charges.

Our Financial Bid shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Bid, i.e. before the date indicated in Cl. No 3.21 in Instruction to Bidder.

We undertake that we:

- a. have not taken any action which is or constitutes a corrupt or fraudulent practice; and
- b. agree to allow the Client, at their option, to inspect and audit all accounts, documents, and records relating to the Bidder’s Bid and to the performance of the ensuring Bidder’s Contract.

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

We remain,

Yours sincerely,

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name of Firm:

Address:

<sup>1</sup> Amounts must coincide with the ones indicated under Total in Form FIN-2.

**FORM FIN-2: SUMMARY BY COSTS**

**Project Title: “Supply, Fitting, Testing and Commissioning of LED Street Lights, High Mast Lights and Operation & Maintenance of the same for One (1) year in Patna City, Bihar”**

**1.Bill of Quantities for Patna City - 376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 numbers of LED lights on existing Poles.**

Sl. No	Item Description	Unit	Q'ty	Unit Rate (In Rs.)	Amount (In Rs.)
1	Supply and erection of 8 mtr of octagonal pole as per dimension top dia 70 mm, bottom dia 135 mm, sheet thickness 3mm, section -1, (section length -8000 mm), Base plate-400mm X 400mm X 16mm, PCD - 300 mm. Material for pole shaft- as per BSEN 10025/ IS 5986 Grade, Material for base plate- As per IS 2062 Grade- Fe 410, Metal protection- Hot Dip Galvanization as per IS- 4759 or equivalent. Having foundation of RCC M25 550mm X 550mm X 1200mm below ground level and 200mm above ground level. The octagonal pole of street light will be erected on the above mention foundation with the anchoring bolts of size 850mm long.				
1.1	Single Arm Bracket- 1500 mm Long with 48.3 OD GI pipe	Nos	376		
1.2	Double Arm Bracket- 1500 mm Long with 48.3 OD GI pipe	Nos	82		
2	SITC Street light fixture, 72W LED	Nos	540		
3	SITC Cu/AI armoured XLPE cables:				
3.1	4cx2.5 sq.mm. cu. Armoured cable	RM	18050		
3.2	3cx1.5 sq.mm. cu. Armoured cable	RM	4832		
3.3	4cx6.0 Sq.mm. Cu. Armoured cable	RM	1300		
4	SITC Cable End Terminations:				
4.1	4cx2.5 sq.mm.2XWY	Nos	1050		
4.2	3cx1.5 sq.mm. cu. Armoured cable	RM	1230		
4.3	4cx6.0 sq.mm. 2XWY	Nos	46		
5	SITC outdoor type feeder pillar box with MCB, Power Contractor & timer etc.	Nos	25		
6	Excavation in all kind of soil for laying of cable & providing layer of brick and back filling the excavated earth (0.5m wide x0.75m depth )	Mtrs	17350		
7	Road cutting of 0.5 m wide and 0.25 m thick &levelling after backfilling, excavation below road .	Mtrs	4000		
8	Earthing PIT provision:				
8.1	With Earth plate of size 600mmx600mmx6.0mm	Nos	25		
9	Supply & laying of 8 SWG, GI wire for each connectivity in horizontal or vertical run in ground/surface	mtrs	17350		
10	72W LED Light with Arm on Existing Pole, Single Arm	Nos	50		
11	Operation & Maintenance of the entire works for One (1) year including supply of man-power, spares and all other accessories as required for satisfactory up-keep.	Year	1		
	<b>Total Amount (In Rs.) -</b>				

**2.Bill of Quantities for Patna City - 10 numbers High Mast Light.**

S.No.	Description of Items	Unit	Qty. for 1 High Mast Light	Unit rate	Total Amount
1	Supply of 16 M High mast system with its accessories Mast Shift shall be in two sections, hot dip galvanised and suitable for wind velocity as per IS 875 para 3. It shall also include accessories for high mast including head frame, stlle wire rope 6 mm dia (7/19) construction). Trailing cable, double drum winch, Galvanised Latern carriage arrangement suitable for 12 Luminaires symmetrically & its control gear boxes and lighting final. The mast shall have an integral power tool installed inside in base compartment not included in the mast supply prices.	Nos.	1		
2	Supply of foundation bolts manufactured from special steel along with nuts, washers, anchor plates and templates.	Nos.	1		
3	Supply & Installation of 300 Watt LED floodlight/suitable wattage of flood light for light output 16000 (Tolerance can be +/- 5% ) luminaries of 8 fittings and its control gear boxes along with other accessories if any.	Nos.	8		
4	Supply of single dome aviation obstruction lights with two one no 100 W GLS lamps.	Nos.	1		
5	Supply of control penal housing 63 A TPN MCB incomer, single dial timer contractor for the automatic switching of the mast, outgoing terminals and control of the mast, outgoing terminals and control circuit for the power tool motor, timer whitch & senser switch etc complete with fittings.	Nos.	1		
6	Erection and commissioning of the high mast with the help of suitable equipments.	Nos.	1		
7	Design and casting of suitable shallow foundation with M-20 concrete for the high mast = considering the safe soil bearing capacity at site as 10t/ sqmtr at 2 metre.	Nos.	1		
8	Installation of the above panel on a suitable foundation.	Nos.	1		
9	Pipe earting as per IS 3043	Nos.	2		
10	Suppling&laying of 4 c 16 sq mm PVC armoured AL Cable.		100		
11	Operation & Maintenance of the entire works for One (1) year including supply of man-power, spares and all other accessories as required for satisfactory up-keep.	Year	1		
<b>Total -</b>					
<b>For 10 Nos. of High Mast Light (Total X 10) -</b>					

## **SECTION 6: TERMS OF REFERENCE**

## 1. GENERAL PROJECT INFORMATION

Bihar Urban Infrastructure Development Corporation Ltd. (BUIDCo.) envisages undertaking the Street Lighting Scheme on major roads in significant areas in Patna City, Bihar to develop the economic and social stability.

It is proposed that Patna City shall be provided with 276 Numbers of single armed and 82 numbers of double armed LED Street Lights and 50 numbers of LED lights on existing Poles and 10 High Mast Lights.

ULB	LED Lights and High Mast Light
For Patna City	376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 number of LED lights on existing Poles and 10 numbers High Mast Lights having 16 mtr. Height.

## 2. SCOPE OF WORK

The scope of work covered by this specification shall include **“Supply, Fitting, Testing and Commissioning of LED Street Lights and High Mast Lights and Operation & Maintenance of the same for One (1) year in Patna City, Bihar”**.

Any component of work not specifically mentioned in this specification but considered essential for the proposed work shall be included by the tenderer in his offer.

Any variation or changes to be carried out at site shall be done with the approval of the Engineer in charge in writing.

The scope of work and the bill of quantities given in this tender document are indicative and the contractor is responsible for the proposed LED Street Light Scheme & High Mast Light Scheme & High Mast Lighting Scheme and final approval of the Scheme and BOQ by the Engineer.

Up-keep of the LED Street Light Scheme & High Mast Light Scheme & High Mast Lighting Scheme in all respect during the Defect Liability Period of One(1) year from the date of satisfactory completion of the works and during O&M period of One(1) year on satisfactory completion of DLP.

The Contractor / Bidder’s scope would include the following major activities:

- Supply and installation of 8 mtr. of octagonal Hot Dip Galvanized Street Lighting Pole with Single and double arm as per specifications. The distance between 2 Poles shall be 30 m.
- The scope of works covers supply, installation, testing and commissioning of LED High Mast with 300W LED Flood light 16 Mtrs Mast (The Details of works are specified on the Schedule of work at Technical Specification No. 24/2/2016 Under Item No. C).
- Supply and fitting of LED Luminaires as per specifications with minimum Three (3) years Guarantee against satisfactory performance wrt to Lux levels as specified.
- Supply of wire, conduit and all other accessories as required for energizing luminaires.

- Fitting and Testing of entire works.
- Rectification of all troubles as and when required for efficient working of the lighting system during Defect Liability period.
- Operation & Maintenance of the entire Works for One year i/c supply of Man-power, Spares, Consumables and T&P.

### **3. WORK PLAN**

As time is the essence of the Contract, on Mobilisation, the Contractor shall submit the work program in an acceptable format. The Contractor shall submit 3 (three) hard copies and 1 (one) soft copy of the said program for the approval of the Engineer. The Contractor shall update the said work program periodically to demonstrate the actual progress against the plan so that necessary corrective measure can be taken up.

All equipment to be supplied shall be subject to inspection by BUIDCo. Such inspection shall however not relieve the contractor of his obligations under the contract.

The Engineer in charge reserves the right to specify materials and equipment of a particular make for the purpose of standardization and the tenderer shall agree to supply the materials of the make specified, if so required without any extra cost.

The contractor shall be responsible for timely delivery of equipment at site, transport to the place of installation, storing, installation, testing and commissioning of all the materials that are included in the scope of work.

The electrical contractor executing this work shall have a valid license issued by the State Government for carrying out installation work of the voltage class involved under the direct supervision of a person holding a certificate of competence for the same voltage classes issued and recognized by the State Government.

All necessary scaffolding for working at various heights shall be the responsibility of the Contractor. The contractor shall be responsible for compensation in case of any accident to his workmen or others at site.

The contractor shall fulfil and bear all statutory charges for their workmen i.e. tenderer shall indemnify BUIDCo of any such charges as compensation.

The contractor shall supply all necessary hardware and consumable required for the entire installation.

### **4. DESIGN CONSIDERATIONS**

The detailed BOQ as selected and approved by BUIDCo shall be an integral part of the agreement to be entered into between BUIDCo and the selected contractor / Bidder of which shall be part of agreement.

The Contractor / Bidder shall construct structurally sound and aesthetically appealing facilities as per plans and specifications. However, in areas where deviations are necessitated due to space or

location constraints, the BUIDCo may consider permitting such variations. The requisite services as may be essential from the users' points of view would be provided by Contractor.

## **5.0 GENERAL TECHNICAL SPECIFICATION FOR PROPOSED WORK**

### **5.1 SCOPE**

This *specification* covers Supply, Fitting, Testing and Commissioning of LED Street Lights and Operation & Maintenance of the same for successful completion of the work. Any equipment, device, component or work not specifically mentioned in this specification but considered essential for proper design and operation shall be included by the tenderer in his offer. Applicable provisions and conditions of contract shall govern the work under the Section.

### **5.2 GENERAL**

The work to be provided for by the Contractor, unless otherwise specified, shall include but not limited to the following:

**i** Furnish all labour, supervision, services, materials, supports, scaffolds, construction equipment, tools, plants and transportation etc. required for the proper execution of the job as per drawings, specification and schedule of items and get all necessary tests on materials and work conducted at their cost

**ii** Notwithstanding the General layout shown in the drawing, the contractor shall obtain further approval of the layout at site from the Engineer-in-Charge before commencement of the work

**iii** Furnish samples of materials on display board at site for approval including arranging necessary tests on samples, as directed by the Engineer-in-Charge in an approved Laboratory

**iv** To provide all incidental items not shown or specified in particular but necessary for proper execution of works in accordance with the drawing, specification and schedule of items

**v** To maintain the work and keep them maintained till handed over to the owner in proper working condition

**vi** Co-ordinate with all agencies including those engaged by the owner for proper execution of the job.

**vii.** All supply and installation work shall be carried out as per specification and in accordance with the construction drawings and shall conform to requirements called for in the Indian Electricity Rules 1956 with its latest amendment, Indian Electricity Acts and all relevant codes and practices issued by the Bureau of Indian Standard as amended up-to-date. The work shall also comply with the provisions of the general or local set of legislatures and regulations of any local or other statutory authority which may be applicable.

**viii.** The Contractor for the work must possess valid Electrical contractor's License endorsed by the Licensing Board, Directorate of Electricity of concerned State Government. The Contractor will be responsible for taking electrical connection from electricity department on their own cost. BUIDCo will facilitate in taking connection and other formalities.



**5.3 LOCAL CONDITIONS:**

The tenderer shall visit the site; ascertain the local conditions, entry, traffic restriction, and obstructions if any and also site conditions. Whether the tenderer visits the site or not, he is deemed to have visited the site and ascertained the entire site conditions. The tenderer shall allow in his tender for an extra cost likely to be incurred due to site conditions. No claim will be allowed on this account under any circumstances.

**5.4 STANDARDS:**

The equipment and the installation work shall generally conform to the requirements of the Indian Electricity Rules with its latest amendments and all relevant standards and code of practice of the Bureau of India Standards.

However, the decision of site engineer shall be final with respect to requirements.

**5.5 STATUTORY REQUIREMENTS:**

The contractor shall obtain the approval of the State Electricity Board and Electrical Inspectorate and carryout changes as called for by the Electrical Inspector at no extra cost to BUIDCo. He shall also obtain the drawing approvals and final safety certificate from state electricity board.

**5.6 MATERIALS**

Materials shall be of the approved make & quality. Contractor shall obtain approval from the Engineer-in-Charge of sample of all materials before placing order and the approved sample shall be carefully preserved on the display board in an appropriate manner at the site office for verification by the Engineer-in-Charge.

For standard bought out items, the sizes manufactured by the firms listed shall prevail when there is discrepancy in the sizes mentioned in the schedule without any financial adjustment.

**5.7 SPECIFICATIONS**

Unless specifically mentioned otherwise, all applicable codes and standards published by the Bureau of Indian Standard and all other such publication as may be published by them after work starts, shall govern in respect of design, workmanship, quality and properties of material and method of testing.

**5.8 SAFETY**

All equipment shall be complete with approved safety devices wherever a potential hazard to personnel exists and with provision for safe access of personnel to and around equipment for operation and maintenance functions.

Special care shall be taken to ensure against entry of rats, lizards and other creeping reptiles, which may create electrical short circuit inside live equipment.

## **5.9 DRAWINGS**

On completion of all work the contractor shall furnish three copies of Ammonia print along with the original tracing of the following “As built” drawings to the Engineer-in-Charge without any extra cost.

- a) Detailed general arrangement drawings of the LED Street Light Scheme & High Mast Light Scheme complete with dimension in metric units.
- b) Wiring diagram for final power / lighting distribution system showing the rating/ size of switchgear, cables, conduits, lighting fixtures and all accessories for individual installation.
- c) Fabrication drawing of Structural members of the Street light Pole.
- d) Civil Foundation drawing for Street light Pole.

## **5.10 COMPLETION OF WORK**

Each LED Street Light Scheme & High Mast Light Scheme shall be considered as complete in all respects only after permanent service connection from local power supply and energising the lighting system as directed by the Engineer-in-Charge.

Payment on work shall be made as per measurement and proportionate to the quantum of work completed. In the event of any dispute with regard to the proportion of work complete, the decision of the Engineer-in-Charge shall be final and binding to the contractor.

## **5.11 PREAMBLE TO THE SCHEDULE OF WORK**

The successful tenderer shall carefully go through the Clauses of Invitation to Tender, Specification, and Schedule of Work and shall include in his rates any sum he may consider necessary to cover the fulfilment of the various clauses contained therein. Unit prices stated in the schedule of work against the item of work shall be inclusive of all installation, accessories and consumables necessary to complete the said work within the contemplation of the contract. Beyond the unit prices no extra amount will be paid for incidental contingent work and materials.

The quantities mentioned in the schedule of work are probable quantities and it must be clearly understood that the contract is not a lump sum contract, that the probable quantities, the value of the entire tender are only indicative and Employer does not in any way assure the tenderer or guarantee that the actual quantity of work would correspond to the probable quantities in the tender. The Quantities indicated in the bill of quantities are for the guidance of the tenderer. The contractor shall supply the items based on the requirements.

No change in unit rate will be admissible on any variation of quantity.

## **6 PARTICULAR TECHNICAL SPECIFICATION FOR PROPOSED WORK.**

### **6.1 GENERAL**

This specification covers the design, manufacture, testing, inspection and delivery at site and installation of LED Street Light Scheme & High Mast Light Scheme and their associated accessories and commissioning the same.

The all fittings and their associated accessories shall comply with the latest applicable standards.

## **6.2 DESIGN PHILOSOPHY OF THE LED STREET LIGHT SCHEME & HIGH MAST LIGHT SCHEME:**

Inefficient lighting wastes significant financial resources each year, and poor lighting creates unsafe conditions. Energy efficient technologies and design can cut street lighting costs dramatically (often by 25-60%); these savings can eliminate or reduce the need for new generating plants and provide the capital for alternative energy solutions for populations in remote areas. These cost savings can also enable municipalities to expand street lighting to additional areas, increasing access to lighting in low-income and other underserved areas. In addition, improvements in lighting quality and expansion in services can improve safety conditions for both vehicle traffic and pedestrians.

A well-designed, energy-efficient LED street lighting system should permit users to travel at night with good visibility, in safety and comfort, while reducing energy use and costs and enhancing the appearance of the neighbourhood. Conversely, poorly designed lighting systems can lead to poor visibility or light pollution, or both. Quite often, street lighting is poorly designed and inadequately maintained (e.g., there are large numbers of burned-out lamps), and uses obsolete lighting technology—thus consuming large amounts of energy and financial resources, while often failing to provide high-quality lighting.

## **6.3 LAMP TECHNOLOGY**

#

### **For LED Street Lights -**

<b>Type of lamp</b>	<b>Luminous Efficacy (lm/W)</b>	<b>Colour Rendering Properties</b>	<b>Lamp life in hours</b>	<b>Remarks</b>
Light Emitting Diode (LED)	70 - 160 lm/W	Good	40,000 - 90,000	High energy savings, low maintenance, long life, no mercury. High investment cost, nascent technology

LED Specification – Light fixture will be IP 66 protected L M6 high pressure aluminium dia cast housing capable of delivering a normal system lumen output of 6.9 K lumens. The maximum wattage should not less than 72 watt including all losses minimum system efficiency will be 95 lumen/watt and CRI greater than 70. The Lumen shall have life cycle of 50,000 Burning hours@ L70 for a design ambient of 35 Deg. C and drive efficiency of > 85% Manufacture name to be embossed/engaged on the luminaire. Luminaire and driver should be from the same manufacturer. Internal surge protection will be 3 kv. Pressure dia cast housing with toughened flat glass/poly carbonate cover. Luminaire should be suitable side entry for diameter of 48-60mm.

**For LED High Mast Light -**

<b>Technical Specification of LED High Mast Light</b>		
<b>S.No</b>	<b>Technical Specification</b>	<b>Specification/Dimensions</b>
1	Height of the mast (Mtrs)	16
2	High Mast Shaft Material	As per BS EN10025 As per BS EN10025
3	Cross sec. of mast in Polygon (No of Sides)	20
4	No of Sections (No's)	2
5	Material Thickness in (mm)	3,3
6	Length of individual sections (mm)	
7	Length of overlap (mm)	
8	Bottom/Top Dia of the mast (mm)	150/360 mm
9	Base plate thickness (mm)	25 mm
10	Metal protection treatment of fabricated mast section	Single dip Hot Dip Galvanized
11	Average Thickness of galvanization (Microns)	86
12	Size of opening door at base	1000X300
13	PCD hold (mm) [Pitch Circle Dia.]	445 mm
14	Baseplate Dia. (mm)	520 mm
15	Number of foundation bolts	8
16	Material / Dia.of foundation bolts	EN 8 M24
17	Length of foundation bolts	850 mm
18	Dia.of Lantern carriage ring (mm)	
19	Lantern carriage ring construction	ERW Pipe
20	No. of Luminaries/ Mast (nos.)	8
21	Buffer arrangement between Lantern carriage, ring carriage & mast	Rubber padded guide ring
22	Method of winch operation	Power tool
23	Motor Speed	1410 RPM
24	Number of speed	single speed
25	Reversible / Non reversible	Reversible
26	Input supply	415 V 3 phase
27	Number of drums per winch	2
28	Capacity	SWL 750 Kg.
29	Lubrication arrangement	SELF LUBRICATION IN OIL BATH
30	Material of construction of gears	Phosphorus Bronze / EN 19
31	Wire rope type and Grade	SS/ AISI 304
32	Number of ropes / thickness	3 no's / 6mm
33	Wire rope construction	6/7 x 19
34	Wire Rope Breaking load capacity	2400 KG
35	Cable Type	PVC COATED MULTI-CORE ROUND / FLAT FLEXIBLE CABLE COPPER CORE
36	Conduction size	5 x 4 sq.mm
37	Lightning Arrestor	MS GI Rod

38	Length of Lightning Arrestor (mm)	1200
39	Desired make of LED light	BIS make or reputed company or must be get approved from BUIDCo. Before installation.

Energy savings can be achieved by using low wattage high lumen lamps. High lumen efficacy and long life of LED lamps result in high energy savings and less maintenance cost. Additionally, LED lighting provides an excellent opportunity to save energy as the lamps have good Colour Rendering Index (CRI), provide pleasant white light, have good lumen efficacy (up to 80 Lumen/ Watt) and long life (up to 50,000 Burning hours). However, capital costs for LED lamps are quite high. For replacement of existing lamps with LED lamps, pole height may also need to be altered since LED lamps require less pole height for optimum lighting. This may involve additional cost.

#### 6.4 LIFE CYCLE COST ASSESSMENT

The following table provides life cycle cost assessment of different street light technologies.

Components	Lamp life in hours	Installed cost (Rs. Lakh)	Annual energy cost (Rs. Lakh)	Annual Operating cost (Rs. Lakh)	Life cycle cost per annum (Rs. Lakh)
Light Emitting Diode (LED)	50,000	60.00	3.72	-	8.98

Based on the above technology comparison and life cycle cost assessment, LED based street lighting is proposed to provide good quality light while keeping the costs lower.

#### 6.5 SPECIFICATIONS:

##### i. LED street lighting systems

Following shall be the minimum key features of LED street lighting systems:

- The LED Street Lighting System shall be designed as per IS-1944(Part I and II)-Amendment No-2
- The Lux level between two adjacent poles shall be maintained at **10-15 lux** .
- The total Luminaire (both Optical & electrical Compartment) should be confirming IP 65/IP 66 protections.
- Bidder should submit LM79 report along with the tender (from NABL certified/ GOVT. approved laboratory only), indicating the photometry, chromaticity and all other relevant specs as per Bid for the proposed luminaire.
- Lumen efficacy shall be more than 80 lumen/watt as per certification by Govt. accredited laboratory.
- Lamp life shall be > 40,000 hours implying usage period of more than 5 years
- Colour Rendering Index (CRI) shall be > 65

- The fixture shall be designed so as to have lumen maintenance of at least 70% at the end of 50,000 hours with life of 50000 hrs. Bidder should submit LM80 report along with the tender, confirming Lumen maintenance of the proposed chip of the luminaire
- Driver shall be of variable current type (inbuilt) compatible for programmable Dimming action.
- Power driver should have Surge protection (up to 4KV), Short circuit & Overload protection.

## ii Cables

### a) Supply and cabling:

The LV supply to the street light mains shall be through 2 Core 2.5/ 6 Sq. mm XLPE cable. From Junction Box to Luminaire, 2.5 sq. mm stranded Copper conductors shall be used. MCB is to be provided in Junction Box.

### Specifications for Supply and Erection of Pole with civil foundation for LED Street Lights.

The street light Poles shall be with Tubular shaft and brackets hot dip Galvanized conforming to IS: 2713-1980 (Part I to II) with galvanised base plate of size 400mmx 400mmx16mm in position including excavation of the pit and filling the same with M-25 grade (1:1:2) from base plate to 50cm above ground level, with the help of steel frame not less than 40cm dia up to 114.3mm outer dia and 50cm beyond 114.3mm outer dia around the pole. Duly finished with Cement plaster, Earthing terminals, Cable entry, GI cable sleeve complete as required. The grade of steel used shall be S-355 as per BSEN-10025 or equivalent Indian Standards. The poles shall be single dip, hot galvanized as per IS: 2629/IS 2633/IS 4759 standards with minimum coating thickness of 70 microns.

Suitable provision shall be provided for fixing suitable rated MCB's, neutral link and connectors for loop in and loop out of cables.

The brackets shall be made by 50 NB, medium class, 1.5-2.5 mt. long pipe, 3.25 mm thick have a sleeve with cap & forming an angle of 10 deg. to 15 degree with horizontal frame.

## iii. LED High Mast Light

1. Street light feeder pillar shall be suitable for 415 V, 3 phase, 4 wire, 50 Hz supply and shall outdoor type with canopy and shall be free standing floor type.
2. It should be robust in construction and capable of withstanding the vibration normally experienced due to vehicular traffic.
3. The cubical will be required to be mounted on cement concrete plinths by the road side.
4. Feeder pillar shall be provided with incoming & outgoing MCCB / MCB of appropriate rating and in desired quantity depending on total no. of circuits in use. Outgoing shall have a least one spare circuit all the time.
5. Feeder pillar shall be made up of CRCA sheet steel and shall be dust and vermin proof providing a degree of protection of IP 54. The thickness of sheet steel enclosures shall be 2 mm minimum for load bearing and 1.6 mm for other members.
6. Bus bars will be made up of aluminium, Colour coded for easy identification and of appropriate size.
7. Internal hinged doors shall be provided, where all the material & control equipment shall be flush mounted. The incomer switchgear shall have interlocking mechanism so as to prevent opening of the Door when the switch is ON and to prevent closing of the switch when the door is not fully closed. However, a device for bypassing the door interlock shall be provide to enable the operation of the

Switch with the door open, when necessary, for examination / maintenance.

8. External hinged door shall be provided with all round neoprene gasket with padlocking arrangement.
9. All accessible live connection/metals shall be shrouded and it shall be possible to change individual fuses, switches, from the front of the boards/panels without any danger of contact with live parts.
10. Adequate interior cabling space and suitable removable cable gland plate (min. 3 mm thickness) plates shall be provided for bottom entry of cables through glands. Necessary number of glands to suit the required cable sizes shall be provided. Cable glands shall be double compression type made of chrome-plated brass.
11. Every feeder pillar will have LED type 'SUPPLY ON' indicating lamps. Indicating lamps shall be of the clustered LED type and low watt consumption. Lamps shall be provided with series resistors.
12. Earth bus of 25x3 GI flat with zinc plated bolts and nuts shall be provided in the bottom of the panel.
13. The feeder pillar shall be provided with individual labels with equipment designation / rating. Also the boards shall be provided on the front with a label engraved with the designation of the mast light feeder pillar. Labels shall be made of non-rusting metal or 3 ply lamicaid or engraved PVC.
14. Internal wiring of the panel shall be done using flexible copper cables of appropriate sizes. All the wires shall be numbered and ferrules shall be provided for easy identification.
15. Proper clip-on stud type terminals of appropriate rating shall be provided for termination of incoming as well as outgoing cable inside the feeder pillar.
16. Inside the door of lighting panels a single line circuit diagram / description shall be fixed for ready reference.
17. As required all sheet steel enclosures of panels will be chemically cleaned rinsed, phosphate & dried. After the treatment steel surfaces will be given two coats of primer & finished grey enamel paint or powder coating of shade 631 of IS - 5. Coating thickness shall be minimum 50 microns.
19. Feeder pillar should be mounted on angle iron ISA50X50X6 (NS) 90 cm long legs out of which 45 cm duly grouted in cement concrete 1:2:4 ( 1 cement 2 sand 4 stone aggregate)
20. Feeder pillar of suitable size not less than 30 cm and upto 45 cm deep made out of M.S. sheet 2mm. Thick powder coated duly compartmentalized having 4 strip busbar of 100 amp capacity double door with locking arrangement for protection from rain, dust. Feeder Pillar duly fixed on MS angle iron frame work of size 50mmX50mmX6mm (NS) 90 cm long legs out of which 45 cm duly grouted in cement concrete 1:2:4 ( 1 cement 2 sand 4 stone aggregate 20mm) with the following equipment mounted inside the panel under:

1	Incomer MCCB suitable Amp.16 KA 4pole with thermal magnetic release	1
2	Outgoing MCCB/MCB suitable Amp. 16 KA 4 pole with thermal magnetic release	2
3	Power Contactor wide range suitable Amp. 3 pole AC-1 wide band	1
4	Voltmeter 0-500 volts 96 sq.mm flush type with selector switch.	1
5	Ammeter 0-100 volts 96 sq. mm flush type with selector switch.	1
6	LED Indication lamps (RYB)with HRC control fuse with fuse fitting	3
7	Astro timer Rex modular D-21 model (Legrand or equivalent )	1
8	Push Button	4
9	Danger Plate	1

### Specifications for Supply and Erection of Pole with civil foundation for High Mast Light

Supply of 16 M high mast system with its accessories Mast Shift shall be in two sections, hot dip galvanized and suitable for wind velocity as per IS 875 para 3. It shall also include accessories for high mast including head frame, steel wire rope 6 mm dia (7/19) construction). Trailing cable,

double drum winch, Galvanised Latern carriage arrangement suitable for 12 luminaires symmetrically & its control gear boxes and lighting final. The mast shall have an integral powertool installed inside the base compartment for its operation. Luminaire wiring materials not included in the mast supply prices.

**c) Technical specification for 1.1 KV, XLPE insulated, Power Cables**

The cables shall be manufactured and tested strictly in accordance with the Indian Standard IS 7098 (Part – I) and its latest amendments

The climate is tropical with relatively high humidity and rainy season extends to four months in a year. The atmospheric conditions are conducive to rust and fungus growth. For the purpose of this specification, the limits of ambient temperature shall be 500C peak, with an average of 320C

All material used in the manufacturing of cables shall be new and shall be selected out of the best available for the intended use.

Fillers

Fillers or bedding used in multi-conductor cables shall be non-wicking and non-moisture absorbing. Further, the compounds used with fillers shall be such as to have no deleterious effect on other components of the cable and to be stable at cable temperatures.

Fillers shall be so chosen as to be compatible with the temperature ratings of the cables and shall have no deleterious effect on any other component of the cable.

**c) Inner Sheath**

The laid up cores shall be provided with an inner sheath applied by extrusion process. It shall be ensured that it is as circular as possible.

The inner sheath material shall be of polyvinyl chloride (PVC) compound conforming to the requirements of type ST 2 compound of IS:5831 with latest amendments.

The inner sheath shall be so applied that it fits closely on the laid up cores and it should be possible to remove it without damage to the insulation. No tolerance on the negative side shall be acceptable.

**d) Armouring**

The armouring shall be of galvanized steel wires for multi core cables. The galvanized steel wires shall comply with the requirements of IS: 3975 with latest amendments. No tolerance on the negative side shall be acceptable.

**e) Outer Sheath**

The outer sheath material shall be of polyvinyl chloride (PVC) compound conforming to the requirements of type ST 2 compound of IS:5831 with latest amendments.

The outer sheath shall be applied by extrusion process. No tolerance on the negative side shall be acceptable.

**a) Core Identification**

Individual core of multi-core cables shall be colour coded and/or numbered for proper identification in accordance with relevant IS/ manufacturer's standard, subject to specific approval of purchaser.



**b) Cable Laying:**

The bidders shall ensure that the cable is measured and found healthy before transporting to site. The supply cables shall be laid in the central verge of the roads through HDPE pipes buried at a depth of 0.7m.

In case of road crossing, the cable shall be laid in HDPE pipe buried at a depth of minimum 0.8m from the bottom of the road to the top of the HDPE pipe.

Warning boards and barriers/barricades shall be provided at the junctions of the roads along the trench. Barricade with corrugated sheet painted with Red and White strips shall be provided along the entire trench. Warning red light shall be provided over the trench to avoid the accidents in the Night.

**iii. Earthing****Scope**

The scope under this section covers the following: -

- a) Providing Earthing Station.
- b) Providing Main Earth Grid
- c) Earthing of all panels, DB's and utilization equipment

**Standards**

The following standards and rules shall be applicable:

1. IS: 3043-1987: Amended up to date-Code of practice for Earthing
2. Indian Electricity Act 1901 and Rules issued there under.

**Earthing Stations**

The earthing stations required for establishing an equipment earthing grid shall consist of Galvanized Steel pipe / plate, copper plate into ground. The minimum depth, type of electrode, soil treatment shall be shown on drawings and in accordance with I.S. Code of Practice 3043-1966 complete with masonry chamber, watering pipe G.I. cover etc. The number of earthing stations shall be as shown on the drawings.

**iv. Moulded Case Circuit Breakers:**

Moulded case circuit breakers (MCCB) shall be four pole, quick make, quick break, trip free, thermal magnetic trip elements, with provision for padlocking in each position. The MCCB shall be suitable for adapting accessories, such as under voltage trip, shunt release, auxiliary contact block etc.

The input and output terminals of the MCCB unit shall be extended and separated so that aluminium cables of given sizes can be easily terminated in the panel.

The MCCB shall be provided with front drive mechanism with door interlock with interlock defeating facility.

The MCCB shall be provided with variable range short circuit and overload protection.

The MCCB shall be provided with variable range operating time on short circuit.

The MCCB shall be provided with auxiliary contact block and shunt release.

The MCCB shall be fully rated for 50° C ambient temperature.

#### **v Miniature Circuit Breakers (MCBs)**

The MCBs shall be single units of two pole construction and shall be provided for the incomer and outgoing feeders.

All live parts shall be totally enclosed in a heat resistant moulded insulating material housing.

Operating mechanism shall be quick make, quick break and trip free type.

The MCBs shall be provided with the following features:

- Instantaneous tripping on short circuit.
- Common trip bar for simultaneous tripping of both poles.
- Mechanical position indicator.
- Shrouded terminals.
- Auxiliary contacts for signalling.
- The MCBs shall be suitably rated for D.C.
- The 'ON', 'OFF' and 'TRIP' positions shall be clearly indicated and visible to the operator when mounted as on service. Front of board operating handle shall be provided.

#### **Vi Switches and Fuses:**

415 volts air break switches shall be of the load break, fault make, group operated type. For use on 3 phase systems, the switches shall be of the triple pole type with a link for neutral wire. For use on single phase system or DC systems, the switches shall be of the two pole type.

Switches shall be of heavy duty, quick make and quick break type. Switch contacts shall be silver plated and contact spring shall be of stainless steel. Switch handles shall have provision for locking in both fully open and fully closed positions. Mechanical ON/OFF indication shall be provided on the switches.

Switches for controlling motor circuits shall be of the load break, fault make type and shall be capable of breaking locked rotor current of the associated motor.

415V switches and fuses shall be provided with the following interlocks so that:

The fuses are not accessible unless the switch is in fully open condition.

It is not possible to close the switch when the fuse cover is open, but an authorized person may override the interlock and operate the switch. After such an operation, the cover shall be prevented from closing if the switch is left in the 'ON' position.

All fuses shall be of HRC type, mounted on plug-in type of fuse bases. Fuses shall be provided with visible indicators to show that they have operated.

Earthing and neutral lines in main supply circuits shall be of solid silver plated copper and be of bolted pattern.

Fuses and links functionally associated with the same circuit shall be mounted side by side.

**vii Specifications for Supply, Erection with civil foundation of Feeder Pillar**

Feeder pillar should be totally enclosed free standing, dust free, damp and vermin proof and water proof construction suitable for outdoor installation with door arrangement made of CRCA sheet steel of minimum thickness of 2.0 mm. Panel shall be provided with a top canopy made of 2.0mm thick CRCA sheet steel and projected in all four sides for at least 50 mm. Control panel shall be mounted on a pedestal of suitable height.

The panel shall have hinged doors. Padlock arrangement with Allen key locking shall be provided for locking of the distribution board .For pipe entry locknuts and bushing shall be provided. Neoprene gaskets shall be provided along the door to make it dust and water proof. The pillar shall be installed in open space and should have an Ingress Protection of IP- 55.

The panel shall consists of the following

- One no. 32A TP contactor
- Control circuit for light controlled switch based on infrared sensing and daylight with built in over load protection, timer to switch OFF at preselected time. Switch shall have 7 day power backup without hampering of pre-set time and override facility for maintenance purpose.
- One no. 32 Amps TPN MCB
- Five nos 16 Amps TPN MCB (Provision for four extra MCB connection should be provided.)
- Al bulbar of suitable size
- R-Y-B indicator

The equipment shall be removable and replaced from the front only. Internal Power wiring shall be suitable size 1100V grade single core PVC insulated wire with copper conductor. Internal control circuit wiring shall be with 1100 V grade single core 1.5 mm copper conductors. There shall be no joints or tapping between two terminals. More than two connections are not allowed from one terminal.

For ease of maintenance all the wiring shall be accessible from the front, cables will be neatly bunched in sides and adequate space should be there inside the panel. There should be minimum 400 mm ground clearance from the base of the panel.

For earthing two nos Bolted type earth terminals suitable to connect GI strip for earthing should be provided as per IE rule.

Control panel should be provided with aluminium name plate & caution Board with danger sign to meet safety regulation of IE.

**6.6 OPERATION & MAINTENANCE**

This aim of public lighting should permit users of the road to move about with greatest possible safety and comfort so that the traffic capacity of the road at night is as much equal to that planned for the daytime as possible.

The Operation and maintenance of the proposed entire streets shall be carried out for One (1) year after satisfactory completion of Defect Liability Period of One (1) Year. The Defect Liability Period of the project shall be commenced on completion of satisfactory erection and commissioning.

During Operation & Maintenance period of One (1) year, the Bidder shall supply of all man-power, spares and tools required for smooth and trouble free operation of the street light system.

The spares supplied shall be of similar technical specifications and data and shall be procured from the original manufacturer of Equipment, Lighting Fixtures and other associated Items. All metallurgical scrap of used spares will be handed over to BUIDCo as and when the spares are replaced. The metallurgical scrap will be given back to the contractor after replacement with the new part.

It is essential to the proper functioning of a public lighting installation that it should be properly maintained. Certain maintenance activities, aimed at keeping the effectiveness of the installation at the highest possible level are economically justified, so that the heavy investment in public lighting installation should continue to provide a good return. Because in a poorly maintained installation the power consumption is to a large extent wasted.

The Contractor shall provide list of all tools and tackles, which shall be required for proper operation and maintenance of LED Lighting System for One (1) year.

The Bidder shall have to submit the following documents along with the BID for O&M of the proposed Lighting Scheme

- List of Man-Power to be employed at site.
- List of recommended Spares to be maintained at site.
- List of Tools & Tackles to be maintained at site.
- Methodology.

### **Maintenance of a lighting installation should embrace**

- Replacement of defective and missing lamps and accessories.
- Systematic replacement of lamps having a reduced efficiency, that is, those lamps that have come to the end of their useful service life.
- Cleaning of luminaries and lamps. The soiling of the luminaries depends very much on local conditions, the presence of industries in the area and the prevailing direction of the winds, etc.
- Maintenance of cables and columns: Inspection of main earthing arrangements, gaskets, the tracing of defects and broken lamps, and control of switching equipment.
- Mounting height and angle of tilt should be maintained for desired light levels.
- Proper clearance should be maintained between carriageway and the light pole to avoid accidents and for safety.
- Set guidelines while allowing permission to set up brightly hoardings on roadways to avoid any accidents due to glare due to hoardings.
- Proper and sufficient lighting should be provided for pedestrian crossing area.
- Care should be taken so that fuse carriers are provided in proper enclosures. Similarly fuses of appropriate rating should be used so that uninterrupted lighting is available during night time to ensure safety and security.
- Trimming of trees can be taken up to ensure good lighting is available, if trees are obstructing the light levels on the street.

## **6.7 PREAMBLE TO BILL OF QUANTITIES**

### **1. SCOPE OF WORK :**

Bihar Urban Infrastructure Development Corporation Ltd.(BUIDCo.) envisages to undertake the **“Supply, Fitting, testing and Commissioning of LED Street Lights and Operation & Maintenance of the same for One (1) year in Patna City, Bihar”**.

### **2. INTRODUCTION**

**2.1** The Bill of quantities shall be read in conjunction with the instructions to Bidders, General Conditions, Special Conditions, Technical Specifications and Drawings. The rates quoted shall be inclusive of cost of all materials, transportation and carriage of material up to work site, labour, plant and equipment, tools and tackles, safety gadgets, incidentals etc. as may be required for that particular item in the BOQ read in conjunction with the specification.

**2.2** The quantities given in the Bill of quantities are tentative and provisional based on very preliminary survey of lighting system of proposed streets and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work carried out, as measured by the contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of quantities, where applicable and otherwise at such rates and prices as the Engineer may fix within the terms of the contract.

**2.3** Mode of measurement, if not specified elsewhere will be as per available codes of practice published by Bureau of Indian Standards.

**2.4** The rates and prices tendered in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the contract, include all temporary facilities, access, notices to maintain traffic, prevailing, in an accessible manner, as far as possible for similar flow existing and also including all construction of plant, labour, supervision materials, erection, maintenance, insurance, profit, taxes and duties together with all general risk, liabilities and obligation set out or implied in the contract.

**2.5** General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. Bidder must refer to the relevant sections of the bid documents before quoting rates or prices against each item in the Bill of Quantities.

**2.6** Provisional Sum included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with the General Conditions. Payment for work under provisional item shall be payable for statutory requirement by other agencies & specialized agencies or the like.

**2.7** Abbreviations used in Bill of Quantities and rates have the meaning shown below:

LS - Lump sum

m- Meter

RM- Running Meter

Mm- Millimetre

GI- Galvanised Iron

No. - Number

Sq.mm- Square millimetre

Wt- Weight

BOQ- Bill of Quantity

BUIDCo- Bihar Urban Infrastructure Development Corporation Ltd

HPSV- High Pressure Sodium Vapour

KV- Kilo Volt

Mfd- Micro farad

PVC- Polyvinyl chloride

W- Watt

RFP- Request for Proposal

MCB- Miniature Circuit Breakers

MCCB- Moulded Case Circuit Breakers

OD- Outer dia

HM- High Mast

SOR- Schedule of Rate

## **2.8 GENERAL BASIS FOR PRICING**

**2.8.1**The Contractor shall be deemed to have read and examined the Bid Documents as well as inspected the project site thoroughly to conceive the work in totality to fill up priced BOQ.

**2.8.2**The Contractor shall be deemed to be fully conversant with the site conditions and the nature and complexity of the work to be undertaken which include construction of new pumping stations with installation of electromechanical components and' commissioning the same.

**2.8.3**It is to be expressly understood that the measured work is to be taken net (not withstanding any system or practice to the contrary) according to the actual quantities finished according to the drawings or as may be ordered from time to time by the Engineer and the cost calculated for the respective prices.

## **3 MISCELLANEOUS**

**3.1** Cost of temporary power meters, telephones, construction water shall also be taken into Contractor's quoted rates. Alternative power arrangement will be made by Contractor without any extra charge.

- 3.2** Traffic diversion will have to be done by contractor as per approved programme between the Engineer and Contractor. The traffic diversion programme shall be prepared by Contractor and submitted to the Engineer for approval. Any cost on account of traffic diversion will have to be incorporated in the quoted rate. No extra payment will be made on this account.
- 3.3** All underground and over ground utility items will have to be suitably supported during the construction phase by Contractor as per direction of Engineer so that the existing utility services are not disturbed /damaged. No extra payment will be made on this account.
- 3.4** Contractor shall keep plumbers and electricians ready for repair I removal of existing underground utilities and for crisis management.
- 3.5** Contractor will consider in his rates the transfer of "Great Trigonometrically Survey" (GTS) level from the nearest GTS bench mark up to required points near the area of works.
- 3.6** During progress of work, convenient access to adjacent premises shall be made by contractor.

#### **4 SCOPE OF RATES FOR DIFFERENT ITEMS OF WORK**

- 4.1** The contract unit rates for different items of work shall be paid in full for completing the work to the requirements of the Specifications including full compensation for all the operations detailed in the relevant sections of these Specifications under "Rates". In the absence of any directions to the contrary, the rates are to be considered as the full inclusive rate for finished work covering all labour, materials, wastage, temporary work, plant, equipment, overhead charges and profit as well as the general liabilities, obligations, insurance and risks arising out of General Conditions of Contract.
- 4.2** The item rates quoted by the Contractor shall, unless otherwise specified, also include compliance of supply of the following:
- i) General works such as setting out, clearance of site before setting out and clearance of works after completion.
  - ii) A detailed programme for the construction and completion of the work.
  - iii) Samples of various materials proposed to be used on the work for conducting test thereon as required as per the provisions of the Contract and approved Quality Assurance Procedures.
  - iv) Design of mixes as per the relevant Clauses of the Specifications giving proportions of ingredients, sources of aggregates and binder along with accompanying trial mixes as per the relevant clauses of these Specifications to be submitted to the Engineer for his approval before use on the works.
  - v) Detailed design calculations and drawings for all Temporary Works (such as formwork, staging, cantering, specialized constructional handling and launching equipment and the like).
  - vi) Detailed drawings for templates, bar bending and cutting schedules for reinforcement, material lists for fabrication of structural steel, etc.
  - vii) Mill test reports for all mild and high tensile steel as per the relevant provisions of the Specifications.

- viii) Testing of various finished items and materials including bitumen, cement, concrete,  
As required under these Specifications and furnishing test reports / certificates as per approved Quality Assurance Procedure. The third party inspection on supply item will be done by the empanelled third agency in BUIDCo.
- ix) Inspection Reports in respect of formwork staging, reinforcement and other items of work as per the relevant Specifications.
- x) Any other data which may be required as per these Specifications or the Conditions of Contract or any other annexure/schedules forming part of the Contract.
- xi) Any other item of work which is not specially provided in the Bill of Quantities but which is necessary for complying with the provisions of the Contract.
- xii) All temporary works, formwork and false work
- xiii) Arrange a laboratory with facilities for testing and testing of various items of works as specified in relevant clauses
- xiv) Cost of in-built provisions for Quality Assurance
- xv) Cost of labour hutment, site office
- xvi) Cost of safeguarding the environment.
- xvii) Cost of providing "as-built drawings" in original and two sets of prints & preparation of O & M manual for any equipment furnished.
- xviii) The expenses for services like drawings, bank guarantees, shop testing, overheads and profit etc. of the Tenderer shall be included in the prices indicated under various heads including taxes and duties.
- xix) The prices for bolts, nuts, studs, washers, gaskets and clamps to be included under respective items.
- xx) The price for name plates, lubrication, painting and galvanizing shall be included in the price quoted for respective equipment.
- xx ) The quoted rates shall be for the finished Works and shall be inclusive of all costs & expenses (including Taxes) under Applicable Laws including manufacturing, supply, transportation and safe storage of equipment and materials at site, cost of insurance and protection of the Works, accommodation and sanitation of the Workers, protection of workmen, working notices, temporary works, drainage facilities and/or detour, signboards, public protection including providing security personnel, barricades and lighting, etc., incidental costs, taxes, duties, work contract tax, VAT, levies, royalties, custom duties and charges of any kind whatsoever, payable on the components or the complete works and satisfactory performance of the Bidder's obligations under this contract.

**4.3** Extra items of work - If during the progress of work any extra items crop up, which in the opinion of the Engineer & Employer is essentially required to be executed then the extra item shall be analysed as follows:



(i) Derived from rates of similar items of works stated in BOQ in Annexure-B

(ii) In the event an extra item of work cannot be derived from (i) above then Current SOR for Electrical works of Bihar State Electricity Board or any other State Electricity Board shall be applicable.

**5.0 Deviation from Specifications:** Any deviation from the specifications mentioned in the Bid document shall not be accepted.

**6.0 Conditional Tender:** Conditional Proposal shall not be entertained. Contractors are required not to put any condition.

**Annexure – B****BILL OF QUANTITY (BOQ)****Name of Project:**

**“Supply, Fitting, Testing and Commissioning of LED Street Lights, High Mast Lights and Operation & Maintenance of the same for One(1) year in Patna City, Bihar”.**

**For LED Street Lights -**

The tentative Bill of Quantities for the proposed LED Street Light Scheme & High Mast Light Scheme for the proposed ULBs area shall be as under.

The quantities mentioned in the schedule of work are probable quantities and it must be clearly understood that the contract is not a lump sum contract, that the probable quantities, the value of the entire tender are only indicative and Employer does not in any way assure the tenderer or guarantee that the actual quantity of work would correspond to the probable quantities in the tender.

The Quantities indicated in the bill of quantities are for the guidance of the tenderer. The contractor shall supply the items based on the requirements as per requirement for satisfactory completion of the job.

**1.Bill of Quantities for Patna City - 376 Numbers of single arm and 82 numbers of double arm LED Street Lights and 50 numbers of LED lights on existing Poles.**

Sl. No	Item Description	Unit	Qty.	Unit Rate (In Rs.)	Amount (In Rs.)
1	Supply and erection of 8 mtr of octagonal pole as per dimension top dia 70 mm, bottom dia 135 mm, sheet thickness 3mm, section -1, (section length -8000 mm), Base plate-400mm X 400mm X 16mm, PCD - 300 mm. Material for pole shaft- as per BSEN 10025/ IS 5986 Grade, Material for base plate- As per IS 2062 Grade- Fe 410, Metal protection- Hot Dip Galvanization as per IS- 4759 or equivalent. Having foundation of RCC M25 550mm X 550mm X 1200mm below ground level and 200mm above ground level. The octagonal pole of street light will be erected on the above mention foundation with the anchoring bolts of size 850mm long.				
1.1	Single Arm Bracket- 1500 mm Long with 48.3 OD GI pipe	Nos	376		
1.2	Double Arm Bracket- 1500 mm Long with 48.3 OD GI pipe	Nos	82		
2	SITC Street light fixture, 72W LED	Nos	540		
3	SITC Cu/Al armoured XLPE cables:				
3.1	4cx2.5 sq.mm. cu. Armoured cable	RM	18050		
3.2	3cx1.5 sq.mm. cu. Armoured cable	RM	4832		
3.3	4cx6.0 Sq.mm. Cu. Armoured cable	RM	1300		
4	SITC Cable End Terminations:				

4.1	4cx2.5 sq.mm.2XWY	Nos	1050		
4.2	3cx1.5 sq.mm. cu. Armoured cable	RM	1230		
4.3	4cx6.0 sq.mm. 2XWY	Nos	46		
5	SITC outdoor type feeder pillar box with MCB, Power Contractor & timer etc.	Nos	25		
6	Excavation in all kind of soil for laying of cable & providing layer of brick and back filling the excavated earth (0.5m wide x0.75m depth )	Mtrs	17350		
7	Road cutting of 0.5 m wide and 0.25 m thick &levelling after backfilling, excavation below road .	Mtrs	4000		
8	Earthing PIT provision:				
8.1	With Earth plate of size 600mmx600mmx6.0mm	Nos	25		
9	Supply & laying of 8 SWG, GI wire for each connectivity in horizontal or vertical run in ground/surface	mtrs	17350		
10	72W LED Light with Arm on Exhisting Pole, Single Arm	Nos	50		
11	Operation & Maintenance of the entire works for One (1) year including supply of man-power, spares and all other accessories as required for satisfactory up-keep.	Year	1		
<b>Total Amount (In Rs.) -</b>					

**For High Mast Lights -**

The tentative Bill of Quantities for the proposed LED High Mast Light Scheme for the proposed ULBs area shall be as under.

The quantities mentioned in the schedule of work are probable quantities and it must be clearly understood that the contract is not a lump sum contract, that the probable quantities, the value of the entire tender are only indicative and Employer does not in any way assure the tenderer or guarantee that the actual quantity of work would correspond to the probable quantities in the tender.

The Quantities indicated in the bill of quantities are for the guidance of the tenderer. The contractor shall supply the items based on the requirements as per requirement for satisfactory completion of the job.

**2.Bill of Quantities for Patna City - 10 numbers High Mast Light.**

S.No	Description of Items	Unit	Qty. for 1 High Mast Light	Unit rate	Total Amount
1	Supply of 16 M High mast system with its accessories Mast Shift shall be in two sections, hot dip galvanised and suitable for windvalcity as per IS 875 para 3. It shall also include accessories for high mast including head frame, stlle wire rope 6 mm dia (7/19) construction). trailing cable, double drum winch, Galvanised Latern carriage arrangement suitable for 12 Luminaires symmetrically & its control gear boxes and lighting final. The mast shall have an integral power tool installed inside in base compartment not included in the mast supply prices.	Nos.	1		
2	Supply of foundation bolts manufactured from special steel along with nuts, washers, anchor plates and templates.	Nos.	1		
3	Supply & Installation of 300 Watt LED floodlight/suitable wattage of flood light for light output 16000 (Tolerance can be +/- 5% ) luminaries of 8 fittings and its control gear boxes along with other accessories if any.	Nos.	8		
4	Supply of single dome aviation obstruction lights with two one no 100 W GLS lamps.	Nos.	1		
5	Supply of control penal housing 63 A TPN MCB incomer, single dial timer contractor for the automatic switching of the mast, outgoing terminals and control of the mast, outgoing terminals and control circuit for the power tool motor, timer witch&senser switch etc complete with fittings.	Nos.	1		
6	Erection and commissioning of the high mast with the help of suitable equipments.	Nos.	1		
7	Design and casting of suitable shallow foundation with M-20 concrete for the high mast = considering the safe soil bearing capacity at site as 10t/ sqmtr at 2 metre.	Nos.	1		
8	Installation of the above panel on a suitable foundation.	Nos.	1		
9	Pipe earthing as per IS 3043	Nos.	2		
10	Supplying & laying of 4 c 16 sq mm PVC armoured AL Cable.		100		
11	Operation & Maintenance of the entire works for One (1) year including supply of man-power, spares and all other accessories as required for satisfactory up-keep.	Year	1		
<b>Total -</b>					
<b>For 10 Nos. of High Mast Light (Total X 10) -</b>					

**For LED High Mast Light.****No. TS: 24/2/2016 (GTP-1)****LED chip and driver information – details must be filled up by the bidder and submitted along with the Techno-Commercial Bid.**

<b>S.No</b>	<b>Particulars</b>	<b>To be filled by the Bidder</b>
1	Name of the LED chip manufacturer	
2	LED chip model name	
3	Light output (lumens) as per LM 79	
4	Luminous efficiency (lumens/W)	
5	Correlated Colour temperature	
6	CRI	
7	Driver manufacturer name and model no	
8	Driver current	
9	Voltage range	
10	Amperage range or rating	
11	Frequency range	
12	Power factor	
13	Housing : should be of pressure aluminium die casting	

**No. TS: 24/2/2016 (GTP-2)****High Mast – details must be filled up by the bidder and submitted along with the Techno-Commercial**

S.No.	Particulars	To be filled by the Bidder
1	Height of the mast (Mtrs)	
2	High Mast Shaft Material	
3	Cross sec. of mast in Polygon (No of Sides)	
4	No of Sections (No's)	
5	Material Thickness in (mm)	
6	Length of individual sections (mm)	
7	Length of overlap (mm)	
8	Bottom/Top Dia of the mast (mm)	
9	Base plate thickness (mm)	
10	Metal protection treatment of fabricated mast section	
11	Average Thickness of galvanization (Microns)	
12	Size of opening door at base	
13	PCD hold (mm) [Pitch Circle Dia.]	
14	Baseplate Dia. (mm)	
15	Number of foundation bolts	
16	Material / Dia.of foundation bolts	
17	Length of foundation bolts	
18	Dia.of Lantern carriage ring (mm)	
19	Lantern carriage ring construction	
20	No. of Luminaries/ Mast (nos.)	
21	Buffer arrangement between Lantern carriage, ring carriage & mast	
22	Method of winch operation	
23	Motor Speed	
24	Number of speed	
25	Reversible / Non reversible	
26	Input supply	
27	Number of drums per winch	
28	Capacity	
29	Lubrication arrangement	
30	Material of construction of gears	
31	Wire rope type and Grade	
32	Number of ropes / thickness	
33	Wire rope construction	
34	Wire Rope Breaking load capacity	
35	Cable Type	
36	Conduction size	
37	Lightning Arrestor	
38	Length of Lightning Arrestor (mm)	
39	Make of LED High Mast	