

E-TENDER DOCUMENTS**VOLUME – I****PRE-QUALIFICATION BID**

Name of work:	Implementing of smart LED streetlights and installation of centralized control and monitoring system with operation and maintenance of 7 years, Greater Noida
Estimated Cost	: Rs. 7393.08 Lacs (including all Taxes i.e. G.S.T. etc.)
Cost of Tender	: Rs. 6,770/- with G.S.T. (Rupees six thousand seven hundred seventy only with G.S.T.) (online payment on Tender Portal only)
Earnest Money	: Rs. 83,94,000.00 (online payment on Tender Portal only)
Time of Completion	: One + Seven Years : Eight Years
Defects liability period	: Seven Years
Validity of Tender	: Ninety Days
Date of release of E-Tender	: 02.06.2021
Date & time of Pre-Bid Meeting	: 09.06.2021 (11:00 AM)
Date & time of Closing of E-tender	: 30.06.2021 (03:00 PM)
Date & time of Opening of E-Tender Prequalification Bid	: 02.07.2021 (11.00 AM)
Date & time of opening of E-Tender Price Bid	: This information shall be displayed on the website after three working days of opening of prequalification bid.
Bank A/C details for	: <u>For Tender Fee & EMD:</u> Online payment on Tender Portal only

VOLUME - I

PRE-QUALIFICATION BID

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INSTRUCTIONS TO BIDDERS/TENDERERS (ITB)

(A) THE TENDER DOCUMENT

The tenderer shall bear all costs associated with the preparation and submission of its e-bid and U.P. Electronics Corporation Ltd, Lucknow Greater Noida Authority hereinafter referred to as the "Department", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the e-bid process.

This tender document is available on the web site <http://etender.up.nic.in> and on Greater Noida Authority website www.greaternoidaauthority.in at E-link and Corporation's website www.uplc.in to enable the tenderers to view, download the e-bid document and submit e-bids online up to the last date and time mentioned in e-tender notice/e-tender document. The tenderer's shall have to pay e-tender document fee of **Rs. 6,770.00 with G.S.T. (Rupees six thousand seven hundred seventy with G.S.T.)** must be submitted online payment on Tender Portal only. The scanned copy of Challan generated on Payment Portal must be enclosed along with the e-bid. This e-tender document fee will be non-refundable. Bid without tender fee in the prescribe form will not be accepted.

1. Contents of e-bid document

The scope of work, e-bid procedure and contract terms and conditions are prescribed in the e-bid document. The e-bid document includes:

- a) Invitation for e-bid
- b) Section I: Instruction to tenderers.
- c) Section II: Conditions of contract.
- d) Section III: Technical e-bid.
- e) Section IV: Financial e-bid.

The tenderer is expected to examine all instructions, forms, terms and specifications in the e-bid document. Failure to furnish all information as per the e-bid document or submission of e-bid not responsive to the e-bid document in every respect will be at the tenderer's risk and result in rejection of the said e-bid.

2. Amendment e-Bid Document

At any time prior to the deadline for submission of e-bid, the department may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective tenderer, modify the e-bid document by amendments. Such amendments shall be uploaded on the e-procurement website <http://etender.up.nic.in>, Greater Noida Authority web site at E-link and Corporation's website www.uplc.in through corrigendum and form an integral part of e-bid document. The relevant clauses of the e-bid document shall be treated as amended accordingly.

It shall be the sole responsibility of the prospective tenderer to check the web site <http://etender.up.nic.in> or corporation's website www.uplc.in from time to time for any amendment in the e-tender documents. In case of failure to get the amendments, if any the department shall not be responsible for it.

In order to allow prospective e-tenders a reasonable time to take the amendment into account in preparing their e-bids, the department, at the discretion, may extend the deadline for the submission of e-bids. Such extensions shall be uploaded on the e-procurement website <http://etender.up.nic.in>, and Corporation's website www.uplc.in

(B) PREPARATION OF e-Bid

3. Language of e-bid

The e-bid prepared by the tenderer, as well as all correspondence and documents relating to the e-bid exchanged by the tenderer and the department shall be written either in English or Hindi language. The correspondence and documents in Hindi must be accompanied by embedded/separate Hindi font files. Only English numerals shall be used in the e-bid.

4. Documents constituting the e-bid

The e-bid prepared by the tenderer shall comprise the following components:

a) Technical e-bid- Technical e-bid will comprise of :

- i) **Fee details-** It will consist of the cost of tender document and prescribed earnest money in prescribed form.
- ii) **Qualification Details-** Includes copies of required documents in PDF format justifying that the tenderer is qualified to perform the contract if his/her bid is accepted and the tenderer has financial & technical capability necessary to perform the contract and meets the criteria outlined in the Qualification requirement and technical specification and fulfill all the conditions of the contract.

b) Financial e-bid – Financial e-bid will comprise of:

- i) **Price Schedule/BOQ-** Includes price schedule/BOQ in XLS format to be filled in after downloading from the e-procurement website for this e-tender.

5. E-bid form

The tenderer shall complete the e-bid form and the appropriate price schedule/BOQ furnished in the e-bid document.

6. E-bid currencies

Prices shall be quoted in Indian Rupees only.

7. Documents establishing tenderer's Qualification

- 1) The tenderer shall furnish, as part of its technical e-bid, documents establishing the tenderer's qualification to perform the contract if its e-bid is accepted. The documentary evidence should be submitted by the tenderer electronically in the PDF format.

- 2) The documentary evidence of tenderer's qualification to perform the contract if its e-bid is accepted shall be as per qualification requirements specified in e-tender document.

8. E-bid Security/ Earnest money deposit (EMD)

- 1- The tenderer shall furnish, as part of its e-bid, an e-bid security/EMD of **Rs. 83,94,000.00 (Rupees eighty three lakhs ninety four thousand only)** of must be submitted online payment on Tender Portal only. The scanned copy of Challan generated on Payment Portal must be enclosed along with the e-bid.
- 2- Any e-bid not secured in accordance with above shall be treated as non-responsive and rejected by the department.
- 3- Unsuccessful tenderer's e-bid EMD will be returned promptly as possible after opening of the Price Bid.
- 4- The successful tenderer's e-bid EMD will be converted into security upon the tenderer signing the contract.

5. The e-bid security may be forfeited:

- a) if tenderer (i) withdraws its e-bid during the period of e-bid validity specified by the tenderer on the e- bid form: or (ii) does not accept the correction of errors or (iii) modifies its e-bid price during the period of e-bid validity specified by the tenderer on the form.
- b) In case of a successful tenderer, if the tenderer fails to sign the contract with the department.

9. Period of validity of e-bid

1. e-bid shall remain valid for 90 days after the date of e-bid opening prescribed by the department. An e-bid valid for a shorter period shall be rejected by the department as non-responsive.
2. In exceptional circumstances, the department may solicit the tenderer's consent to an extension of the period of e-bid validity. The request and the response thereto shall be May in writing. A tenderer may refuse the request without forfeiting its e-bid security. A tenderer granting the request will not be required nor permitted to modify its e-bid.

10. Formats and Signing of e-Bid.

1. The tenderer shall prepare one electronic copy of the technical e-bid and financial e-bid separately.
2. The e-bid document shall be digitally signed, at the time of uploading, by the tenderer or a person or persons duly authorized to bind the tenderer to the contract. The later authorization shall be indicated by a scanned copy of written power-of attorney accompanying the e-bid. All the pages/documents of the e-bid that are to be uploaded shall be digitally signed by the person authorized to sign the e-bid.

11. Submission of e-bid

The bid submission module of e-procurement website <http://etender.up.nic.in> enables the tenderers to submit the e-bid online in response to this e-tender published by the department. Bid submission can be done only from the bid submission start date and time till the bid submission and date and time given in the e-tender. Tenderers should start the bid submission process well in advance so that they can submit their e-bid in time. The tenderer should submit their e-bid considering the server time displayed in the e-procurement website. This server time is the time by which the e-bid submission activity will be allowed till the permissible time on the last/end date of submission indicated in the e-tender schedule. Once the e-bid submission date and time is over, the tenderers cannot submit their e-bid. For delay in submission of e-bid due to any reasons, the tenderers shall only be held responsible.

The tenderers have to follow the following instructions for submission of their e-bid:

- 1- For participating in e-bid through the e-tendering system it is necessary for the tenderers to be the registered users of the e-procurement website <http://etender.up.nic.in>. The tenderers must obtain a user login Id and password by registering themselves with U.P. Electronics Corporation Ltd., Lucknow if they have not done so previously for registration.
- 2- In addition to the normal registration, the tenderer has to register with his/her digital signature certificate (DSC) in the e-tendering system and subsequently he/she will be allowed to carry out his/her e-bid submission activities. Registering the digital signature certificate (DSC) is a one-time activity. Before proceeding to register his/her DSC, the tenderer should first log on to the e-tendering system using the user login option on the home page with the login Id and password with which he/she has registered.
For successful registration of DSC on e-procurement website <http://etender.up.nic.in> the tenderer must ensure that he/she should possess class-2/class-3 DSC issued by any certifying authorities approved by controller of certifying authorities, Government of India, as the e-procurement website <http://etender.up.nic.in> is presently accepting DSC issued by these authorities only. The tenderer can obtain user login Id and perform DSC registration exercise above even before e-bid submission date starts. The department shall not be held responsible if the tenderer tries to submit his/her e-bid at the moment before end date of submission but could not submit due to DSC registration problem.
3. The tenderer can search for active tenders through "search active tenders" link, select a tender in which he/she is interested in and then move it to 'My Tenders' folder using the options available in the e-bid submission menu. After selecting and the tender, for which the tenderer intends to e-bid, from "My tenders" folder, the tenderer can place his/her e-bid by clicking "pay online" option available at the end of the view tender details form,. Before this, the tenderer should download the e-tender document and price schedule/bill of quantity (BOQ) and study them carefully. The tenderer should keep all the documents ready as per the requirements of e-tender document in the PDF format except the price schedule /bill of quantity (BOQ) which should be in the XLS format (excel sheet).

4. After clicking the 'pay online' option, the tenderer will be redirected to terms and conditions page. The tenderer should read the terms & condition before proceeding to fill in the tender fee and EMD online payment details. After entering and saving the tender fee and EMD details form so that "bid document preparation and submission " window appears to upload the documents as per technical (fee details, qualification details, e-bid form and technical specification details) and financial (e-bid form and price schedule/BOQ) schedules/packets given in the tender details. The details of the Payment of Tender Fee & EMD must be submitted online payment on Tender Portal only should tally with the details available in the scanned copy and the date entered during e-bid submission time otherwise the e-bid submitted will not be accepted.
5. Next the tenderer should upload the technical e-bid documents for fee details (e-tender fee and EMD), Qualification details. Before uploading, the tenderer has to select the relevant digital signature certificate. He may be prompted to enter the digital signature certificate password, if necessary. For uploading, the tenderer should click "browse" button against each document label in technical and financial schedules/packets and then upload the relevant PDF/XLS files already prepared and stored in the tenderer's computer. The required documents for each document label of technical (fee details, qualification details, e-bid form and technical specification details) and financial (e-bid form and price schedule/BOQ) schedules/packets can be clubbed together to make single different files for each label.
6. The tenderer should click "Encrypt" next for successfully encrypting and uploading of required documents. during the above process, the e-bid document are digitally signed using the DSC of the tenderer and then the documents are encrypted/locked electronically with the DSC's of the bid openers to ensure that the e-bid documents are protected, stored and opened by concerned bid openers only.
7. After successful submission of e-bid document, a page giving the summary of e-bid submission will be displayed confirming end of e-bid submission process. The tenderer can take a printout of the bid summary using the "print" option available in the window as an acknowledgement for future reference.
8. Department reserves the right to cancel any or all e-bids without assigning any reason.

12. Deadline for submission of e-bid

E-Bid (Technical and financial) must be submitted by the tenderer at e-procurement website <http://etender.up.nic.in> not later than the time specified on the prescribed date (as the server time displayed in the e-procurement website).The department may, at its discretion, extend this deadline for submission of e-bid by amending the e-bid document, in which case all rights and obligations of the department and tenderers previously subject to the deadline will thereafter be subject to the deadline as extended.

13. Late e-bid

The server time indicated in the bid management window on the e- procurement website <http://etender.up.nic.in> will be the time by which the e-bid submission activity will be allowed till the permissible date and time scheduled in the e-tender. Once the e-bid submission date and time is over, the tenderer cannot submit his/her e-bid. Tenderer

has to start the bid submission well in advance so that the submission process passes off smoothly. The tenderer will only be held responsible if his/her e-bid is not submitted in time due to any of his/her problems/faults, for whatsoever reason, during e-bid submission process.

14. Withdrawal and resubmission of e-bid

- 1- At any point of time, a tenderer can withdraw his/her e-bid submitted online before the bid submission end date and time. For withdrawing the tenderer should first log in using his/her login id and password and subsequently by his/her digital signature certificate on the e-procurement website <http://etender.up.nic.in>. The tenderer should then select "My bids" option in the bid submission menu. The page listing all the bids submitted by the tenderer will be displayed. Click "View" to see the details of the bid to be withdrawn. After selecting the "bid withdrawal" option the tenderer has to click "Yes" to the message "Do you want to withdraw this bid?" displayed in the bid information window for the selected bid. The tenderer also has to enter the bid withdrawing reasons and upload the letter giving the reasons for withdrawing before clicking the "Submit" button. The tenderer has to confirm again by pressing "OK" button before finally withdrawing his/her selected e-bid.
- 2- No e-bid may be withdrawn in the interval between the deadline for submission of e-bids and the expiration of period of e-bid validity. Withdrawal of an e-bid during this interval may result in the tenderer's forfeited of his/her e-bid security.
- 3- The tenderer can re-submit his/her e-bid as when required till the e-bid submission end date and time. The e-bid submitted earlier will be replaced by the new one. The payment made by the tenderer earlier will be used for revised e-bid and the new e-bid submission summary generated after the successful submission of the revised e-bid will considered for evaluation purposes. For resubmission, the tenderer should first log in using his/her login Id and password and subsequently by his/her digital signature certificate on the e-procurement website <http://etender.up.nic.in>. The tenderer should then select "My bids" option in the bid submission menu. The page listing all the bids submitted by the tenderer will be displayed. Click "View" to see the detail of the e-bid to be resubmitted. After selecting the "bid resubmission" option, click "Encrypt & upload" to upload the revised e-bids documents.
- 4- The tenderer can submit their revised e-bids as many times as possible by uploading their e-bid documents within the scheduled date & time for submission of e-bids.
- 5- No e-bid can be resubmitted subsequently after the deadline for submission of e-bids.

15. Opening of technical e-bid by the Department

1. The department will open all technical e-bids, in the presence of tenderer's representatives who choose to attend at 11:00 AM on the prescribed date of opening at System cell office Plot No.-1, Sector K.P.-IV, Greater Noida. The tenderer's representatives who are present shall sign a register evidencing their attendance. In the event of the specified date e-bid opening being declared a holiday for the department, the e-bids shall be opened at the appointed time and place on the next working day. The tenderer who is participating in e-bid should ensure that the Tender Fee and EMD must be submitted online payment on Tender Portal only within the duration (strictly within opening & closing date and time of individual e-bid) of the work as mentioned in tender notice, otherwise, in any case, bid shall be rejected.
2. The tenderers names and the presence or absence of requisite e-bid security and such other details as the department at its discretion may consider appropriate, will be announced at the opening. The names of such tenderers not meeting the technical specifications and qualification requirement shall be notified subsequently.
3. The department will prepare minutes of e-bid opening.

16. Opening of financial e-bid

- 1- After evaluation of technical e-bid, through the evaluation committee the department shall notify those tenderers whose technical e-bids were considered non responsive to the conditions of the contract and not meeting the technical specifications and qualification requirements indicating that their financial e-bids will not be opened. The Department will simultaneously notify the tenderers, whose technical e-bids were considered acceptable to the department. The notification may sent by e-mail provided by bidder.
- 2- The financial e-bids of technically qualified tenderers shall be opened in the presence of tenderers who choose attend and for opening of financial bids will be communicated to the technically qualified tenderers subsequently after completion of technical bids evaluation through e-mail provided by the bidder. The name of tenderers, percentage price quoted for various items etc. will be announced at the meeting.
- 3- The department will prepare the minutes of the e-bid opening.

17. Clarification of e-Bid

During evaluation of e-bid, the department may, at its discretion, ask the tenderer for a clarification of his/her e-bid. The request for clarification shall be in writing.

(C) Evaluation of technical e-Bid and Evaluation Criteria

18. The department will examine the e-bid to determine they are complete, whether they meet all the conditions of the contract, whether required e-tender fee, e-bid security and other required documents have been furnished, whether the documents have been properly digitally signed, and whether the e-bids are generally in order. Any e-bid or e-bids not fulfilling these requirements shall reject.

1) All e- bids submitted shall also include the following:

(i) Certified copies of relevant pages of following documents;

(a) Memorandum and article of association showing objectives of the Company/firm and authority to sign the e-bid/contract or delegate the power to other for signing the e-Bid/contract.

(b) Place of registration.

(c) The power-of –attorney authorizing the tenderer to sign the e-bid/contract.

(d) Pan certificate of the company/firm.

(e) G.S.T. registration certificate of the company/firm.

The e-Bids of the tenderers not submitting certified copies mentioned above documents shall be rejected.

2) It shall be the discretion of the department to decide as to whether an e-bid fulfils the evaluation criterion mentioned in this e-tender or not.

3) The tenderer are advised not to mix financial bid documents with the PDF documents submitted for technical bid. The e-bids of the tenderers having financial bid document in the technical bid will out rightly be rejected.

19. Contacting the department

1) No tenderer shall contact the department on any matter relating to his/her e-bid, from the time of the e-bid opening to the time the contract is awarded. If the tenderer wishes to bring additional information to the notice of the department, he/she can so in writing.

2) Any effort by a tenderer to influence the department in its decisions on e-bid evaluation, e- bid comparison or contract award may result in rejection of the tenderer's e-bid.

3) In the event of any information furnished by the agency is found false or fabricated the minimum punishment shall be debarred /blacklisting from Greater Noida works and legal proceeding can also be initiated.

(D) AWARD OF CONTRACT

20. AWARD CRITERIA

The department will award the contract to the lowest evaluated successful tenderer whose bid has been determined to be responsive to all the conditions of the contract and meeting the technical specification and qualification requirement of the bidding document.

21. Department's right to accept any e-bid and to reject any or all e-bids.

The department reserves the right to accept or reject any e-bid, and annul the e-bid process and reject all e-bids at any time prior to contract award, without thereby incurring any liability to the affected tenderer or tenderers.

22. Notification of award

1. Prior to the expiration of the period of e-bid validity, the department will notify the successful tenderer in writing by letter/e-mail/fax, that its e-bid has been accepted.
2. The notification of award will constitute the formation of the contract.

23. Signing of contract

At the same time as the department notifies the successful tenderer that its e-bid has been accepted, the successful tenderer shall have to sign the contract agreement with relevant document as mentioned in above Clause 7. The agreement draft along with other related terms and conditions will be same as furnished in e-tender. Any refusal will not be allowed. The bidders need not to download and submit in hard copies of these documents.

24. For the visiting contractors of this tender document

- The contractors/firm/bidders who are interested to participate in tender are requested to get them registered and get their signature digitalized with UP Electronics Corporation, 10, Ashok Marg, Lucknow by depositing prescribed fee. However they shall be required to get their application forwarded from G.M. (Proj.), Greater Noida whose office is situated at Plot No.-1 Sector K.P.-IV, Greater Noida. The agencies/contractors registered shall be allowed to participate only in e-tenders floated after their registration.
- The other important information are being mentioned below at a glance for the e-tenderers :-

• Date of release E-tender	02.06.2021
• Date of opening tender	02.07.2021 AT 11:00 AM
• Pre-Bid Meeting	
• Cost of tender document	Rs. 6,770.00 with G.S.T.
• Earnest money	Rs. 83,94,000.00
• Validity period	90 days.
• Time of completion of work	Seven Years
• The tender is percentage rate tender only.	

List of documents to be submitted online:

- i) The details of scanned pre-qualification documents to be submitted online within the duration (strictly within date and time of opening & closing of individual e-bid) of the work as mentioned in tender notice, otherwise, in any case, bid shall be rejected.

ii) Legal Requirement:

- a. Scanned attested copy of the partnership deed by notary if it is a partnership firm and attested copy of registration certificate by notary in case of company, sole proprietorship declaration on letter head in case of sole proprietorship firm.
- b. Scanned attested copy of Memorandum and Article of Association by notary showing objectives of the Company/firm.
- c. Scanned valid attested copy of Power of Attorney authority letter by Notary of the firm/Tenderer in favour of the person who has signed the tender documents with telephone No. and complete postal address.
- d. Scanned Non-judicial stamp paper of INR 100.00 (Rupees one hundred only) of U.P. along with INR 1.00 revenue stamp.
- e. PAN Certificate of the Company/Firm.
- f. G.S.T. registration certificate.
- g. EPF & ESI registration copy of the company/firm.

iii) Technical Requirement:

- a. Evidence of satisfactory execution of similar project that have been executed by the Tenderers during the last five (5) years in Govt. sectors as per *clause Minimum Eligibility Criteria*. The said certificate of experience from the Engineer-in-Charge of the work not below the rank of the Executive Engineer or equivalent rank officers only shall be considered acceptable in Govt./Semi Govt. organizations and from owner of firm or his authorized representative in case of private sector.

iv) Financial Requirement:

- a. Audited financial statements clearly indicating turnover, Profit & Loss account and TDS, duly counter signed by CA for last three financial years. TDS shown in Indian Income Tax Return Acknowledgement will also be accepted.
- b. Certificate of Turnover certified by Statutory Auditor(s)/ Chartered Accountant
- c. Net Worth Certificate certified by Statutory Auditor(s)/ Chartered Accountant
 - i. Note: For tenders invited up to 31.3.2021, the last assessment year will be 2020-2021. After 31.3.2021 the last financial year can either be 2020-2021 or 2021-2022 the same sequence shall be followed for time to come.

v) Staff Requirement:

- a. Declaration for the technical staff by the Contractor (Lead Member in case of Consortium)

vi) Plant & Machinery Requirement:

- a. Proof of possession/undertaking to hire and use of required Machinery, Tools & Plants will be given by the Tenderers by way of declaration in shape of an affidavit on Rs. 100/- non-judicial stamp paper duly verified by the notary public (Lead Member in case of Consortium)

vii) Other documents:

- a. Affidavit for relatives not working in Greater Noida Industrial Development Authority on Rs. 100/- Stamp paper. (All Consortium/JV Members)
- b. Self-declaration stating that in case the Bidder is given the contract, the Bidder shall submit valid Electric License from Government of U.P before start of work.
- c. Joint Venture (JV)/ Consortium Arrangement agreement, if applicable.

**SENIOR MANAGER
(E&M) GNIDA**

REQUIREMENTS FOR PREQUALIFICATION OF THE TENDER

1. Minimum Qualification Criteria

The Bidders must read carefully the Minimum Qualification Criteria provided herein. Bids of only those Bidders will be considered for Price Bid opening who satisfy the conditions of eligibility. To be eligible for evaluation of its bid, the Bidder shall fulfil the following criteria:

#	Eligibility Criteria	For Single Entity	For JV / Consortium	Documents Required
1.	The bidder must submit Bid Processing Fee and EMD as specified in this Tender Document.	Yes	Lead member	Proof of payment of Bid Processing Fee and EMD
	Identification of the Bidder			
2.	The Bidder should be a Company registered under the Companies Act or Partnership firm registered under the Partnership Act of 1932 or registered (converted to) under the Indian Limited Liability Partnership Act, 2008 or a Proprietorship.	Yes	All members	Incorporation Certificate for a company formed under Companies Act or LLP Act. For proprietorships, relevant documents certifying operations of business.
3.	The Bidders must submit the copy of Memorandum and Articles of Association in case of a Company registered under the Companies Act or Partnership firm or registered (converted to) under the Indian Limited Liability Partnership Act, 2008 or a Proprietorship.	Yes	All members	Memorandum and Articles of Association
	Technical Experience of the bidder			

#	Eligibility Criteria	For Single Entity	For JV / Consortium	Documents Required
4.	<p>Bidder must be an experienced Contractor/Authorized Dealer/ ESCO. Bidder must minimum number of Similar Contracts/Works specified below as a prime contractor, joint venture member, management contractor or nominated sub-contractor in the last 5 (five) years in with any government, semi government, private organization in India:</p> <p>One Similar completed work of minimum Contract value of 80% of the estimate cost, in a single contract</p> <p>OR</p> <p>Two Similar completed work of minimum each Contract value of 50% of the estimated cost in two different contracts</p> <p>OR</p> <p>Three Similar completed work of minimum each Contract value of 40% of the estimated cost in three different contracts</p> <p>Note:</p> <p>1. Similar Contracts/ Works is defined as commissioning and execution of electrical infrastructure works which includes supply/ SITC/ Replacement/ installation of energy efficient LED streetlights with O&M in India.</p> <p>2. For contracts under which the Bidder participated as a Joint Venture member or Consortium Member or Sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement.</p>	Yes	All Members Combined	<p>Experience Certificate from the Client or Completion certificate.</p> <p>NOTE: for ongoing projects, a certification from Statutory Accountant/ Chartered Accountant on the letterhead of the bidder must be submitted certifying more than 80% project completion.</p>
	Financial Capability of the Bidder			

#	Eligibility Criteria	For Single Entity	For JV / Consortium	Documents Required
5.	The Bidder must have Average Minimum Turnover of INR 22.5 crores during three consecutive financial years out of last four assessment years taken from audited financial statements counter signed & certified by Statutory Auditor(s)/ Chartered Accountant. Bidder must submit the Turnover Certificate(s) and Net Worth certificate certified by Statutory Auditor(s)/Chartered Accountant including unconsolidated balance sheet in support of certificate.	Yes	Lead Member (optional for other members)	Turnover Certificate certified by Statutory Auditor/ Chartered Accountant. Financial statements certified by a Statutory Auditor/ Chartered Accountant
6.	The Bidder must have positive net worth. The Bidder must submit Net Worth certificate certified by Statutory Auditor(s)/Chartered Accountant including unconsolidated balance sheet in support of certificate.	Yes	Lead Member (optional for other members)	Net Worth Certificate certified by Statutory Auditor/ Chartered Accountant. Financial statements certified by a Statutory Auditor/ Chartered Accountant
OEM Capability				
7.	<p>Bidder must submit a Signed MOU and Authorization Letter issued by the manufacturers whose Luminaires/CCMS (Group Controllers) will be installed in the project confirming, backup guarantee for the contract period, with full replacement and repairing support.</p> <p>For only LED Luminaires OEM, the following shall apply:</p> <p>a. OEM should be present in India for at least past 3 years and has a setup of Sales & Service network across India, with a dedicated service center toll free line for improved services.</p> <p>b. Should be doing a Turnover of Average INR 100 Cr. in Lighting business in last 3 years in India.</p>	Yes	Yes	<p>Relevant documents to be submitted by Both LED Luminaire OEM & CCMS (Group Controller) OEM, separately.</p> <p>Form 6.11 Manufacturer Authorization Form.</p> <p>Form 6.12 MOU between Bidder and OEM.</p> <p>For LED Luminaires OEM, please submit relevant documentary proof to establish eligibility.</p>

#	Eligibility Criteria	For Single Entity	For JV / Consortium	Documents Required
	Credibility of Bidder			
8.	The Bidder / all the members of JV or Consortium must submit a declaration that they are not Blacklisted or barred by any State or Central Government or PSU anywhere in India.	Yes	All members	Form 6.10
9.	The Bidder / all the members of JV or Consortium must submit a declaration that they are not terminated from or failed to complete any project by any State or Central Government or PSU anywhere in India.	Yes	All members	Form 6.9

2. General Terms of participation

- i) Bidders can submit experience in terms of Technical Qualification of their holding company and/or subsidiary company only. However, the parent/ subsidiary company of the Bidder should on its own meet the technical experience as stipulated in this document and should not rely for meeting the technical experience criteria on its sister subsidiary/ co-subsidiary company or through any other arrangement like Technical Collaboration agreement. For the purpose of this clause,
- a. a ‘holding company’, in relation to one or more other companies, means a company of which such companies are subsidiary companies; and
 - b. a ‘subsidiary company’, in relation to any other company (that is to say the holding company), means a company in which the holding company— (a) controls the composition of the Board of Directors; or (b) exercises or controls more than one- half of the total share capital at its own
- ii) All the forms in Section 7 (as per applicability) duly filled and signed.

3. Minimum Key Professionals on Bidder’s Payroll:

The Bidder shall provide details of the Key Personnel and such other Key Personnel that the Bidder considers appropriate, together with their academic qualifications and work experience. This must be supported with CVs as per the format in Form 2 of this section.

#	Position	Qualifications and Work Experience	No.of Personnel
1	Project Lead	B.E. (Electrical/Electronics) + 8 years of experience post qualification	1
2	Site Manager	B.E. (Electrical/Electronics) + 5 years of experience post qualification	2
3	Site Engineer	B.E. (Electrical/Electronics) + 3 years of experience post qualification	4
4	Supervisors	Diploma (Electrical/Electronics) + 5years experience post qualification	4

4. Minimum Required Equipment:

The bidder must submit an undertaking mentioning that he owns or has capacity to hire the required Equipment as follows:

#	Type of Equipment	Maximum age as on 31.03.2021 (in years)	Minimum Requirement (in numbers)
1	Excavator	5	1
2	Mobile Crane	5	1
4	Lorry	5	1
5	Man lift/Lifting platform	5	4

5. I.T.C.C. OR AUDITED FINANCIAL STATEMENTS:

The Tenderers shall submit the latest Audited financial statements for last four financial years along with pre-qualification bid.

- 5.1 In case of firms, duly certified copy of partnership deed and registration certificate in case of Company or the deed for Article of Association and Power of Attorney for the person concerned to authorize to sign the tender and agreement.
- 5.2. In case of any change in Cash assets. Technical staff, Tools & Plants or change in partners, or constitution of a Company, address of communication or telephone nos. etc. after submission of documents the same shall be intimated to the Senior Manager/General Manger (Engg.) GNIDA timely.
- 5.3. If comes to the notice of the tender accepting authority at any point of time, during the tendering or execution stage of the work that the tenderer has been blacklisted by any Govt. organization, then all the payments due to him shall be forfeited and firm will be blacklisted.
- 5.4. The decision regarding pre-qualifying the Tenderers will rest with the competent Authority of GNIDA whose decision shall be final and binding to all the tenderers.

6. SITE OFFICE AND TESTING LAB

The contractor shall arrange all testing equipments, required for proper executions of work at his own cost.

**SENIOR MANAGER
(E&M) GNIDA**

APPENDIX 'A'

The following works awarded to M/s..... have been executed satisfactory.

S.No.	Name of Work	Total value of work done Rs. in Lacs	Date of start	Stipulated date of completion	Actual Date completion	Whether any compensation levied for delay
1.						
2.						
3.						
4.						
5.						

The performance of the firm has been found to be good and they are considered capable of executing the works of magnitude upto Rs.Lacs.

The financial position of the firm appears to be sound and they are capable of executing works in accordance with the specifications and within specified time schedule.

The dealings of the firm have been observed to be cordial reasonable and they are not litigious.

**Dated SIGNATURE OF
Officer-in-Charge of the work
Name of Officer
Official Seal**

**Telephone No. (Off)
(Res)
Fax No. (Off.)
(Res)**

If any tenderer submits the experience certificate of on-going work, then amount of work done against the agreement is to be mentioned clearly in the certificate.

APPENDIX 'B'

This is to certify that dealings of M/s.....
Who have been dealing with us for lastyears are satisfactory.
On the basis of information available with us we assess their Liquid Assets not
less than Rs.Lacs.

SIGNATURE OF MANAGER OF THE BANK**Seal of the Bank
Date**

APPENDIX 'C'

I/we.....S/o.....

Partners/Authorized person M/s..... applicant of
..... for pre-qualification hereby declare that following person(s) is in
my/our regular employment on the post and from the dates mentioned against them.

Sl. No.	Name and Address	Technical Qualification	Post held Regular	Date of Employment	Details of experience
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

I/We understand that well experienced adequate Graduate and Diploma Holder/Civil/Electrical Engineering as directed by E/I will have to be deployed by us on the work throughout, in case we are entrusted with the execution of the work in question.

I/we further understand that in the event of non-presence of such Engineers, the Greater Noida Industrial Development Authority shall deduct @ Rs. 10000 (Ten thousand) for Degree Holder or Rs. 6000 (Six thousand) for Diploma Holder as the case may be, per month from our bills, which will not be refundable.

I/We further understand that the decision of Senior Manager-in-charge of the work regards to presence and/or absence of our Engineer from the work shall be final and binding upon us.

**SEAL
(NOTARY PUBLIC)**

SIGNATURE OF APPLICANT

APPENDIX ‘D’

I/we S/o Shri

applicant of or

Partner(s)/Authorised person(s) of M/s.....

Applicant for pre-qualification for the above noted work in Greater Noida Industrial Development authority hereby certify that I/we possess/declare to hire the following machinery, tools and plants, centring and shuttering, all in good working conditions.

Particulars of Machinery Tools, Plants centring and Shuttering	No.	Estimated Cost (Rs.)	Approximate age in years and months

I/we undertake that above machineries and centring& shuttering material will remain in good working condition and in useable form throughout the currency of work.

I/we further undertake, that if, there is any reduction in the equipment, below the limit required for pre-qualification, I/we will inform Senior Manager/General Manager (Proj.), GNIDA to whom application for pre-qualification is being made, within 3 days of its occurrence and arrange to make it up within another one week, failing which, the GNIDA will be free to impose any penalty that it may deem fit, which will be final and binding upon me/us.

**SEAL
(NOTARY PUBLIC)**

APPLICANT

On stamp page (minimum denomination 100.00)

APPENDIX 'E'**शपथ-पत्र**

(रुपये 100/- के स्टॉम्प पेपर पर)

मैं..... उम्र..... पुत्र श्री..... निवासी.....

आधार कार्ड संख्या..... व पैनकार्ड संख्या..... जो.....

..... (फर्म का नाम) का प्रोपराटर/पार्टनर/डायरेक्टर हूँ, शपथपूर्वक यह कथन करता हूँ कि मेरा कोई सगा सम्बन्धी/नजदीकी रिश्तेदार/ब्लड रिलेशन {Hindu succession act के सेक्शन-8 के अन्तर्गत Class-II द्वारा परिभाषित एवं कर्मचारी/अधिकारी स्वयं के अथवा पत्नी/पति के दादा-दादी, माता-पिता, भाई-भाभी, बहन-जीजा (Vice-Versa), चाचा-चाची, ताऊ-तायी, मामा-मामी, बुआ-फूफा, भौसा-भौसी तथा उनके पुत्र एवं पुत्री} का कोई व्यक्ति ग्रेटर नौएडा औद्योगिक विकास प्राधिकरण में स्थाई/अस्थायी/दैनिक वेतन/मानवशक्ति आपूर्तिदाता के माध्यम से किसी भी पद पर कार्यरत नहीं है।

उपर्युक्त सूचना मेरे द्वारा निजी ज्ञान एवं वास्तविकता के आधार पर दी जा रही है। यदि उक्त शपथ पत्र दाखिल करने के बाद भविष्य में कभी भी इस प्रकार का तथ्य संज्ञान में आता है कि मेरे द्वारा उपलब्ध करायी गयी सूचना/शपथ गलत है और कोई व्यक्ति उक्त प्रकार से ग्रेटर नौएडा प्राधिकरण में कार्य करता हुआ पाया जाता है तो मेरे सारे अवार्ड निरस्त करके मेरी कार्यदायी संस्था को काली सूची में डालते हुए आई.पी.सी. की सुसंगत धारा में प्राथमिकी दर्ज कराते हुए मेरे विरुद्ध विधि की परिधि में कठोरतम कार्यवाही की जाए, जिस पर मुझे अथवा मेरे परिवार को कभी भी कोई आपत्ति नहीं होगी।

शपथकर्ता

(फर्म का नाम)

मोबाइल नं०

TERMS AND CONDITIONS

1. Earnest Money is required to must be deposited online payment on Tender Portal only.

Earnest Money deposit shall be for work estimated to cost upto Rs. 10 crore 2% of estimated cost, for work estimated cost more than Rs.10 crore Rs.20 Lacs + 1% of the estimated cost in excess of Rs.10 crore and the Security Money shall be 5% of the Actual Cost of the work. The E.M.D. would be converted into Security amount in respect of successful tenderer. The balance amount can be accepted in the shape NSC/FDR/CDR of the nationalized bank of India duly pledged in favour of Greater Noida Industrial Development Authority or in the form of Bank guarantee duly verified by the issuing bank. Payment will be released to the contractor only after the Bank guarantee is got duly verified by the issuing bank. The bank Guarantee would have to be got renewed, well before its date of expiry, by Finance Department.

2. Tender of the firms who have litigation in Court of Law against the GNIDA, will not be considered.
3. Tender of firms is liable to be rejected who have failed to complete the work timely and work is still pending for more than a year in the Authority.
4. Tender will be received upto 3:00 PM on **30.06.2021** and the Pre-qualification bids shall be opened on date **02.07.2021** at 11:00 AM in the presence of available tenderers.
5. The price bids of the Pre-qualified bidder shall be in the System cell office Plot No.-1, Sector K.P.-IV, Greater Noida, (U.P.) as mentioned in NIT.
6. C.E.O. Greater Noida Authority reserves the right to reject any or all the tenders without assigning any reasons.
7. Defect liability period for the executed work shall be two years after the date of completion (read with Clause-1 of GPW-9).

8. JOINT VENTURE FIRM:

Conditions for forming a Consortium or a Joint Venture (JV)

- i) In case of Joint Venture (JV)/ Consortium arrangement, the Bidder must submit a duly signed notarized MOU on Stamp Paper of appropriate value along with the Technical Bid. Not more than 3 (three) members can form a JV or Consortium. The lead bidder must have minimum share of 51%.
 - ii) For JV/Consortium, the lead bidder must qualify all the applicable requirements as per Minimum Qualification Criteria.
 - iii) The Bidder / all the members of JV or Consortium must submit a copy of valid GST registration.
9. Online Pre-Bid queries will be submitted from 02nd June 2021 to 8th June 2021 on E-mail ID: smwcem2@gnida.in. Link for joining Pre-bid meeting will be only shared with interested firms/contractors whose pre-bid queries or request to join pre-bid meeting is received on E-mail ID : smwcem2@gnida.in before 8th June 2021 5:00 PM.

**SENIOR MANAGER
(E&M-___) GNIDA**

SPECIAL CONDITIONS

GENERAL

1. These special conditions shall be read in conjunction with the General Conditions of the contract. Where the provisions of these Special Conditions are at variance with the provisions of the General Conditions of the contract the provisions of these special Conditions shall take precedence.
2. The Contractor/Bidder is expected to be well conversant with the conditions of GPW Form 9 as applicable to Greater Noida Works (General conditions of the contract) which shall be the part of the agreement.
3. The Tenderers/Bidders are advised to see carefully the site of work and structural/architectural drawings etc. before actually submitting their tender. The structural/architectural drawings for the work **Implementing of smart LED street lights and installation of centralized control and monitoring system with operation and maintenance of 7 years, Greater Noida** under the scope of this tender can be seen in the office of the Senior Manager (E&M-____) Greater Noida Industrial Development Authority Plot No.-1, Sector K.P.-IV, Greater Noida, (U.P.) on any working day between 11.00 A.M. to 4.00 P.M.

TENDERERS TO ENSURE AND NOTE

4. The tenderer should insure that the entire required document is uploaded in PDF form in Technical bid and the Tender Fee & EMD must be submitted online payment on Tender Portal only within the duration (strictly within date and time of opening & closing of individual e-bid) of the work as mentioned in tender notice, otherwise, in any case, bid shall be rejected.
5. Any tenderer not fulfilling all the conditions is likely to be rejected
6. No refund of the cost of tender is claimable for tenders not accepted or for tenders not submitted.
7. Contractor has to sign the agreement after submission of stamp paper within ten days from the date of award of the work in case of delay on the part of the Contractor beyond ten days, a penalty of Rs. 1000/- per day will be imposed and shall be recoverable from Contractor which will be deducted from any dues of Contractor.

EARNEST MONEY AND SECURITY DEPOSIT

8. If the Contractor withdraws his offer/tender, or modifies his offer/tender, after submission of tender and before acceptance of the tender, his entire earnest money will be forfeited By the authority.
9. Earnest Money deposit shall be as mentioned in the tender document and the Security Money shall be 5% of the Actual cost of the work the E.M.D. would be converted into Security amount in respect of successful tenderer. For the balance verified by the issuing bank could be called for. Payment could be released to the contractor only after the Bank Guarantee is got duly verified by the issuing bank. The bank Guarantee would have to be got renewed, well before its date of expiry by Finance Department or PMC, as the case may be.

10. The earnest money deposited by unsuccessful Tenderer shall be refunded after opening Pre-qualification/Technical Bid. After opening the price bid, the Earnest Money of other than 1st Lowest tenderer shall be refunded.
11. After the acceptance of the tender, the earnest money of the successful Contractors shall be converted into the security deposit.
12. The security deposit corresponding shall be released in phase manners described below:
 - (a) 50% after expiry of six months from the actual date of completion of Implementation Phase (12 Months) or date of payment of the final bill (whichever is later) for Implementation Phase in full only if no imperfections become apparent in the work.
 - (b) Balance 50% after six months from the actual date of completion of O&M period or date of payment of the final bill (whichever is later) in the work and the security against this work shall be refunded only after the network/infrastructure developed is successfully handed over to the GNIDA as per the conditions of this RFP document.

REGARDING MATERIALS

13. All the materials for the works shall be arranged by the contractor at his own cost.
14. All the material collected by the contractor during execution of work or otherwise shall be properly stacked & arranged as directed by the Engineer-in-charge
15. Contractor shall have to make their own arrangement for water & electricity at the site of work. The water should be fit for drinking in case the authority supplies the water, the Contractor shall have to pay charges at rate fixed by Authority.
16. GNIDA shall give necessary recommendation letter to the concerned authority for giving water and power connection to the Contractor. However any delay in getting water or power connection shall not entitle the Contractor for any compensation or extension in completion period.
17. The stone ballast & grit will be blue textured and free of soft pieces the gauge of the ballast shall be as per detailed latest specifications of CPWD.
18. The contractor is to stack the metal at the road berms first according to the size of complete with stack number as decided by the E/I and no metal shall be stacked on road embankment. The metal shall be allowed to spread for consolidation only after recording of measurements and taken into road metal account register.
19. A deduction @ 7.5% shall be made from stack measurements of stone metal to arrive at net quantity for the purpose of payment.
20. Cement and steel shall have to be arranged by the contractor only from the approved manufacture/re-rollers who hold ISI license only Cement and steel should be ISI marked and to the entire satisfaction of the E/I.
21. With each lot of material arranged by the Contractor for construction work he shall produce proper receipt of purchase from the manufacturer/re-roller.

22. The Contractor has to arrange the test certificates of each lot from an approved test laboratory. Engineer-in-Charge, Greater Noida shall have the right to take sample for testing as per CPWD/ISI norms or as decided by the Engineer in Charge and get it tested. The Contractor shall bear all charges of sampling, carriage and testing etc.
23. The cement shall be stored at site of work as per B/S requirement and shall be kept under double lock & key system by the Contractor at his own cost.
24. The Contractor in a register at site shall keep complete accounting of material purchased and consumed. All Register at site shall have machine numbered pages.
25. The Contractor shall provide at his own cost proper storage facility for the materials brought by him to prevent any loss, damage or deterioration of the same.
26. The contractor shall confine his equipment storage of materials operation of his works & people to the limits as directed by the E/I and shall not unnecessary spread over the premises with his materials and hutment.
27. The Contractor shall make arrangement for watch and ward of the material at his own cost.
28. All the materials and workmanship shall be as per specifications described in the contract and in cases not covered in the contract these shall be in accordance with the E/I instructions and shall be subjected from time to time to the tests as the E/I may direct at places of manufacture at the work site or in the Greater Noida Laboratory or any recognizing Laboratory in or out side Greater Noida Contractor shall provide conveyances labour and material required for examining, measuring and testing of the work and quality of materials used Contractor shall supply sample of the materials get them approved before using in the work. The cost of such conveyance, labour and materials provided for testing purpose, testing charges and for examining the work and for proper completion of the same shall be borne by the contractor and no extra payment shall be made for the same.

The Authority may establish a field laboratory to carry out day to day tests of all materials and works. The Contractor shall arrange at his own cost to make available all materials etc. for carrying out the tests and pay for the tests at rates fixed by the Authority.

29. Samples makes of materials/equipments (electrical) and item of work shall have to be got approved by the Contractor from E/I before execution.
30. The contractor shall ensure to consume the materials within its expiry date. The material if consumed after the expiry date the affected work will have to be dismantled or the recovery shall be made by the Authority at the rate of double the cost of work in which such materials consumed.

LABOUR REGULATIONS

31. The Contractor will have to follows all existing rules and regulations of the Govt. and labour department regarding the labour employed by him without entitling him for any extra claim on this account.

32. The Contractor shall be responsible for the damage(s) done to any property or injury to any person whatsoever caused by him or any body in his employment or caused in consequence of his work. He will indemnify and keep the Govt. indemnified against claims demands proceedings charges,

cost charges and expenses whatsoever in respect of or in relation to any such injuries or damages. The Contractor shall take a necessary precautions for the safety of his employees on the work and shall comply with all applicable provision of safety laws and building codes to prevent accident or injuries to persons on the work.

EXECUTION OF WORK

33. All drawings and designs will be supplied according to the necessity of the particular work and the contractor will not have any claim for compensation in case of late supply of necessary design drawings.
34. For carrying out the work the contractor shall be provided with one set of working drawings. Additional copies if required will be supplied to him on payment of additional charges as decided by Engineer-in-Charge.
35. The Contractor shall be wholly responsible for setting out the works and for the corrections of the positions levels dimensions & alignment according to the plan/drawing including all necessary instruments pegs poles, pillars etc. and other material required for the purpose to the satisfaction of E/I.
36. The work shall be executed as per program drawn by contractor and approved by the E/I. If part of the site is not available due to any reason the program of the Contractor shall be modified to suit the available site and the Contractor shall have no claim for any extra compensation on this account. If the contractor does not give the programme for execution of work at the time of signing of agreement, the E/I will give his own programme, and PERT CHART which will be binding on contractor and shall become part of the agreement.

The contractor will be required to give his fortnightly progress as per said PERT CHART. The progress on PERT/BAR CHART shall be attached to the bills submitted by the contractor duly signed by him on monthly basis which will be verified by E/I. The contractor will be required to furnish weekly category wise labour report also.

37. If the Engineer-in-Charge, Greater Noida shall find that the work progress is slow, and feels that the work will not be completed in the time specified, then the Engineer-in-Charge, Greater Noida, shall order the Contractor to work day and nights, and/or on holidays and the Contractor shall obey these orders without objection or request for compensation. No compensation whatsoever shall be paid on this account.
38. In the event of working at night, the Contractor shall provide sufficient lighting, safety arrangements for working staff to the satisfaction of the Engineer-in-charge/ Greater Noida. Any order or approval issued under this Clause by the Engineer-in-charge/Greater Noida shall not relieve the Contractor from or diminish his obligations under the contract.

CONTRACTORS SUPERVISORY STAFF

39. Within fifteen days of the registration of the contract bound the Contractor shall have to notify in writing the names of his two authorized Representatives. One of them will always be available at the site of work to receive technical orders & the other for instruction for issue of material sand other miscellaneous works. The Contractor shall be fully responsible for the orders received by his representative or the materials received by his representatives 10.
40. The Contractor shall provide sufficient supervision to the work using the skill & attention. He shall deploy following experienced engineer on the work throughout its completion.

Works costing between Rs. 10 Lacs to 15 Lacs	One Diploma Engineer
Works costing between Rs. 15 To Rs. 100 Lacs	One Graduate Engineer One Diploma Engineer
Works costing between Rs. 100 To Rs. 500 Lacs	Two Graduate Engineer Two Diploma Engineer
Works costing between Rs. 500 Lacs & above	Two Graduate Engineer Three Diploma Engineer

The Engineers deployed by contractor shall be got approved in writing from the Engineer in charge (whose approval at any time can be withdrawn) for supervision of the work and to receive directions & instructions of the work from E/I on behalf of contractor. The supervisory staff of the contractor shall not be changed without obtaining the approval of E/I. In the event of non presence of these Engineers, Authority will deduct @ Rs. 10000/- PM per graduate Engineer & @ Rs. 6000/- PM per Diploma Engineer which will be non refundable. The decision of Sr. Manager in regards to presence and/or absence of such engineer from the work shall be final & binding upon the contractor. The contractor will have to remove any person employed on the work if ordered by the E/I for any reason.

41. If the contractor does not use at site the T & P as mentioned in the Appendix "D" the same shall be arranged by the authority and the necessary deductions for the rental of machinery and T&P shall be made from contractors bills or penalty as deemed fit shall be imposed for which no claim shall be entertained.

WORK TO BE DONE AS PER SPECIFICATIONS

42. The specifications to be follows for the execution of the works shall be:
- The latest MOST/CPWD specifications for works.
 - Relevant ISI standard for work not covered by the above.
 - Material bearing ISI Mark shall be given first preference for use in works. For all articles without ISI marks the quality shall be judged by the relevant ISI specifications.

43. The Bill of Quantities is to be read in conjunction with the Form of tender drawings conditions of contract specifications as these documents are jointly explanatory and descriptive of the works included in contract. In case of conflict amongst description of the items(s) specifications conditions and drawings, the following order of precedence shall be followed.
- i) Provisions as per description of items(s)
 - ii) Provisions in special conditions of contract.
 - iii) Provisions in specifications.
 - iv) Provisions in drawings.
 - v) In absence of above the decision of Engineer-in-Charge shall be final & binding.

INSPECTION OF WORK

44. All works under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the E/l and other Authority Officials at all times during the usual working hours. At all other times, if notice for the inspection of site by the E/l or any other official is given to the Contractor should either himself be present to receive orders and instructions or a responsible authorised agent be present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the Contractor himself. The Contractor shall also provide all facilities necessary for inspection of the work by the E/l or other officials for which no payment shall be made to the Contractor.

The Engineer-in-Charge/ Greater Noida shall have the right to inspect the work and related documents either through their authorised officers or any agencies appointed for such purpose as and when the need is felt in order to assess the work progress, the quality of material used in the construction and satisfaction execution of the work the contractor shall subject themselves to such inspection and shall carry out the instructions issued in pursuance of the above inspections.

45. A SITE ORDER BOOK shall be maintained at the site of the work in which instructions shall be given to the Contractor as and when necessary. These orders shall have to be signed and compiled with by the Contractor or in his absence by his authorised representative or agent & in such case it will be presumed the same have been conveyed to him in time.

VARIATIONS

46. The quantities given in the bill of quantities are approximate & are liable to variation upto 25% on either side without entitling the Contractor to any compensation or extra rate.

RATES

47. In giving their rates the Tenders should take into account all fluctuations of the market, as no claim shall be entertained on this account during the acceptance of the tender and currency of the contract.
48. The tendered rates shall be for all completed items of the work & shall include all quarrying royalties, testing, screening, tools and plants, railway freight, carriage of materials to site, stacking & removal charge of any rejected materials also including G.S.T. and all other taxes in-force time to time as per Govt. Orders.

49. Tendered rates are inclusive of all taxes and levies payable under the respective statutes. However pursuant to the constitution (Forty Sixth Amendment) Act. 1982 if any further tax or levy is imposed by Statutes, after the date of receipt of tenders, and the Contractors thereupon necessarily and properly pays such taxes/levies, the Contractor shall be reimbursed the amount so paid provided such payment, if any, is not in the opinion of General Manager (Proj.) (whose decision shall be final and binding) attributable to delay in executing of work within the control of the Contractor.
- i) The Contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allows inspection of the same by a duly authorized representative of Government and further shall furnish such other information/documents as the Engineer-in-charge may require.
 - ii) The contractor shall within a period of 30 days of imposition of any further tax or levy. Pursuant to the constitution (Forty Six - Amendment) Act 1982 gives a written notice thereof to the Engineer-in-Charges may require.
 - iii) No escalation on any account shall be paid.
50. Rates quoted shall be considered to be for all height unless specified other wise.

PAYMENT

51. The Contractor shall submit monthly running bills to the Greater Noida for the work completed by him during the month. The Engineer-in-charge/Greater Noida shall check the bill and 75% payment shall be made for the certified amount within 15 days of submission of bill, balance amount due against this bill shall be released after the same is cleared by the Greater Noida authority. Security deposit shall be deducted @ 5% from each bill unit the amount of security deposit recovered reaches the total figure outlined in Clause 1 of GPW Form 9. The certificate of the Engineer-in-Charge/Greater Noida regarding the sum payable against bills shall be final and conclusive.
52. Any claim during the period of contract will be submitted in writing within the currency of the contract bond failing which the claim shall not be entertained.
53. The Contractor shall sign “No claim certificate” on running bills and in case of any claims or extra item he must mention the item and rate and Qty. specifically otherwise no claim shall be entertained later on. Payment of claim shall only be made as within decided by the competent authority in Greater Noida.
54. G.S.T. with surcharge shall be deducted on the gross amount of the work done for all the payments made to the Contractor according to the provision of G.S.T. Act modified from time to time.
55. The Contractor shall submit a certificate along with each bill that full labour payment has been made by the Contractor till the end of the preceding month.
56. The provision of an item in the bill of quantities will not entitle payment for the same in case it forms part of any other item as per specifications, Special Conditions of contract through the same may have not been specifically described in the description of the item(s).
57. The Contractor shall have to sign FARKHATI at the time of final bill.

SECURED ADVANCE**58. Secured Advance on Materials**

The Contractor on signing an indenture in the form to be specified by the Engineer-in-Charge/Greater Noida may be allowed "Secured Advance" on the security on materials to the extent of 75% of the estimated value of major materials which in the opinion of the Engineer-in-Charge are non perishable and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-Clause are incorporated in the works, the amount of such advance shall be deducted from the last payment made under any of the Clauses of this contract.

ABNORMALLY HIGH/LOW RATES

59. In the case of abnormally low rated items, the minimum quantity stipulated in the agreement must be executed and no reduction in quantity shall be allowed without prior approval of the competent authority.

60. THEORETICAL CONSUMPTION OF MATERIAL

After the completion of the work the theoretical quantity of cement to be used on the works shall be calculated on the bases of CPWD statements showing quantities of cement to be used in different items of work provided in the Delhi schedule of rates applicable to the agreement but for the items on which DSR is not applicable the consumption of cement shall be decided the E/I of the work. Over this theoretical quantity of cement further variation on either side shall also be allowed as under:

Maximum permissible percentage	Estimated Cost put to tender
2% (Two percent)	for works more than Rs. 5.0 Lacs.
3% (Three Percent)	for works upto Rs. 5.0 Lacs.

The variations in respect of other materials shall be as per norms in CPWD works.

The cost of quantity of cement, steel, bitumen or any other material less used than the theoretical quantity allowing variation of minus side shall be recovered from the contractor at double the prevailing market rates plus the cost of cartage to site.

CO-OPERATION WITH OTHER AGENCIES

61. The contractor shall not put hindrance to any person or to other Contractors authorized by the department to carry out works of any nature entrusted to them. The Contractor shall have to allow the other party to work and adjust his work accordingly and no claim shall be entertained on this account. In case of any dispute the decision of the E/I shall be final and binding upon all the parties concerned.

62. The contractor shall do his work in such a way that the work of other Contractor is not hampered.

MISCELLANEOUS

63. The Contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work etc. as Government's property and such materials shall be disposed of to the best advantage of Govt. according to the instructions in writing issued by the Engineer-in-Charge.

64. The normal working hours shall be from 8:30 A.M. to 5:30 P.M. and no work shall be carried out on Sunday and on gazetted holidays without specific permission of the E/I No claim whatsoever shall be entertained on this account.
65. The Contractor shall at all times keep the premises free from accumulated waste material or rubbish caused by his employees on the work and on completion of the work he shall clear away whole site of such material and fill up the borrow pits made by him. He will leave whole of the site and works clear in a workman like manner. Nothing extra shall be paid to the Contractor for this clearing up. The Contractor shall maintain and keep the area in agreed sanitary condition, which is used by men engaged in the work by him. He shall remove and clear all structures etc. which may have been set up by the Contractor for accommodating his labour on the completion of the work to the satisfaction of the Engineer-in-Charge/Greater Noida.
66. In case of any dispute the decision of General Manager (Proj.) Greater NOIDA shall be final & binding on the Contractor.
67. No claim for the interest will be entertained by the Greater Noida Authority in respect of the deposits mentioned in the contract or in respect of any money or balance which may be in their hands owing to any disputes between the Greater Noida Authority and the Contractor or in respect of any delay on the part of Greater Noida Authority in making monthly payments or otherwise.
68. The Contractor shall have to make arrangements at his own cost for temporary accommodation for the office staff and the labourer`s residence at the site of work. Suitable area of land shall be earmarked to Contractor to put the labour camp. Contractor shall however be responsible to hand over the site to Greater Noida duly cleared from all encumbrance immediately after completion of work failing which completion certificate of the contract shall not be issued.
69. Stamp duty will be paid as per rule/order.
70. All major items required for electrification works like transformers, 11 KV breakers, L.T. breakers, L.T. panel board, 33 KV cables, 11 KV cables, L.T. cables, main feeder pillars, Distribution feeder pillars, poles and conductors shall be inspected at the premises of the manufacturer by the authority representative of the GNIDA before despatch to work site. The contractor shall inform to the GNIDA in writing at least 7 days in advance regarding the readiness of material for inspection at the manufacturers premises.
71. After completion of work contractor will have to submit a set of relevant completion drawings to Authority and will have to obtain a certificate from Director Electrical Safety U.P. Govt. regarding energisation of the network developed by the contractor.
72. The security against this work shall be refunded only after the network/infrastructure developed is successfully handed over to the distribution licensee in GNIDA.
73. The contractor shall submit the securities /performance guarantee equal to 0.5% per 1% of % age rates quoted below on printed rate in tender up to 10% and further if % age rate quoted more than 10% below on printed rate the security/ performance guarantee amount shall be calculated 1% quoted rate below on NIT exceeding 10% below.
74. As per rules and regulations it is mandatory that the contractor has to accept & act in accordance with the scheme. Guidelines and implementation mechanism under building & other constructions workers (Regulation of employment & conditions of service) act 1996 and that will be stages as mentioned in the U.P. Government order.

75. आमंत्रित की जाने वाली निविदाओं में प्रतिभाग करने वाले निविदादाताओं को रु0 100/- के स्टॉम्प पेपर पर संलग्न प्रारूप (Appendix - E) के अनुसार शपथ-पत्र प्रस्तुत करना होगा कि उसका कोई सगा सम्बन्धी/नजदीकी रिश्तेदार/ब्लड रिलेशन का कोई व्यक्ति (जिसमें स्वयं के अथवा पति/पत्नी के दादा-दादी, माता-पिता, भाई-भाभी, बहन-जीजा (Vice-Versa), चाचा-चाची, ताऊ-तायी, मामा-मामी, बुआ-फूफा, मौसा-मौसी तथा उनके पुत्र एवं पुत्री सम्मिलित हैं) ग्रेटर नौएडा औद्योगिक विकास प्राधिकरण में स्थाई/अस्थायी/दैनिक वेतन/मानव शक्ति आपूर्तिदाता के माध्यम से किसी भी पद पर कार्यरत नहीं है।

76. **For Time Extension:**

- (i) In case if there is no delay in works on contractor's part. Time extension will be granted by Competent Authority as per order time to time.
- (ii) In case the delay is because of the lapse on the part of contractor, the time extension may be granted at the sole discretion of the Sanctioning Authority as per orders time to time.

S.No.	Work Value	No. of Days	Penalty
1.	Upto Rs. 25 Lacs	First 30 days	No penalty
		Next 60 days	1% of work value
		Next upto 90 days	2% of work value
2.	Upto Rs. 50 Lacs	First 30 days	No penalty
		Next 60 days	1% of work value
		Next upto 90 days	2% of work value
		Next upto 120 days	3% of work value
3.	Upto Rs. 200 Lacs	First 30 days	No penalty
		Next 60 days	1% of work value
		Next upto 90 days	2% of work value
		Next upto 120 days	3% of work value
		Next upto 150 days	4% of work value
4.	Above Rs. 200 Lacs	First 30 days	No penalty
		Next 90 days	1% of work value
		Next upto 120 days	2% of work value
		Next upto 150 days	3% of work value
		Next upto 180 days	4% of work value

Extension beyond above limits may be granted with 5% penalty.

From the payment for the work executed beyond the contract bond period, an amount equivalent to 5% of total work done shall be withheld. This withheld amount shall be released after the sanction of extension of time.

77. Regarding Covid-19 all directions issued by State Govt./Central Govt. and also issued time to time in future shall be applicable & binding.
78. परियोजना विभाग से सम्बन्धित कार्यों की निविदा प्रक्रिया में यदि किसी निविदादाता द्वारा निविदा शुल्क, धरोहर राशि एवं अनुभव प्रमाण पत्रों के अतिरिक्त शेष अन्य प्रपत्रों में से कोई प्रपत्र अपलोड होने से रह गया है, तो ऐसी स्थिति में उन निविदादाताओं को वांछित प्रपत्र जमा करने हेतु एक सप्ताह का अवसर इस शर्त के साथ दिया जाये कि उक्त प्रपत्र के निर्गमन की तिथि निविदा डाले जाने की तिथि व समय से पूर्व की हो।

79. ग्रेटर नौएडा प्राधिकरण में पंजीकृत फर्मों के सम्बन्ध में निर्देश:-
- (i) पंजीकृत धनराशि तक समान प्रकार के कार्य की निविदाओं में प्रतिभाग करते समय वांछित प्रपत्रों में छूट प्राप्त करने के लिए पंजीकरण प्रमाण पत्र अपलोड करना अनिवार्य होगा।
 - (ii) यदि फर्म द्वारा पंजीकृत धनराशि से अधिक धनराशि की निविदा में प्रतिभाग किया जाता है तो पंजीकरण प्रमाण पत्र वैध नहीं होगा। पुनः समस्त आवश्यक प्रपत्र अपलोड करने होंगे तथा प्री-क्वालिफिकेशन बिड में अर्ह पाये जाने पर नयी पंजीकरण संख्या आवंटित की जायेगी।
 - (iii) भविष्य में यदि पंजीकृत श्रेणी के अतिरिक्त अन्य किसी श्रेणी के कार्य हेतु प्रतिभाग किया जाता है तथा प्री-क्वालिफिकेशन बिड में अर्ह पाये जाने पर उक्त फर्म को नये कार्य की श्रेणी के अन्तर्गत भी पंजीकृत करते हुए एक अन्य पंजीकरण संख्या भी जारी की जायेगी।
 - (iv) ग्रेटर नौएडा प्राधिकरण में प्रतिवर्ष Turn Over, Balance Sheet तथा Liquid Assets (after six month from date of issue) आदि का Updation फर्म को स्वयं कराना होगा।
80. पंजीकृत फर्मों के अतिरिक्त अन्य समस्त फर्मों द्वारा निविदा में प्रतिभाग करते समय पूर्व की भाँति समस्त वांछित प्रपत्र अपलोड किये जायेंगे।

**SENIOR MANAGER
(E&M-___) GNIDA**

G.P.W. FORM - 9

Approved by U.P. Govt. Vide D.O. No. 6628-A C-23-S.N.
Anubhag G-19, AC/1969 Dated 9.3.1972

And Also

Amended vide CE's Letter 1921/MT 62/1973 Dt. 30.3.1974

CHAPTER - VII: PART 371

GENERAL CONDITIONS OF CONTRACT

1. DEFINITIONS

1. The "Contract" means the documents forming the tender and acceptance thereof and the formal agreement executed between the "**GREATER NOIDA INDUSTRIAL DEVELOPMENT AUTHORITY**" (**GNIDA**) and the "**CONTRACTOR**" together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-charge and all these documents taken together shall be deemed to form one contract and shall be complementary to one another.
2. In the Contract the following expressions shall, unless the context otherwise requires, have the meaning herewith respectively assigned to them :-
 - a) The "**WORK**" or "**WORKS**" shall, unless there be something either in the subject or context repugnant to such construction, shall be construed and taken to mean the work by or by virtue of the contract to be executed whether temporary or permanent and whether original, altered, substituted or additional.
 - b) The "**SITE**" shall mean the land and/or the other places, on, into or through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
 - c) The "**CONTRACTOR**" shall mean the "Individual" or "Firm" or "Company" whether incorporated or not, undertaking the works and shall include the legal personal representative of such individuals or the persons composing such firm or company or the successors of such firm or company and the permitted assignees of such individual or Firm or Company.
 - d) The "**CEO**" shall mean the Chief Executive Officer, Greater NOIDA Industrial Development Authority, his successors or assignees.
 - e) The "**ENGINEER-IN-CHARGE**" shall mean the General Manager (Proj.)/Senior Manager/The Manager as the case may be who shall supervise and be in-charge of the work and who shall sign the contract on behalf of GNIDA.
 - f) "**GNIDA**" shall mean Greater Noida Industrial Development Authority (Constituted under section 3(i) of U.P. Industrial Area Development Act. 1976 (U.P.) Act. No. 6 of 1976) and having its main administrative office in Plot No.-1, Sector K.P.-IV, Greater Noida includes its Chairman/Chief Executive officer/Additional Chief Executive Officer/General Manager (Proj.) and/or any of their authorized representative and/or its successors and permitted assignees.

- g) The “**TENDERED COST**” shall mean the cost of entire work as estimated on the basis of the tendered rates or rates agreed to between the parties of contract.
 - h) The “**DEPARTMENT**” shall mean Engineering Department of Greater Noida Industrial Development Authority.
 - i) The “**ESTIMATED COST**” shall mean the cost of entire work put to tender.
 - j) The “**MARKET RATE**” shall mean the rate as decided by the Engineer-in-charge on basis of the cost of materials and labour at site where the work is to be executed plus the profits and overheads as permitted by him.
- 3) The Tenderer is required to submit a non-judicial Stamp Paper of Rs. 100/- (Rupees one hundred Only) with a Rs. 1/- revenue stamp affixed there on. In case the tender is received without non-judicial stamp paper worth Rs. 100/- it will not be considered.
 - 4) Vide G.O. No. 1916/17-8-A-32-185 dated 17.10.85 of U.P. Govt. the Tender is required to submit non-judicial stamp paper as per the direction of Greater Noida Industrial Development Authority on the full security of the bonded amount at the time of signing contract documents.

CLAUSE 1: SECURITY DEPOSIT

The Contractor shall permit GNIDA at the time of making any payment to him for work done under the contract to deduct at the rate of 5% (Five Percent) of gross amount of each running account bill, on account of security deposit until such deduction along with the sum already deposited as earnest money (to be adjusted in the last deduction) will amount to security deposit of 5% of the Actual of work.

Such deduction will be made and held by the GNIDA by way of security deposit unless he/they has/have deposited the amount of security at the rate mentioned above in cash or in the form of Govt. securities or Fixed Deposit receipt or Guarantee Bonds of any Scheduled Bank in India if the security is furnished in the form of Guarantee Bonds the Contractor undertakes to review and to furnish fresh guarantee to cover the period of time of extension, if any, and failure on his part to do so shall be considered as breach of contract and without prejudice to any other remedy provided in these conditions, the Engineer-in-charge shall have the right to withhold payments and deduct entire security amount from any money becoming payable to the contractor under this or any other contract with the GNIDA.

The amount of the security money shall, if not withheld on account of breach of contract, be refunded after twenty four months (50% after 12 months & 50% after 24 months) of the date of completion of the work or after payment of the final bill, whichever is later provided that in case that payment of final bill is not made within twelve months of the completion of the work 75% of the amount of the security money can be refunded with the prior approval of the authority next higher to the person accepting the contract on behalf of GNIDA.

All compensation or other sum of money payable by the contractor to GNIDA under the terms of this contract may be deducted from or paid by the sale of sufficient part of his security deposit, or from the interest arising therefore or from any sums which may be due to, or may become due to contractor by GNIDA on any account whatsoever, and in the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid the contractor shall within ten days thereafter make good in cash or Government securities endorsed as aforesaid, any sum or sums which may have been deducted from or raised by sale of his security deposit, or any part thereof.

CLAUSE-2 : COMPENSATION FOR DELAY

The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be reckoned from the 10th day after the written order to commence work is given to the contractor. The work shall throughout the stipulated period of the contract be proceeded with all due diligence (time being deemed to be the essence of the contract on the part of Contractor) and the Contractor shall pay as compensation an amount equal to one percent of estimated cost or such smaller amount as the Greater Noida (whose decision in writing shall be final) may decide on the amount of the estimate cost of the whole work as shown in the tender for every day that the work remains uncommenced after the proper date and further to ensure good progress during the execution of the work the contractor shall be bound in all cases in which time allowed for any work exceed one month to complete one eighth of the whole of the work before one fourth of the whole time allowed under the contractor has elapsed, three eighth of the work before half of the of such time has elapsed and three fourth of the work before three fourth of such time has elapsed. In the event of the Contractor failing to comply with this condition he shall be liable to pay as compensation an amount equal to one percent, or such smaller amount as the Greater Noida (whose decision in writing shall be final) may be decided on the said estimated cost of the whole work for every week that the due quantity of work remains incomplete, provided that before taking action under this Clause the officer accepting the contract on behalf of the Greater Noida, shall give a notice of 15 days in writing to the Contractor and provided always that the entire amount of compensation to be paid under the provision of this Clause shall not exceed 10% of estimated cost put to tender (to struck off, in all cases when the time allowed for completion does not exceed one month).

CLAUSE-3 : ACTION WHEN WHOLE OF SECURITY DEPOSIT IS FORFEITED:

The officer accepting the contract on behalf of the GNIDA or the Engineer-in-Charge shall have the power, without prejudice to his right against the contractor in any respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provision of this contract or otherwise and whether the date for completion has or has not elapsed by notice in writing to determine the contract in any of the following cases.

- a) If, the Contractor having been given by the Engineer-in-charge, a notice in writing (which notice under the hand of the Engineer-in-charge communicated through the Assistant Manager/Manager/Senior Manager/General Manager (Proj.) shall be conclusive evidence) to rectify, reconstruct or replace any defective work or any work damaged by any reason what-so-ever or that the work is being performed in any inefficient or otherwise improper or unworkman like manner shall omit to comply with the requirements of such notice for a period of seven days thereafter of such notice or if the contractor shall delay or suspend the execution of the work so that either in the judgment of the Engineer-in-charge (which shall be final and binding) he will be unable to secure completion of the work by the date of completion or he has already failed to complete the work by the date.
 - b) If the contractor being a company shall pass a resolution or the Court shall make an order that Company shall be wound up or if a Receiver or a Manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the Court or creditor to appoint a Receiver or Manager or which entitle the Court make a winding up order.
 - c) If the Contractor commits breach of any of the terms and conditions of this contract other than those mentioned in Sub-Clause -a above.
 - d) If the Contractor commits any facts mentioned in Clause -21 hereof.
2. When the Contractor has made himself liable of action under any of the cases aforesaid the officer accepting the contract on behalf of GNIDA or the Engineer-in-charge shall have powers to adopt any one or more of the following courses as he may deem best suited to the interest of the Greater Noida.

- i) To determine or rescind the contract as aforesaid (of which termination or rescission notice in writing to the Contractor under the hand of the Engineer-in-charge or communicated through Manager/Sr. Manager/ General Manager (Proj.) shall be conclusive evidence) upon such determination or rescission the security deposit of Contractor shall be liable to the forfeited and shall be absolutely at the disposal of the GNIDA.
 - ii) To employ labour paid by the department and to supply materials to carry out the works or any part of the work debiting the Contractor with the cost of the labour and price of the materials of the amount of which cost and the price of certificate under the hand of the Engineer-in-Charge communicated through the Manager/Sr. Manager/General Manager (Proj.) shall be final and conclusive against the contractor and the crediting him with the value of the work done in all respects in the same manner and at the same manner and at the same rates as it had been carried out by the Contractor under the terms of this contract. The certificate of the Engineer-in-charge as to the value of the work done shall be final and conclusive against the Contractor, provided always that action under this sub-clause shall only be taken after giving notice in writing to the contractor provided also that if the expenses incurred by the Department are less than the amount payable to the contractor at his agreement rates, the difference shall not be paid to the contractor.
 - iii) After giving notice to the contractor to measure-up the work of the Contractor and to take such whole, or balance, or part thereof as shall be un-executed out of his hands and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer-in-charge shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by the GNIDA under this contract or on any other account whatsoever or from his security deposit or the proceeds of sales thereof or a sufficient part thereof as the case may be.
3. In the event of any one or more of the course mentioned in sub-clause-2 above being adopted by the Engineer-in-charge the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any material or entered into any engagement or made any advance on account or with a view to the execution of the work or the performance of contract and in case action is taken under any provisions aforesaid the Contractor shall not be entitled, to recover or be paid any sum for any work thereof actually performed under this contract unless and until the Engineer-in-charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

CLAUSE-4 : CONTRACTOR REMAINS LIABLE TO ANY COMPENSATION EVEN IF ACTION NOT TAKEN UNDER CLAUSE-3 (POWER TO TAKE POSSESSION OF REQUIRE REMOVAL OF OR SELL CONTRACTOR'S PLANT)

In any case in which any of the powers conferred upon the officer accepting the contract on behalf of the GNIDA or the Engineer-in-Charge by Clause-3 hereof shall have become exercisable and the same are not exercised the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such power shall notwithstanding be exercisable in the event of any future case of default by the contractor for which by any clauses or clause hereof he is declared liable to pay compensation and the liability of the Contractor for past and future compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the power vested in him under the preceding clause the Engineer-in-Charge may if he so desire take possession of all or any tools, plant, materials or stores in or upon the

works. Power to take possession of or require removal of or sell Contractor's plant at the site thereof or belonging to shall the Contractor or procured by him & intended to be used for execution of the work or any part thereof paying or allowing for the same in account at the contract rates in the case of these not being applicable at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final otherwise the Engineer-in-Charge may by notice in writing to the Contractor or his clerk of the works, foreman or other authorized agent require him to remove such tools, plants, materials or stores from the premises [within a time to be specified in such notice), and in the event of the Contractor failing to comply with, any such requisition the Engineer-in-Charge may remove at Contractor's expenses or sell them by auction or private sale on the account of the Contractor and at his risk in all respects, and the certificate of the Engineer-in-Charge as to the expense of any such removal and the amount of the proceeds and expense of any sale shall be final and conclusive against the contractor.

CLAUSE 5: EXTENSION OF TIME

Time extension will be granted by Competent Authority as per delegated power.

If the work(s) be delayed by:

- (i) force majeure, or
- (ii) abnormally bad weather, or
- (iii) serious loss or damage by fire, or
- (iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- (v) delay on the part of other contractors or tradesmen engaged by Engineer-in Charge in executing work not forming part of the Contract, or
- (vi) any other cause like above which, in the reasoned opinion of the Engineer-in Charge or Competent Authority is beyond the Contractor's control.

then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless, use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineering-Charge to proceed with the works.

The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed above.

CLAUSE 6: COMPLETION CERTIFICATE AND MEASUREMENT OF WORK DONE

On Completion of the work the Contractor shall send a registered notice to the Engineer-in-Charge giving the date of completion and sending a copy of its to the office, accepting the contract on behalf of the GNIDA and shall request the Engineer-in-Charge to give him a certificate of completion, but no such certificate be given nor shall be work be considered to be complete until the Contractor shall have removed from the site on which work shall be executed, all scaffolding, surplus material sand rubbish and cleared off the dirt from all wood work, doors, windows, wall, floors, or other parts of any building in upon or about which the work is to be executed or of which he may have possession for the execution thereof, he had filled up the pits. If the Contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish & cleaning of dirt and filling of pits on or before the date fixed for completion of the work, the Engineer-in-Charge may at the expense of the Contractor remove such scaffolding material and the rubbish and dispose off the same as he thinks fit and clean of such dirt and fill the pits as aforesaid and the Contractor shall forthwith pay the amount of all expenses so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually released by the sale thereof.

On completion, the work shall be measured by the Engineer-in-Charge himself or through his subordinates whose measurement shall be binding and conclusive against the Contractor. Provided that if subsequent to the taking of measurements by the subordinate as aforesaid the Engineer-in-Charge had reason to believe that the measurements taken by his subordinates are not correct, the Engineer-in-Charge shall

have the power to cancel the measurements already taken by his subordinates and acknowledged by the Contractor and to take measurements again after giving reasonable notice to the Contractor and such re-measurements shall be binding on the Contractor (Ten days will apply towards at the headquarters of Engineer-in-Charge and thirty days for works at other places delete whichever not applicable).

Within ten days of the receipt of the notice Engineer-in-Charge shall inspect the work and if there is visible no defect on the face of the work, shall give the Contractor a certificate of completion. If the Engineer-in-Charge finds that the work has been fully completed, it shall be mentioned in the certificate to be granted. If on the other hand it is found that there are certain visible defects to be removed the certificate to be granted by Engineer-in-Charge shall specifically mention the details of the visible defects along with the estimate of the cost for removing these defects. The final certificate of completion of work shall be given after the visible defects pointed out above have been removed.

CLAUSE 7: PAYMENT ON INTERMEDIATE CERTIFICATE TO BE RELEASED AS ADVANCE.

No payments shall be made for works estimated to cost less than rupees twenty thousands till after the whole of the works shall have been completed and a certificate of completion given. But in the case of works estimated to cost more than Rupees Twenty thousand, Contractor shall on submitting the bill thereof be entitled to receive a monthly payment proportion etc. to the part thereof then approved and passed by the Engineer-in-Charge whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the Contractor. But all such intermediate payments shall be regarded as payments by way of advance against the final payments only and not as payments for work actually done and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed, or re-erected, or it shall not be considered as an admission of the due performance of the contract or any part thereof in any way in respect of the accruing of any claim nor shall it conclude, determine or affect in any way the powers of the Engineer-in-Charge under these conditions or any of them as to the settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract.

The final bill shall be submitted by the Contractor within one month of the date fixed for completion of the work or on the date of the certificates of completion furnished by the GNIDA and payment shall be made within three months of the submission of such bills, if the amount of the contract plus that of the additional items is upto Rs. 2 lacs and six months if the same exceeds Rs. 2 lac. If there shall be any dispute about any item or items of the work then the or six months or as the case may be. The Contractor shall submit a list of the disputed items within 30 days from the disallowance thereof and if he fails to do so, his claim shall be deemed to have fully waived and absolutely extinguished.

CLAUSE 8: BILL TO BE SUBMITTED MONTHLY

A bill shall be submitted by the Contractor each month on or before date fixed by the Engineer-in-Charge for all works executed in the previous months and the Engineer-in-Charge shall take or cause to be taken the requisite measurement for the purposes of having the same verified, and the claim as far as admissible, adjusted, if possible, before the expiry of ten days from the presentation of the bill. If the Contractor does not submit the bill within the time fixed as aforesaid the Engineer-in-Charge get the said work measured up on the presence of the Contractor whose counter signature to the measurement list will be sufficient warrant, and the Engineer-in-Charge may prepare a bill from such list which shall be binding on the Contractor in all respects.

CLAUSE 9: CONTRACTOR TO BE GIVEN ONE WEEK TIME TO FILE OBJECTION TO THE MEASUREMENTS RECORDED BY THE DEPARTMENT

Before taking any measurements of any work as referred to in Clauses 6.7 and 8 hereof the Engineer-in-Charge or a subordinate deputed by him shall give reasonable notice to the Contractor. If the Contractor fails to attend at the time of measurements after such notice or fails to countersign or to record the different within one week from the date of measurement in the manner required by the Engineer-in-Charge then and in any such event the measurement taken by the Engineer-in-Charge or by the subordinate deputed by him as the case may be shall notwithstanding the provision in Clause-8 be final and binding on the Contractor and the Contractor shall have no right to dispute the same.

CLAUSE 10: BILL TO BE ON PRINTED FORM

The contractor shall submit all bills on the printed forms to be had on applications at the office of the Engineer-in-Charge and the charges in the bills shall always be entered at the rates specified in the tender or in case of any extra work ordered in pursuance of these conditions and not mentioned or provided for in the tender at the rates there in after provided for such work.

CLAUSE 11: STORES SUPPLIED BY GNIDA

If the specification or estimate of work provides for the use any special description of materials to be supplied by the Engineer-in-Charge or if it required that the Contractor shall use certain stores to be provided by the Engineer-in-Charge (such materials and stores & the prices to be charged therefore as hereinafter mentioned being so far as practicable for convenience of the Contractor, but not so as in any way to control the meaning or effect of this contract, specified in the Schedule or memorandum hereto annexed) the Contractor shall be supplied with such materials and stores as are required from time to time be used by him for the purpose of the contract only, and the value of the full quantity of materials and stores so supplied at the rates specified in the said schedule or memorandum may be set off or deducted from any sums then due, or thereafter to become due to the Contractor under contract or otherwise or from the security deposit or the proceeds of sale thereof if the same is held in Government securities, the same or a sufficient portion thereof being in this case sold for the purpose. It shall be the responsibility of the Contractor to ascertain from time to time from the Engineer-in-Charge about the position for the availability of the materials as aforementioned and any delay on the part of the Engineer-in-Charge to arrange supplies of the same shall not entitle the Contractor to any compensation but in the event of all such delays the Contractor shall be granted reasonable extension of time. All materials supplied to the Contractor are the property of the Contractor, but shall not on any account be removed from the site of the work except with the written permission of the Engineer-in-Charge or under his order shall at all times be open to inspection by the Engineer-in-Charge. Any such material unused and in perfectly good condition at the time of the incompleteness or determination of the contract may, by special arrangement be taken over by GNIDA at the prevailing market rates if required for use on other works in progress provided that the price allowance shall not exceed the amount charged to the Contractor.

CLAUSE 12: WORK TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, ORDERS ETC.

The Contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner and both as regards material and otherwise in every respect in strict accordance with the specifications. The Contractor shall also confirm exactly, fully and faithfully to the designs drawings and instructions in writing relating to the work signed by the Engineer-in-Charge and lodged in his office, and to which the Contractor shall be entitled to have access to such office for the purpose of inspecting during office hours, and the Contractor shall be furnished free of charge one

copy of the specifications and of all such designs, drawings and instructions as are not included in the detailed.

CPWD specifications for buildings and roads enforced from time to time or any other printed publications on general specifications or ISI specifications referred to else where in the contract.

CLAUSE 13: ALTERATION IN SPECIFICATIONS AND DESIGN

The Engineer-in-Charge shall have power to make any alteration in, omissions from, additions to, or substitutions for, the original specifications, drawings, designs instructions that may appear to him to be necessary during the progress of the work and the Contractors shall carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substituted work which the Contractor may be directed to do in the manner above specified as part of the work shall be carried out by the Contractor on the same conditions in all respects in which he agreed to do the main work.

Extension of Time to Consequence of Alterations

The time for the completion of the work shall be extended in the proportion the altered additional or substituted work bears to the original contract work and the certificate of the Engineer-in-Charge shall be conclusive as to such proportion. Over and above this, a further period to the extent of 25 percent of the time so extended may be allowed to the Contractor.

The rate for such additional, altered or substituted work under this Clause shall be worked out in accordance with the following provisions in their respective order:

- i) If the rates for the additional, altered or substituted works are specified in the contract for the work, the Contractor is bound to carry out the additional, altered, or substituted work at the same rates as are specified in the contract for the work.
- ii) If the rate for the additional, altered or substituted works are not specifically provided in the contract for the work, the rates will be derived from the rates for similar class of work as are specified in the contract for the work.
- iii) If the altered, additional or substituted work includes any work for which no rates are specified in the contract for the work nor can be derived from the similar class of work in the contract, then such work shall be carried out at the rates entered in the DSR-2013 minus/plus percentage which the total tendered amount bears to the estimated cost of the entire work put to tender.
- iv) If the rates for the altered, additional, or substituted work cannot be determined in the manner specified in such Clauses (i) to (iii) above then the rates for such work shall be worked out on the basis of the DSR specified above minus/plus the percentage with the total tendered amount bears to the estimated cost of the entire work put to tender provided always that if the rate for a particular part or parts of the item is not in the Schedule of Rates the rate for such part or parts will be determined by the officer accepting the contract on behalf of GNIDA or Engineer-in-Charge on the basis of the prevailing market rates when the work was done.
- v) If the rates for the altered, additional or substituted work cannot be determined in the manner specified in Sub-Clauses (i) to (iv) above the Contractor shall within 7 days of the date of receipt of the order to carry out the work, inform the officer accepting the contract on behalf of the GNIDA or Engineer-in-Charge of the rate which is his intention to charge for such class of work supported by analysis of the rates claimed and the General Manager (Proj.) shall determine the rate or rates on the basis of the prevailing market rates and pay the Contractor accordingly. However the officer accepting the contract on behalf of the GNIDA or Engineer-in-Charge by the notice in writing will be at liberty to cancel his order to carry out such class of work and arrange to carry out in such manner as he may consider advisable but under no circumstances, the Contractor shall

suspend the work on the plea of non-settlement of rates of items failing under the Clause.

CLAUSE 14: NO COMPENSATION FOR ALTERNATION OR RESTRICTION WORK TO BE CARRIED OUT.

If, at any time, after the commencement of the work the GNIDA or the General Manager (Proj.) decide to abandon or reduce the scope of works for any reason whatsoever and hence or any part of work not require the whole or any part of works as specified in the tender to be carried out, the Engineer-in-Charge shall give notice in writing of the fact to the Contractor who shall have no claim to any payment or compensation whatsoever on account of any profit or advantage, which he might have derived from the execution of the work in full, but which he did not derive in consequence of the full amount of the work not having been carried out, neither shall he have any claim for compensation by reason of any alternations have been made in the original specifications, drawings, designs and instructions which shall involve any curtailment of the work as originally contemplated nor shall he have any claim to compensation by reason of his having purchased or procured materials with a view to execution of the work or the performance of the contract. But the Engineer-in-Charge shall have the option either to take over the materials at site, of approved quality and not in excess of the requirements of the work and to pay to Contractor the actual cost thereof the amount of which cost a certificate by the Engineer-in-Charge shall be binding on the Contractor. In the event of this option not being exercised the Contractor may submit to the Engineer-in-Charge within one month of the date of the order closing down the work detailed statement of the loss that the estimates he will sustain by removing selling or otherwise disposing of the materials. The estimate will be forwarded to the General Manager (Proj.) who will decide what sum, if any, should as a matter of grace be paid to the Contractor to compensate him for the loss suffered by him and the decision of General Manager (Proj.) shall be final and binding on the Contractor.

CLAUSE 15: ACTION AND COMPENSATION PAYABLE IN CASE OF BAD WORK

If, it shall appear to the Engineer-in-Charge or his subordinate-in-Charge of the work that any work has been executed with unsound, imperfect or unskilled workmanship or with materials of any inferior description or that any material or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, the Contractor shall on demand in writing from the Engineer-in-Charge specifying the work, materials articles complained/of not withstanding that same may have been inadvertently passed, certified and paid for forthwith rectify or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be remove the materials at his own proper charge and cost, and in the event of his failing to do so within a period to be specified by the Engineer-in-Charge in his demand aforesaid then the Contractor shall be liable to pay compensation at the same rate as under Clause-2 of the contract for this default also, while his failure to do so shall continue, and in the case of such failure the Engineer-in-Charge may rectify or remove and re-execute the work or remove and replace with others the materials or articles complained of as the case may be at the risk and expense in all respects of the Contractor.

CLAUSE 16: ACCEPTANCE OF SUBSTANDARD WORK AND CAUSING TECHNICAL EXAMINATION OF WORK.

GNIDA shall have the right to accept at reduce rate, substandard or defective work and to cause and audit and technical examination of the works and the running and final bills of the Contractor including all supporting vouchers abstracts etc. to be made before or after the payment of the final bills and if as a result of such acceptance of substandard or defective work, audit and technical examination any sum is found to

have been over paid in respect of any work done by the Contractor under the contract or any work claimed to have been done by him under the contract, but found not to have been actually executed the Contractor shall be liable to refund the amount of the over payment and that shall be lawful for GNIDA to recover the same from him in the manner prescribed in Clause (1) above or in any other manner legally permissible, and if it is found that the Contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment may be duly paid by GNIDA to the Contractor.

Provided that the substandard or defective work accepted is not considered to be seriously defective by the Engineer-in-Charge and the rate of the work so accepted is suitably reduced by him to compensate the GNIDA and such reduction is binding on the Contractor.

CLAUSE 17: WORK TO BE OPEN TO INSPECTION CONTRACTOR OR RESPONSIBLE AGENT TO BE PRESENT.

All works under or in the course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer-in-Charge and his subordinate and the Contractor shall at all times during the usual working hours and at all other time at which reasonable notice of intention of the Engineer-in-Charge or his subordinate to visit the works shall have been given to the Contractor either himself be present to receive orders and instructions, or have a responsible agent duly accredited in writing present for that purpose (orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the Contractor himself).

Greater Noida as to any matter as to which under these conditions he is entitled to be satisfied or which he is entitled to be satisfied or which he is entitled to require together with carriage therefore to and from the work. The Contractor shall also supply without charge the requisite number of persons with the means and materials also necessary for the Purpose of setting to works and counting, weighing and assorting in the measurements or examination at any time and from time to time the work of materials. Failing his, so doing, the same may be provided by the Greater Noida at the expense of the Contractor and the expenses may be deducted from the money due to the Contractor under the contract or from his security deposit or the proceeds of sale thereof or a sufficient portion thereof.

CLAUSE 18: NOTICE TO BE GIVEN BEFORE WORK IS COVERED UP.

The Contractor shall give not less than five days notice in writing to the Engineer-in-Charge or his subordinate in charge of the work before covering up or otherwise placing beyond the reach of the measurement any work in order that the same may be measured and correct dimension thereof be taken before the same is so covered up or placed beyond the reach of the measurement and shall not cover up or placed beyond the reach measurement and work without the consent in writing of the Engineer-in-Charge or his subordinate-in-Charge of the work, and if any work, and shall be covered up or place beyond the reach of measurement without such notice having been given or consent obtained the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

CLAUSE 19: CONTRACTOR LIABLE FOR DAMAGE DONE & FOR IMPERFECTIONS FOR TWENTY FOUR MONTHS/ TWO YEARS AFTER CERTIFICATES.

If, the Contractor or his work people or servants shall break, deface, injure or destroy any part of a building, road, fence, enclosure or grass land or cultivated ground contiguous to the premises on which the work or any part thereof is being executed, or if any damage shall happen to the work while in progress from any case whatsoever, or any defect shrinkage or other faults appear if it within **TWENTY FOUR**

MONTHS/TWO YEARS after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid the Contractor shall make the same good at his own expense or in default the Engineer-in-Charge may cause the same to be made good by other workmen and deduct the expense of which the certificate of the Engineer-in-Charge shall be final from any sums that may then or at any time thereafter become due to the Contractor or from his security deposit or the proceeds of sale thereof a sufficient portion thereof or any other manner legally permissible.

CLAUSE 20: CONTRACTOR TO SUPPLY PLANT LADDERS SCAFFOLDING ETC.

The Contractor shall provide at his own cost all materials (except such special materials if any as may in accordance with the contract be supplied from the Engineer-in-Charge's stores) plant, tools, appliances, implements, ladders, cordage, tackle, scaffolding and temporary works requisite for the proper execution of the work.

CLAUSE 20(A): DAMAGES ARISING FROM NON PROVISION OF LIGHT FENCING ETC.

The Contractor shall also provide all necessary fencing, lights required to protect the public from accident, and shall be bound to bear the expenses of defences of every suit, action or other proceedings at law what may be brought by any person for injury sustained owing to neglect of the above precautions, and to any such person, or which may with the consent of the Contractor be paid to Compromise any claim by any such person. If any equipment is issued departmentally, rent will be recovered from the Contractor's bills at current rates fixed by the General Manager (Proj.) terms of such issue to be ascertained by the Contractor from the Engineer-in-Charge in writing in advance.

CLAUSE 21: WORK NOT TO BE SUBLET.

The contract shall not be assigned or sublet without the written approval of the officer accepting the contract on behalf of the GNIDA and if the Contractor shall sign to sublet his contract or attempt so to do, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempts so to do, or if any bribe, gratuity, gift, load perquisite, reward or advantage pecuniary or otherwise shall either directly or indirectly be given, promised or offered by the contractor or any of his servants or agents to any public officer or person in the employ of GNIDA in any way relating to his officer or employment or if any such officer or person shall become in any way directly or indirectly interested in the contract, the officer accepting the contract on behalf of the GNIDA or may thereupon by notice in writing rescind the Contract and the security deposit of the Contractor shall thereupon stand forfeited and be absolutely at the disposal of GNIDA and the same consequence shall ensue as if the contract had been rescind under Clause-3 hereof, and in addition the Contractor shall not be entitled to recover or be paid for any work thereto or actually performed under the contract.

CLAUSE 22:

The Contractor shall not for the execution of the work employ any labour under 12 years of age and within the limits of any cantonment, any female labourer. For every breach of this Clause the Contractor shall be liable to pay by way of liquidated damages such sum not exceeding fifty rupees as the Engineer-in-Charge may fix, and the Engineer-in-Charge may recover such sum by deduction from and sums which may be due or may at any time, thereafter, become due to the Contractor.

CLAUSE 23:

- a) The Contractor shall pay to his labourers a fair wage and supply every labourer employed by him with a wage card on which the rate of wage, the attendance and payments will be entered.

- b) The Contractor he commences work shall paste in a conspicuous place of the work a notice giving the rates of wages which shall not be less than the minimum wages applicable and where no minimum wage are applicable the ways will be such as may be certified as fair wages by the Engineer-in-Charge and shall send a copy of the notice to the Engineer-in-Charge.

CLAUSE - 24:

All statutory provisions shall bind the Contractor with regard to the period for which wages shall be paid and deduction from wages.

CLAUSE 25:

The Contractor shall comply with all labour laws as applicable at the site of the work.

CLAUSE 26:

In respect of all labour directly or indirectly employed in the works for the performance of the Contractor's part of this agreement the Contractor shall comply with or cause to be complied with all the directions issued by GNIDA from time to time for the protection of health and sanitary arrangements for workers employed by the departments for workers employed by the department and its Contractor.

CLAUSE 27: MATERNITY BENEFIT RULES FOR FEMALE WORKERS EMPLOYED BY CONTRACTORS

Leave and pay during leave of all labour employed by the Contractor shall be regulated as follows:

1) Leave

- i) In case of delivery, maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day.
- ii) In the case of miscarriage upto 3 weeks from the date of miscarriage. In case of delivery-leave pay during maternity leave will be at the rate of Women's average daily earning calculated on the total wages earned on the days when full time work done during a period of 3 months immediately preceding the date on which she gives notice that she expects to be confined or at rate of seventy five paise a day which ever is greater.
- iii) In the case of miscarriage leave pay the rates of average daily earning calculated on the total wages earned on the day when full time work was done during a period of three months immediately preceding the date of such miscarriage.
- iv) Conditions for the grant of maternity leave: No maternity leave benefit shall be admissible to woman unless she has/shall employed for a total period not less than 6 months immediately preceding the date on which she proceeds on leave.

In the event of the Contractor committing a default or breach of any of the provisions of the GNIDA's directions to Contractor for the protection of health and sanitary arrangements for the workers or furnishing any information of health and sanitary arrangements for the workers or furnishing any information or submitting materially incorrect, the Contractor shall without prejudice to any other liability pay to GNIDA a sum not exceeding 50/- [for every default or breach and in the event of the Contractor defaulting for each day or default subject to a maximum of 5% of the tendered cost of the work. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the Contractor is not properly observing and complying with the said directions for the protection of health and sanitary arrangements for work people employed by the Contractor (herein referred as the said directions) the Engineer-in-Charge shall have power to give notice in writing to the Contractor requiring that the said directions be complied with and the amenities prescribed there in the notice. If the Contractor fails- within the period specified in the notice to comply with and observe the said direction and to provide the amenities to the work people as aforesaid, the mentioned at the cost of the Contractor. The Contractor shall erect, make and maintain at his expense and according to approved standards all necessary huts and sanitary arrangements required for his work people on the site in connection with the execution of the work and if the same shall not have been erected or constructed, according to the approved standards the Engineer-in-Charge shall and sanitary arrangements be remodelled and/or reconstructed according to approved standards) and if the Contractor fails to remodel or reconstruct such huts and sanitary arrangements according to the approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the Contractor.

CLAUSE 28:

The Contractor shall at his own cost provide his labour with number of huts (herein after referred to as the camp) of the following specification son a suitable plot of land to be approved by the Engineer-in-Charge.

- 1(a) The minimum height of each hut at the eye level shall be 7 feet and floor area to be provided will be at the rate of 30 Sq. feet for each member of the workers' family staying with the labourer.
 - 1(b) The contract shall in addition construct suitable cooking place having a minimum area 6'x5' adjacent to the hut for each family.
 - 1(c) The Contractor shall also construct temporary latrines and urinals for the use of the labourers, each on the scale of not less than four each per one hundred of the total strength latrines and urinals being provided separately for women.
 - 1(d) The Contractor shall construct sufficient number of bathing and washing places one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- 2(a) All the huts shall have walls of sun-dried bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun dried bricks the wall should be plastered with mud gobi on both sides. The floor may be kutcha but plastered with mud gobi and shall be at least 6" above the surrounding ground. The roofs shall be laid with thatched or any other material as may be approved by the Engineer-in-Charge and the Contractor shall ensure that throughout the period of their occupation the roofs remain watertight.
 - 2(b) The Contractor shall provide each hut with proper ventilation.
 - 2(c) All doors windows and ventilators shall be provided with suitable leaves for security purposes.
 - 2(d) There shall be kept an open space of at least 7 yards between the rows of huts, approval of the Engineer-in-Charge back to back construction will be allowed.

3. **Water Supply**

The Contractor shall provide adequate supply of water for the use of labourer. The provisions shall not be less than 2 gallons of pure and wholesome water per head per day for drinking purposes and 3 gallons of clean water per head for bathing and washing purposes. Where pipe water supply is available, the supply shall be at stand posts and where the supply is from wells or river, tanks that may be of metal or masonry shall be provided. The Contractor shall also, at his own cost, make arrangements for laying pipe lines for water supply to his labour camp from the existing main where available and shall pay all fees and charges therefore.

4. The site selected for the camp shall be high grounds, removed from jungle.

5. **Disposal of excreta**

The Contractor shall make necessary arrangement for the disposal of excreta from the latrines by trenching or incineration, which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the Contractor shall make arrangement for the removal of excreta through the Municipal Committee/Authority and inform about the number of labourers employed so that arrangement may be such Committee/Authority for the removal of excreta. All charges on this account shall be borne by the Contractor and paid direct by him to municipality authority. The Contractor shall provide one sweeper for every eight seats in case of dry system.

6. **Drainage**

The Contractor shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.

7. The Contractor shall make necessary arrangements keeping the camp area sufficiently lighted to avoid and ancient to the worker.

8. **Sanitation**

The Contractor shall make arrangements for conservancy and sanitation in the labour camp according to the rules of the Local Public Health and Medical Authorities.

CLAUSE 29: SUM PAYABLE BY WAY OF COMPENSATION TO BE CONSIDERED AS REASONABLE COMPENSATION WITHOUT REFERENCE TO ACTUAL.

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of GREATER NOIDA without reference to the actual loss or damages sustained and whether or not any damage shall have been sustained.

CLAUSE 30: CHANGE IN CONSTITUTION OF FIRM

In the case of tender by partners any change that constitution of the firm shall be forthwith notified by the Contractor the Engineer-in-Charge for his information.

CLAUSE 31: WORKS TO BE UNDER DIRECTION OF ENGINEER-IN-CHARGE

All works to be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge for the time being who shall be entitled to direct at what point or points in what manner they are to be commenced and from time to time carried on.

CLAUSE 32: PROTESTS/DISPUTES AND ARBITRATION

a) If the Contractor considers any work demanded of him to be outside the requirements of contract or considers any record or ruling of the Engineer-in-

Charge or of his subordinates to be unfair, he shall immediately upon such work being demanded or such record or ruling being made ask in writing for written instructions or decisions, where upon he shall proceed without delay to perform the work or confirm to the procedure or ruling and within twenty days after date of receipt of the written instructions or decision he shall file a written protest with the Engineer-in-Charge stating clearly in detail the basis of his objections, Except for such protest or objections as are made on record in the manner herein specified, and within the time limit, stated, the recorded rulings instructions of decisions of the Engineer-in-Charge shall be final and conclusive. Instructions or decisions of Engineer-in-Charge contained in letters transmitting drawing to the Contractor shall be considered as written instructions or decisions subject to protest or objection as wherein provided.

- b) If the Contractor is dissatisfied with the final decision of Engineer-in-Charge in pursuance of Clause 32(a) the Contractor may within twenty-eight days after receiving notice of such decision give notice in writing requiring that the matter be submitted to arbitration and furnishing detailed particulars of the dispute or difference specifying clearly the point at the issue. If the Contractor fails to give such notice within the period of Twenty days is stipulated above the decision of Engineer-in-Charge/GNIDA shall be conclusive and binding on the Contractor.

CLAUSE 33: ARBITRATOR

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions herein before mentioned and to the quality of workmanship or materials used on the work or as to any other question claim right or rates for extra items sanctioned and decided or not by the competent authority under the conditions of this contract, designs, drawings, specifications, estimates instructions or order on these conditions or otherwise concerning the work or the executive or failure to execute the same whether arising during the progress of the work or after the person or person appointed by the Chief Executive Officer, GNIDA. It will be no objection to any such appointment that the matter to which contract relates and that in the course of his duties as GNIDA servant, he had expressed views on all or any of the matters in dispute or differences. The arbitrator to whom the matter is originally or subsequently referred being incapacitated to act the Chief Executive Officer of the GNIDA shall appoint another person to act as arbitrator in accordance with the term of contract. It is also a term of his contract that no person other than a person appointed by the Chief-Executed Officer of the GNIDA as aforesaid/shall act as arbitrator and if for any reason, that is not possible, the matter is not to be referred to the arbitration at all. The arbitrator(s) may from time to time with consent of the parties enlarge the time for making and publishing the award.

Subject as aforesaid the provisions of the Arbitration Act. 1940 or any statutory modification or re-enactment thereafter and the rules made thereunder and for the time being in force shall apply to the arbitration proceeding under this clause.

CLAUSE 34 : ACTION WHERE NO SPECIFICATION IS GIVEN.

In the case of any class of work for which there is no specification in the contract. Such work shall be carried out in accordance with the detailed CPWD/ISI specification/MOST specifications and in the event of there being no detailed specifications for the same work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-charge.

CLAUSE 35: CONTRACTOR'S PERCENTAGE

The addition and deduction on account of the percentage referred to at page of the accepted tender will be calculated on the gross and not the net amounts of bills for work done.

- 1) In every case in which by virtue of the provisions of section 12 Sub-section(i) of the Workmen Compensation Act 1923. GNIDA is obliged to pay compensation to a workman employed by the Contractor or by any Sub-Contractor from him in the execution of the said work, GNIDA will recover from the Contractor the amount of the compensation so paid and without prejudice to the rights of

GNIDA under section 12 Sub-section (2) of the said Act. GNIDA shall be at liberty to recover such amount or any part thereof by deducting it either from the security deposited by the Contractor to his credit under Clause (1) of these conditions or from any other sum due to GNIDA from the Contractor whether under this contract or otherwise.

2. GNIDA, shall not be bound to contest any claim made against it, under section 12 sub-section (1) of the said Act except on the written request of the Contractor and upon his giving to GNIDA full security for all costs for which GNIDA might become liable in consequence of contesting the claim.

CLAUSE 36:

No bricks for use on the work shall be manufactured within the limits of a Municipality or Cantonment or Notified Area or within half a mile of the site of work. Any brick so manufactured may be rejected by the Engineer-in-charge.

CLAUSE 37:

No earth for filling or for any other purpose, shall be excavated within half a mile of the site of work except with the written permission of the Engineer-in-charge and then only on condition that the area in which such excavation is made shall be levelled and dressed by the Contractor at his own expense in accordance with the instructions of the Engineer-in-Charge and in such a manner as to prevent the formation of pools of stagnant water.

If the Contractor fails to comply with this condition, the Engineer-in-Charge may cause the ground to be levelled and dressed by other workmen and deduct expense (of which the certificate of the Engineer-in-Charge shall be final) from any sums which may be or may at any time thereafter become due to the Contractor or from his security deposit or from the proceeds of sale thereof.

CLAUSE 38:

Without prejudice to any other remedy provided by law the GNIDA shall recover all dues here from the Contractor as arrears of land revenues.

CONTRACTOR

**SENIOR MANGER
(E&M-___) GNIDA**

GENERAL

Good workmanship and approved materials are essential for the compliance of these specifications.

1. The installation shall be carried out in conformity with the requirement of the Indian Electricity Act 1910, the Indian Electricity Rules, 1956 as amended upto date, and the Regulations of the Electric Supply Authority concerned. A list of important clauses from the Indian Electricity Rules, 1956 are given in Appendix-I.
2. The work shall be done according to the specifications described below and in conformity to the latest issue of the relevant Standards Code of Practice. A list of important Codes is given in Appendix-II.
3. Only approved material shall be used. A list of approved materials has been issued separately. For items not covered in that list, the decision of the Engineer-Incharge shall be final. The 5A/6A and 15A/16A switches, sockets, ceiling roses and bell pushes etc. of I.S.I. mark approved by U.P.P.W.D. shall be used.
4. The work, in all cases, shall be started only after the samples of all materials, fittings etc., if so desired. The board will be displayed at the site till the completion of the work.
5. The work shall be carried out under the supervision of a person holding a Certificate of competency issued by the State Government for the type of works involved. The name and other particulars of the person shall be submitted to be Engineer-Incharge before the commencement of work.
6. After completion and erection, the portion of the building, road, land and other properties damaged during the erection of installation shall be repaired properly to original finish and colour by the contractor.
7. All the tests prescribed in Chapter 12 of this schedule shall be carried out in the presence of the Assistant Engineer-Incharge and test results submitted in the specified proforma given in Appendix-3. Installation with test results lower than those specified shall not be accepted. In addition to above, certificate required by Electric Supply Authority shall also be given by the Contractor.
8. After completion of work, completion certificate shall be submitted by the contractor signed by the Supervisor under whose supervision the work has been carried out in the specified proforma given in Appendix-4.
9. The contractor shall submit complete wiring diagrams of the installation in case of internal wiring works, schematic diagram of equipments and connection for substation and switch gear works and route layout plans in cases of overhead line and underground cable work on completion of the work.

The wiring diagram shall be submitted duly shown with the T.P.N. controls, distribution boards and the branch circuits, numbered serially indicated on the diagram.

The route layout plan shall be drawn on the site plan of the building. The marking of the underground cable shall be distinct from those of overhead lines. Different colours for different sizes of conductors shall be preferred. In case of overhead line work, the position and size of the poles, length span and size of conductors etc. shall be marked clearly on the plans. In the case of underground cable work, the number size, length of cables, position of cable joints and kiosks shall be marked clearly on the plan.

**SENIOR MANAGER
(E&M-___) GNIDA**

Annexure “X”

Special Conditions of Contract

(Supply & Installation of LED Street Lights and Centralized Control & Monitoring System on EPC Mode with Operation & Maintenance of 7 years in Greater Noida)

Note: These special conditions shall be read in conjunction with the General Conditions of the contract. Where the provisions of these Special Conditions are at variance with the provisions of the General Conditions of the contract the provisions of these special Conditions shall take precedence.

The special conditions of the contract are further bifurcated into 7 sections which discusses all the critical conditions and requirements of this project for Supply, installation and maintenance of 54,018 LED lights and maintenance of pre-installed 15,000 LED lights across Greater Noida. The clauses covered under special conditions of contract are as follows:

1 – Project Requirements and Technical Specifications

2 – Service Level Agreements

3 – Financial Evaluation of Bids

4 – Payment Terms and Milestones

5 – General Conditions of Contract

6 – Forms

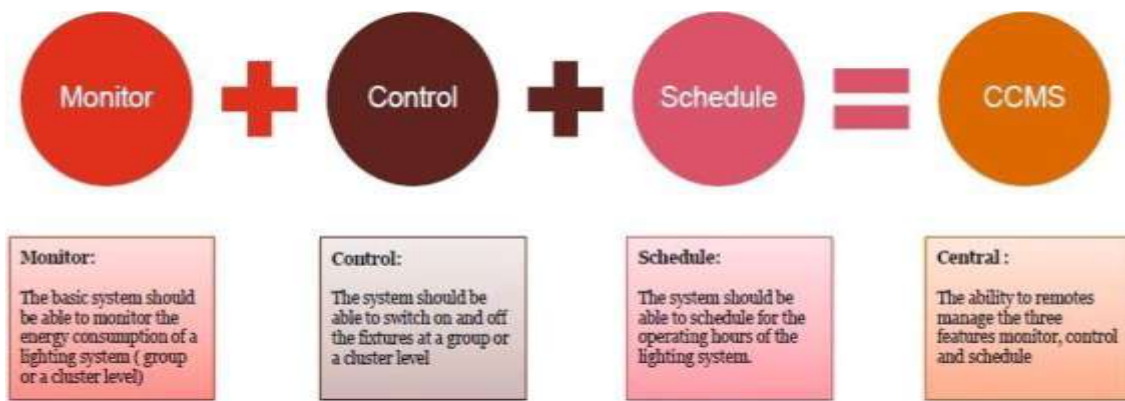
1. Project Requirements and Technical Specifications

1.1 Scope of Services

The scope of services of this project involves but not limit to the following:

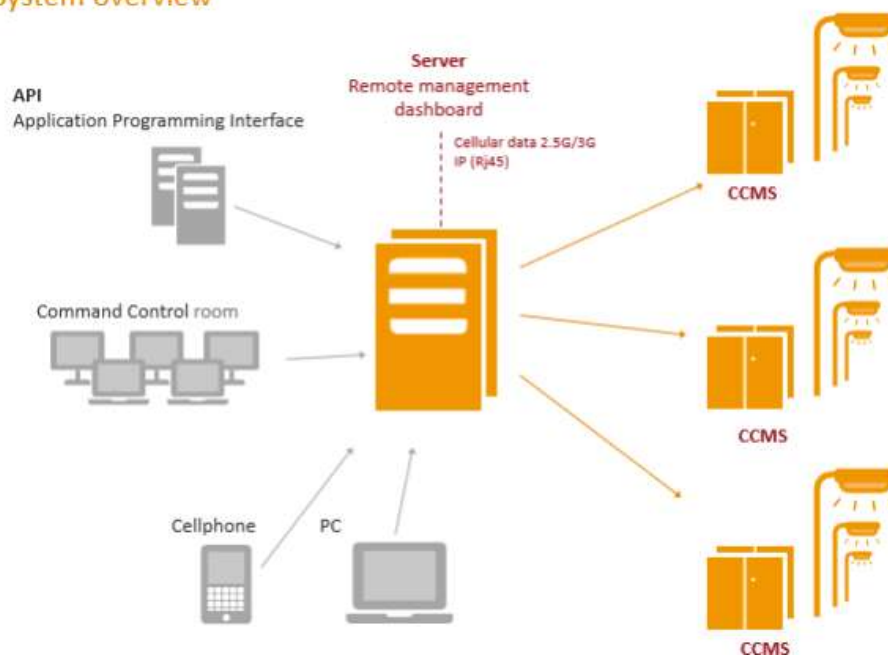
1. Supply, Installation & Replacement of 54,018 electrically powered LED lights in Greater Noida.
2. The installed lights must ensure minimum 50% energy saving for GNIDA compared to current energy billing of lights. *Note: The installed streetlights must ensure minimum 50% energy saving for GNIDA compared to current (pre-replacement) total energy load. This shall be only applicable to replacement of 54,018 streetlights and exclude existing LED streetlights (approx. 15000). This is to ensure that minimum 50% saving is achieved by GNIDA for the complete duration of the project. In addition, the Bidder shall also ensure there is no electricity theft at the pole or junction box/group controller level impacting electricity saving.*
3. Maintenance of the entire wiring infrastructure from Sub-station to Circuit box and Circuit Box to the LED light bulb installed/replaced under this project.
4. Installation of group controllers as and where required on each location.
5. Operation and Maintenance of the entire system including wiring infrastructure for 7 (seven) years. In addition to the installed Infrastructure, operation and maintenance must involve, 15,000 preinstalled LED lights by GNIDA.
6. Setup a Grievance Redressal system/Help desk -
 - Set up a 24X7 centralized helpdesk for the project for entire project Period;
 - Handle user queries and issues
 - Helpdesk is required to ensure that users can log calls and complaints for any technical
 - issues they face while accessing the system.
 - Standard Operating Procedures (SOPs) to be created to resolve queries
 - In addition to the telephone call, the Bidder shall also provide other channels for call logging like email, web interface and social media accounts;
 - Establish a two-way communication mechanism. I.e. the complainant shall be intimated once the complaint registered by him/her is resolved.
 - Language Capabilities: Hindi and English;
 - Service window for Help Desk is 365X24X7 (Monday to Sunday);
 - Call statistics will be analysed every quarter after Go-Live
7. Develop a Central Control & Monitoring System (CCMS) at the office of GNIDA which must have following capabilities:

Basic Functions of CCMS:



1.1.1 System/Function Architecture

System overview



1.1.2 Controller Metering Unit

- Schedule the timing of lights (pre-programmed based on astronomical clock or on field or through central control).
- ON / OFF Switching and group dimming (5 level excluding on/off) (for auto/manual operation on field).
- Capture the energy usage and other parameters at pre-determined interval and store data for 45 days.
- Ability to connect with a communication device (like mobiles, tablets, etc.) wirelessly or LAN (wired)
- Ability to download data in field.
- System protection against surges. The controller should have inbuilt communication module.
- Ability to communicate securely with any wireless or wired networks
- Two-way communication.
- Ability to send data regarding energy usage, ON/OFF/Dim status etc.
- Ability to give commands from a central level for switching ON/OFF, scheduling etc.

1.1.3 Enclosure

- Even both controller and communication are utilized it should be a single compact unit.
- Should be tested for tropical conditions & be made of fire-resistant Steel (FRS) material and IP65.

I. Software

- A web-based / cloud-based software package with a detailed information dashboard. Front end to be developed using open-source language (or any equivalent). GUI should be easy to navigate.
- This software shall be cloud-hosted and securely accessible in the office of GNIDA, on multiple client machines
- The vendor shall be responsible to provide Open API's to connect to ICCM Master System / ERP/GIS etc. Integrator for integration of the streetlight CCMS with the ICCM Software/ ERP/GIS etc. for integrated city dashboard, monitoring, control and alert management.
- The vendor shall set-up a control room in the office of GNIDA to monitor the entire LED Street light operations, on 4 screen video wall with all extended infrastructure like server, switches, complete setup & basic furniture etc.
- Software shall have ability to show the status of each CCMS on the dashboard.
- Software shall have ability to schedule and switch ON/OFF/Dim controllers remotely through the dashboard.
- Software shall have ability to incorporate logics to determine fault detection and power thefts
- Software shall have ability to DIM (group level) / Control / Manage / Monitor the Streetlight installation
- Software should operate with successful creation of log-in credentials.

1.2 Technical Specifications of Installations

The technical Specification must involve but not limit to the following:

1.2.1 LED Lights

The LED lights to be installed must comply to the following specification and the Bidder must furnish the required certifications along with the bid documents:

#	Typical Specifications of LED streetlights	Supporting Documents to be furnished with the Bid
1.	LEDs to be >1W and <5W Only high-power, ceramic base, single die suitable for outdoor use are permitted. Multi-chip array, multi-die, mid-power, integrated arrays, & COBs are not permitted.	LED Technical Data Sheet
2.	Life span of LED Luminaires including drivers shall be minimum 50,000 hours at 70% light output. BIS Certification for LED Luminaire and Driver both are to be produced.	LM-80/ IS16105, L70 & TM 21 Test. Test report including technical data sheet of LED

#	Typical Specifications of LED streetlights	Supporting Documents to be furnished with the Bid
3.	Color rendering index (CRI) of LEDs used in luminaire shall be greater than 70 as per DLC.	Chip LM (Lumen)
4.	LED chip efficacy shall be more than 135 Lumens/ watt at Tj 25 degrees Celsius	LED Technical Data Sheet
5.	Junction Temperature (Tj) should be < 105 degree Celsius	Manufacturer self-certification
6.	Photo Biological Safety Report for the LEDs as per IEC 62471 and assessment of blue light as per IEC/TR 62778-Ed 1.0	Photo Biological Safety Report
7.	Color temperature of the luminaire shall be nominal 3,000K for replacement of 250W HPSV at main roads and 5,700K for balance LEDs (Correlated Color Temperature as per BIS only), 5,700K (nominal value with tolerance as per ANSI C78.3 CCT)	LM-79 report for both types of LEDs to be submitted by the Bidder
8.	Power Factor >0.95	LM-79 report
9.	System Efficacy shall be >110 lumens/watt	LM-79 report
10.	Lumen depreciation should not be more than 30% @ rated life completing L70, B50 certification	L-80 report to be submitted and manufacturer has to provide a self-certification
11.	The Luminaires light output (lumen) shall be constant. The voltage variations/ fluctuations in the specified voltage range shall not impinge upon the lumen it produces (except during dimming). Maximum +/- 2% is allowed throughout in the input operating voltage	Self-Declaration
12.	The driver should be potted and should be able to withstand voltage stress of 440V for 8 hours. The driver should also have an auto-shutdown @325V and have an auto-recovery feature	NABL accredited lab report (National Accreditation Board for Testing calibration Laboratories) – From Supply

#	Typical Specifications of LED streetlights	Supporting Documents to be furnished with the Bid
		Lot only
13.	Over-voltage cut off limit @325 V & automatic restoration	NABL accredited lab report – From Supply Lot only
14.	Total Harmonic Distortion should be < 10 % THD – Test Method IEC:610003-2	NABL accredited lab report
15.	LED Driver current should be $\geq 250\text{mA}$ and $< 1200\text{mA}$	LM-79 report
16.	LED driver efficiency should be $> 85\%$ potted driver	LM-79 report
17.	Heat Dissipation/ Heat Sink: Well-designed thermal management system with defined high pressure die cast aluminium heat sink	NABL accredited lab report – From Supply Lot only
18.	The luminaire housing shall be made up of corrosion free High-Pressure Aluminium die cast thus conforming the luminaire to minimum IP-66 for all wattages and safety as per IEC 60598/IS 10322 (Only single housing fixture allowed)	NABL accredited lab report – From Supply Lot only
19.	The luminaire shall be equipped with distortion free, clear, heat resistant, toughened, UV (Ultra Violet) stabilized glass cover or integrated optics / Poly- carbonate cover in the front fixed to the die cast Aluminium frame which shall be fixed to the housing. Zinc plated steel or equivalent screws only to be used.	
20.	The luminaires shall be built in such a way that it can withstand wind speed of 150kmph (Impact resistance $\geq \text{IK05}$)	NABL Accredited lab report – From Supply Lot only
21.	Operating temperature range is -10 degrees Celsius and +50 degree Celsius	NABL accredited lab – From Supply Lot only
22.	Working Humidity range should be 10% to 90% Relative Humidity	NABL accredited lab – From Supply Lot only
23.	Conformation standards of luminaires (Test reports of luminaires) - The luminaires should conform to IEC 60598/	From NABL Certified Test

#	Typical Specifications of LED streetlights	Supporting Documents to be furnished with the Bid
	IS:10322. The luminaires should be tested as per IEC 60598-2-3:2002/ IS:10322 Part 5 Sec-3 standards and following test reports should be submitted: Thermal Test, Ingress Protection Test, Electrical / Insulation Resistance Test, Endurance Test, Humidity Test, Photometry Test (LM79 report),	report. TEST REPORT as per IS:10322 part 5 Sec-3 /IEC:60598-
24.	Finish – Aesthetically designed housing with corrosion resistant polyester powder coating	Self-Declaration
25.	Luminaires configuration/ technical requirement – Side Entry typ. Shall consist of separate optical and control gear compartments. It should be easily replaceable in the field condition	Self-Declaration
26.	Compliance – BIS/IS	Confirmation
27.	Surge Protection – External Surge Protection of minimum 10KV/5KV or 20KV/10KA to be separately installed with each unit	As per ANSIC 136.2-2014 (American National Standards Institute)
28.	LED Luminaires light output – Full lumen output should be available at standard voltage of 230V, Single phase	Test report from NABL accredited lab to be provided along with Equipment Installation Plan

Note: The bidder must ensure the technical specification to be strictly followed at the point of installation upon award of contract.

1.2.2 Specification of wiring network

1. Supply and Laying of LT cables

1.1KV Grade XLPE insulated PVC sheathed round wire armoured aluminium cable shall be 3.5C or 4 core of sizes as specified in the BOQs. The cable shall conform to IS: 7098, Part-I-1988.

All control wires shall be 650V grade copper conductor Halogen free fire retardant or FRLS PVC insulated, conforming to IS: 1554 Part I. The minimum size of the control wires shall be 1.5 sq.mm.

LT XLPE Cable-

- Voltage Grade :1100 V
- Relevant Standards: IS 7098 (Part - 1) 1988, up to date amendments
- Max Conductor Temp in Operation: 90 C
- Max Temp during Short Circuit: 250 C

- Short Circuit Rating Duration: 1 Second
- Type of Insulation: XLPE
- Type of Conductor: Aluminium as per BOQ
- Type of Armour: GI Round as per Standard
- Type of Outer Sheath: PVC extruded
- Selection Criteria: 04 core up to 16 sqmm and Inclusive and above 3.5 core

This technical specification covers complete manufacture, inspection, packing and forwarding and testing, commissioning, energizing power/Control cables and their laying as per site requirements including terminations, ferruling of cable strands, marking of lugs & cable glands, complete erection, testing and commissioning at site of FRLS power/ control cables etc. as detailed hereinafter in the specification/ BOQ.

2. Laying of Cables

Power and control cables laid directly buried in ground shall be laid generally conforming to the requirements of code of practice IS:1255 in so far as it is applicable. Generally, cables shall be taken at a depth of 500 mm from finished ground level and shall be provided at least 75 mm sand cushioning both at top and bottom and precast reinforced concrete protective covers

For 1,100 V grade power cables the horizontal axial spacing shall be 150 mm. Control cables shall be laid touching each other without any horizontal spacing. However, the distance of the control cable from the nearest power cables shall be 150 mm. Power and control cables may be laid in a common trench but laid separately in groups. Generally, cables shall be laid in one layer. In general communication cables shall not be taken in a common trench. In case the same is required to be taken along with power cables, the minimum axial spacing between two cables shall be 350mm where a brick separator shall be provided between the two cables and without brick separation the spacing shall be 500 mm.

Precast concrete protective cover shall be placed centrally along the cables. The concrete slab shall be of RCC type as per appendix C of IS:1255 of length having suitable provision for dovetailing with the adjacent slab. The length of the slab shall be 750 mm; the width however shall vary depending on the number of cables in the trench as well as axial spacing. The minimum width of slab shall not be less than 200 mm.

After laying of cables the trench shall be back filled with good excavated soil and well rammed in successive layers not less than 300 mm depth. The excavation of trenches shall be done with vertical sides and trenches shall be kept as straight as possible. The width of trench shall be in accordance with the number of cables to be laid out. In no case it shall be less than 400 mm. The minimum clearance between trench edge and cable shall not be less than 100 mm. along the route of the cable. Cable markers clearly indicating the voltage levels of the buried cables should be installed at an interval of every 15 meters.

At the turning and tee-off point of the cable trench suitably chamfering shall be made keeping in view of the minimum radius of the bend.

Where cables are required to crossroads, railway tracks and surface drains they shall be taken through reinforced concrete spun pipes at a minimum depth of 1000 mm.

For crossing water, oil, gas or sewage pipes etc. cables shall be taken above the pipes where minimum 500 mm clearance is available from top of pipes. Where 500 mm clearance is not available the cables shall cross these pipes through RCC pipes at a minimum depth of 1000 mm from finished ground level keeping the distance between the utility pipes and pipe carrying cables 250 minimum.

In each cable run some extra length shall be kept at a suitable point to enable one or two straights through joints to be made in case the cable develops fault at a later date. Also, when group of cables are laid together the cable length shall be adjusted to stagger the straight through joints.

3. Cable Termination and Joining

Termination and jointing of aluminium conductor power cables shall be by means of compression method using compression type aluminium lugs. Copper conductor control cables shall be terminated directly into screwed type terminals provided in the equipment. Wherever control cables are to be terminated by means of terminal lugs, the same shall be of tinned copper compression type.

4. Cable Tags

Cable tags shall be out of 2 mm thick aluminium sheets, each tag 1.5" in dia with one hole of 2.5 mm dia, 6 mm below the periphery. Cable designations are to be punched with letter / number punches and the tags are to be tied to cables with piano wires of approved quality and size. Tags shall be tied inside the panels beyond the glanding as well as below the glands at cable entries. Along trays tags are to be tied at all bends. On straight lengths, tags shall be provided at every 5 meters.

5. Poles

At the point of installation of LED fixtures, all the poles must be painted. Poles shall be installed as and where required for the following specifications:

4.0 mtr. High Galvanised Octagonal pole with Bottom 130mm A/F, Top 70mm. A/F made up of 3mm thick HT plate along with 200X200X12 mm base plate with 0.50mtr. long single arm bracket made of 4.8X3.0mm. Thick G.I. pipe and foundation bolts on plinth size 4X4-16X700mm with Anchor Plate for 4mtr. Octagonal pole complete in all respect. (AR)
9.0 mtr. High Galvanised Octagonal pole with Bottom 155mm A/F, Top 70mm. A/F made up of 3mm thick HT plate along with 250X250X16 base plate with 1.50mtr. long single arm bracket made of 48.3X3.25mm. Thick G.I. pipe and foundation bolts on plinth size 500mmX500mmX1850mm. (M-20 grade) with M24-J type Anchor bolt of size 750mm long X 24mm dia. with Rubber Gasket complete in all respect. (As per drawing) (AR)
10mtr. High Galvanised Octagonal Pole with Bottom 175mm A/F, Top 70mm A/F made up of 4mm thick HT plate along with 250X250X16 base plate along with 1.5mtr. long single arm bracket made of 48.3X3.25mm. Thick G.I. pipe and foundation bolts on plinth size 2200mmX650mmX650mm. (M-20 grade) with M24-J type Anchor bolt of size 750mm long X 24mm dia. and size of base plate 250mmX250mmX16mm. with Rubber Gasket complete in all respect. (AR)
12mtr. High Galvanised Octagonal Pole with Bottom 240mm A/F, Top 90mm A/F made up of 4mm thick HT plate along with 320X320X20 base plate along with 1.5mtr. long double arm bracket made of 48.3X3.25mm. thick G.I. pipe and foundation bolts on plinth size 2200mmX650mmX650mm. (M-20 grade) with M24-J type Anchor bolt of size 700mm long X 24mm dia. and size of base plate 320mmX320mmX20mm. with Rubber Gasket complete in all respect. (SOR-77)
20mtrs. High Mast System in two section for 47m/sec wind speed, foundation bolts, feeder pillar & other accessories foundation, erection, testing & commissioning of 20mtr. High Mast System with 160W, Lumens 16000 lms (typ) High Efficacy (Standard) LED fitting. (AR)
30 Mtr. High Mast system a) Mast shaft shall be in three sections, hot dip galvanized, inside and outside in single dip, suitable for wind velocity as per IS 875 part 3. There shall be only one longitudinal seam weld per section and no circumferential weld. It shall also include accessories for high mast including head frame, 2-point suspension system with steel wire rope 6mm dia. (7/19 construction) double drum winch, Galvanized Lantern carriage arrangement suitable for 12 luminaries symmetrically & its control gear boxes and lighting finial. The mast shall have an integral power tool at the base compartment for its raising & lowering operation. With foundation bolts manufactured from special steel along with nuts, washers, anchor plates & templates, and supply & fixing of integral LED floodlight asymmetric optics luminaries of 470W nominal and 56000 lumen and S/F of twin LED dome aviation obstruction lights and supply of control panel housing suitable control circuit for the remote automatic/manual operation & group dimming of the mast. B) Foundation and Erection suitable shallow foundation with M-20 concrete for the high mast considering the safe soil bearing capacity as 10T/Sqmtr depth Erection of the high mast with the help of suitable equipment & wiring of luminaries with all wiring material & labour G.I. pipe earthing station for high mast complete in all respect with testing & commissioning.

1.2.3 Group Controllers

Operating Voltage	120V to 277V AC
Temperature Range	-10 degrees Celsius to +50 degree Celsius
IP for enclosure for CCMS	IP65
Communication	Must supports GSM 850, E-GSM 900, DCS 1800, PCS 1900, SMS MO and MT. CS and PS support. WCDMA Bands B1, B2, B5, B8 / LAN Tab-Down RJ-45 meets IEEE 802.3 Standard with minimum of 1500 Vrms isolation. Additionally, the controllers must have a Ethernet RJ-45 connector, 100/10 Mbps, half & full duplex, functional insulated from

	the secondary connections.
Power Supply	SMPS Based Power Supply
Communication range	2G/3G/4G Network compatible, No Network Planning shall be required in field.
Storage	For data backup up to 30 days in case of failure of the module
RTC	Integral RTC with battery backup (<i>as per BOQ</i>)
Dimming	<p>Accurate dimming 0 to 100% CCMS controller should be able to seamlessly dim the compatible dimmable luminaires group using any technology (network technologies like RF / ZIGBEE / PLC / PWM / LoRa / NBIot etc.). Group central dimming may be implemented using existing cables or additional wireless controllers or separate dimming signal cables or using any network technologies like RF / ZIGBEE / PLC / PWM / LoRa / NBIot / etc.</p> <p>Note: Dimming shall be required for >90W light/ streetlight luminaire only. This is applicable at all places where dimming is mentioned in the RFP document.</p>
Metering	<p>Class 1.0 accuracy metering with following features:</p> <ul style="list-style-type: none"> Cumulative KWh consumed by luminary Cumulative KVAh Instantaneous power factor Instantaneous voltage Instantaneous current

Note: The test reports have to be confirmed and appropriate revised TEST REPORTs have to be submitted before installation of LED Light. Test report from NABL/ UL (Underwriter Laboratory) accredited in-house labs for essential and mandatory testing. LED & CCMS should be made in India.

- NABL (National Accreditation Board of Testing and Calibration Laboratory)
- IEC (International Electro technical Commission) ISO International Organization for Standardization)
- IS (Indian Standards)
- BIS (Bureau of Indian Standards)
- ANSI (American National Standard Institute)
- RoHS (Restriction of Hazardous Substances Directive)
- ERTL (Electronic Regional Test Laboratory)
- ERDI (Electronic Reading data Interchange)
- R&TTE with CISPR22 for RF certification and EMC
- CE/CB
- LVD-ENEC

An LM79 report measures the performance (light) of LED-based luminaires based on specific and collective components which include drive current (mA), CCT (colour temperature), watts, efficiency and distribution. LM79 requires complete luminaires testing. It does not cover external operating circuits or external heat sinks (e.g. LED chips, LED packages and LED modules). Uses absolute photometry rather than relative photometry, it also measures an electrical and photometric test of LED luminaires.

Illuminating Engineering Society (IES) determined that the end of life for an LED is L70 when the lumen output is 70% of its initial output.

An LM-80 report calculates life of LED that more than 50000 hours of LED life, and the information is gathered from the LED manufacturer. LM-80 refers to a method for measuring the lumen depreciation of solid-state lighting sources, such as LED packages, modules and arrays.

1.2.4 Central Control & Monitoring System (CCMS) specifications



Lighting control management system is required to convey number of fixtures ON/OFF status in group for the street lighting fixtures in a lighting circuit. System should have capability to schedule the operations of luminaires and accordingly provide ON/OFF control while providing switching point electrical parameters like Wattage, Voltage, p.f, Kwh, KVA, Kvah etc. to the command & control centre through wireless mode. For all roads – Group level monitoring, controlling, multi-step Dimming (Note: Dimming shall be required for >90W light/ streetlight luminaire only) automatic switching of LED streetlight luminaires. It may be achieved by using any technology like RF /ZIGBEE / PLC / PWM / LoRa / NBlot / etc.

A Street light control panel is standalone unit to be placed at feeder level containing Gateway/ Controller, Energy Meter, Relays unit along with MCB and Auto/ Manual switch arrangement. CMS Panel Enclosure should be weather-proof made of GI sheet with two coats of enamel paint with proper lock arrangement. It can be pole mounted or mounted on the pedestal. It should be protected by an MCB at its AC mains input.

Lamp load connection shall be through an output MCB and internal wiring with copper wire, glands for ¼ core 35 sq.mm aluminium conductor armoured cable. Separate chamber for Input/output MCB and change over circuit for maintenance and manual operation. Door switch provision should be available in the cabinet.

It should be capable of controlling group of streetlight fixtures up to maximum up-to 10 KVA street lighting load distributed in three/single phase as per site requirement. The wattage of each LED streetlight & floodlights will be 10w to 450 watts. The system should be designed such that on each switching panel not more than 40-50 LED fixtures to be operated. On each switching panel there should be two outgoing lighting circuits.

It should be complete with all required switching and protecting devices, relays, controller, remote wireless communication devices, wiring, pipe earthing, surge protection device, required software, web server, cloud hosting, etc.

The feeder pillar should perform at least following tasks through remote PC/Tablet based web application user friendly interface: Remote ON/OFF switching of streetlights, Monitoring full ON/OFF group of streetlights in each phase. Optionally CCMS should be

capable of multi-step dimming of suitable luminaires with minimum 5 step excluding ON/OFF.

A cloud-based streetlight controller with remote monitoring Dashboard & Energy Meter. The street lighting Control system shall be provided with a weather-proof enclosure with provision for proper Earthing system & shall essentially consist of the following facilities.

- a) Automatic (Basis Network Server Time), Remote and Manual Switching Options
- b) Remote Energy Measurement
- c) On/Off functionality
- d) Near real-time monitoring
- e) Alarms and Report generation
- f) Emergency override – Locally using a 3-way switch and for remotely manual commands must be sent.
- g) Web based User Interface with Integrated Visual maps.
- h) Data security and secured system access.
- i) Single-phase RTU with “option” of connecting to 3-phase by a Phase –selector mechanism as per requirement
- j) System API integration with third party application software for smart city requirements
- k) TLS Based Security feature -Secured 128-bit encrypted Communication between cloud server and streetlight controller
- l) j) System should be capable of Firmware upgrade Over the Air (FOTA) / Software upgrades Over the Air (SOTA)

Options for alert messages shall be generated to indicate pre-defined abnormal system condition: -

- Phase-wise currents on crossing threshold values
- Phase-wise voltages on crossing threshold values
- Group failure of lights
- No output supply to streetlights
- Mains power failure alarm with cabinet info
- Alarms for manual override
- Door Open Alarm

The streetlight control feeder panel hardware installed at every switching point location on the field should possess sub-components as below.

1. Remote Terminal Unit:

abbreviated as RTU is the central control system of the panel. It is a controller-based system. The RTU has analog input and digital IO as front end which interfaces with electrical switching components of the CCMS hardware. It has on board GSM/ GPRS for connectivity with the Cloud server.

It shall support UART/RS 485 interface for communication with the electricity meter and on-board memory for storage of data in case of no wireless communication. The controller shall have last gasp feature for safe shutdown of CPU and data/status relay to cloud server in case of mains power failure. It is a 230V operated DIN rail mounted device installed in the panel.

2. Electrical switching

components used in the CCMS hardware would be a bought–out items from approved and standard suppliers

These would be electrical switching devices like three phase MCB, optional three phase / single phase contactor, terminal blocks protection switches, auto manual switch.

3. Switching Components:

Incoming MCB: 4-pole, 32A MCB- (1 no)

Outgoing MCB: 3 Pole, 6A-32A MCB -(2 Nos.+ 1 Spare)

4. Power Contactor:

1 No. of 40A four pole rating contactors shall be provided for switching the circuits as per RTU/Manual commands.

5. Energy Meter:

This shall be a bought out single phase/ three phase meter. It shall interface with the RTU over UART/TTL/RS 485 interface with custom / standard protocol. The electricity meter selected shall be able to support measurement of following parameters at configured time – intervals.

- Phase wise Voltages,
- Phase wise Current,
- Power Factor,
- Total active Power (kw)
- Apparent Power (KVA)
- Metering kWh
- Metering kVAh cumulative
- Accuracy: Class 1

6. Lamp holder

5A 230 V piano type switch and lamp holder shall be provided in the panel for maintenance activity.

Rotary switch

Rotary switch shall be provided for Auto- Manual panel operation selection. Auto position indicating the scheduled switching operation as per predefined schedule.

Feeder panel enclosure

It would be a metal enclosure made up of 1.6 mm thick CRCA sheet with pole or pedestal mounting, appropriate size and mounting provisions. The panel enclosure box selected would be a metal enclosure with proper lock & key arrangement equivalent to minimum IP65.

CCMS having following features will be installed by the bidder.

The CCMS software time shall be installed on globally renowned cloud-hosted server service providers like Amazon AWS ensure, data security, authenticity, antivirus and protection against virus and hacking attacks. The services provider/ dedicated server shall be selected and provided by the vendor

Electrical (CCMS) cabinet monitoring configurations shall be enabled remotely and can be changed at any time. Electrical meter readings shall be available On Demand and also in configured time intervals. Graphical view of the electrical consumption readings shall be available online for monitoring of the hourly electricity consumption Power supply voltage, current, wattage of individual and group of lighting fixtures in a circuit shall be available ON-

Demand. All alarm/fault detection events shall be logged and available for report-out printing for analysis.

Items	Specified operating
Connection type	System for Single Phase / Three Phase Switching Points
Voltage	240 volts AC
Current	32 Amps
Frequency	50Hz \pm 5% (47.5 to 52.5) Hz
Power Factor	Zero(lag)- Unity- Zero (Lead) (+/- 3%)
Energy Meter Accuracy	Class 1.0
Power contactor	40A ,4pole – Qty-1 No.
MCB	Input:4 pole ,32A MCB, Qty -1 No.
MCB	Output: 3 Pole ,6-32A, Qty: 2 Nos + 1 Spare.
Auto manual switch	Rotary type
Alarm/lamp holder	Lamp holder and piano switch
Operating temperature	-20 to +60 °C o Typical temperature: +25 °C +/- 2 °C
Storage temperature	-40 to +85 °C
Humidity (Operating/Storage)	90% non-condensing

Features	Details
Automatic switching	<ul style="list-style-type: none"> • Astronomical timing (NTP Protocol) • Scheduled Switching as per requirement • Manual switching from cloud application • Provision of Photocell based switching
Tampers	<ul style="list-style-type: none"> • Phase wise Voltage • Phase wise Current • Cumulative Active Energy • Average power factor • Power on hours • Monthly load on/off
Maintenance mode of switching	MCB off
Alert Overload / Over current	Monitor over current / overload condition against the threshold defined in controller
Programmable scheduling	Remote

Communication	Controller should support the below tabulated cellular bands with external 2G/3G/4G Antenna on Frequency -698-960/1710-2690MHz
Dimming	<p>The dim level commands to the luminaires shall be generated from the LMS equipment installed in the electrical cabinet without any additional wires or pilot lines.</p> <p>All the luminaires in the segment shall have the same dim level as per the command from the LMS or local trigger.</p> <p>Dimming commands from the mains power cabinet shall not be interrupted by any intermediary luminaire failures between poles.</p> <p>Luminaires shall fall back to 100% light output if there any interruption in dimming commands.</p>
Alert message	<ul style="list-style-type: none"> • Power supply available /unavailable alert • Phase wise currents on crossing threshold values • Phase wise voltages on crossing threshold values • Group failure of lights (Under Current) • No output supply. • Provision to configure max 3 Mobile Number's for getting alerts on SMS
Standards	RoHS/REACH

NOTE:

It will manage (warranty, operation, maintenance, web-based portal, communication charges) the installed CCMS units for the contract period.

The features proposed for CCMS is indicative. However, it will be free to offer their lighting control technology which should encompass all key features as above.

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- IMEI - The International Mobile Equipment Identify)
- NTP---(Network Time Protocol)
- RTC---(Real Time Clock)
- GPRS – General Packet Radio Service

Essentials

- The Street Lighting Control cabinet shall essentially consist of the following facilities:
 - Automatic Remote controls (with GPRS/GSM) and Manual switching options
 - Energy Metering
 - Remote Energy Measurement
 - Weatherproof housing (Comply with IP65)
 - Selector switch for selecting Auto/Manual operations.
 - Proper earthing system
 - CCMS should be capable to Switch ON / OFF all the lights at the pre-set time and also switch OFF the selected lights at selected Roads / Public Places at the time of low traffic intensity (i.e. between 11.30 PM – 6.30 AMs)

- The Street Lighting Management system installed in the Control cabinet will be based on different components described below. The combination of those components shall provide the complete functionality. The system components described shall also deliver their own capabilities and functionalities independently of the rest of the system, according to the following specification

CCMS Application Software:

CCMS software shall be web-based lighting management server software installed on to professional cloud service e.g. AWS, Azure etc. having physical data storage location within India. Intuitive user interface for displaying the near real time metering data for every 60 minutes (configurable up to 30 min), alerts, status, history and emergency ON/OFF of group of switching nodes/CCMS panels.

Near Real time data monitoring: The system monitors from the CCMS hardware installed at every switching point the electrical parameter provided by the meter related to parameters voltages of each phase, current of each phase, PF of each phase metering KWH cumulative, metering KVAH, Reporting: Reports shall be generated on daily/weekly /monthly/ yearly basis with date selection such as

- Metering data report
- Energy report
- Actual hours of operation
- (usage hours – glowing and non- glowing of each switching point)
 - alert/alarm/notification report
- Alert/alarm notification: The CCMS software shall support notification for below alerts:
- Group lamp on / off alert
- Power supply available /unavailable alert
- Phase-wise current on crossing under / over threshold values
- Phase-wise voltage on crossing under/ over threshold values
- No output supply
- Door Open alert
- Auto / Manual mode
- SMS/Email Alerts: System shall send SMS/ e- mail alert to maximum 3 pre-configured mobile number /email – ids

The CCMS Application should have the following essential features:

1. Maps representation:

The CCMS software shall support HERE maps or equivalent for graphical representation of switching nodes on the field. Cloud application shall have the latitude, longitude coordinates configuration settings.

Configuration settings for: -

- Multisite- Multi project configuration,
- Hierarchy based User,
- RTU parameters,
- Schedule parameters,
- Current and voltage thresholds
- Server communication parameters.

2. Data storage:

The CCMS software shall support storing of real time hourly data and archive data on cloud.

3. Over the air firmware upgrade:

This is a feature to support on field automatic firmware and configuration upgrade of the RTU.

4. Integration with Third party cloud base systems:

The solution supports REST/SOAP API with which it can be integrated with third party web based / cloud hosted software, including E.R.P. & GIS system being implemented by GNIDA.

5. Communications capability: -

All the data shall be accessible from cloud application using GPRS communication support by using any laptop, mobile, etc. having internet access and suitable web browser application, up on authenticated logging in.

The CCMS software shall be designed to support more than 4000 switching points and have required implementations for efficient performance, robustness and security implementations.

6. Application Programming Interface (api) & Interoperability and connection to other city IT systems

The system shall be an open system by providing standardized APIs to share its data to other City Dashboards and 3rd party systems. The standardized APIs shall also allow 3rd party systems to send On-demand light control override commands to On/Off/Dim connected lighting points. The APIs shall enable the streetlight asset information and faults from the LMS to be displayed in other 3rd party systems/dashboards.

Through the APIs, the system shall provide the following benefits:

- Flexible integration with existing City management systems/ ERP/GIS etc.
- Ensure information is synchronized between LMS/CCMS and 3rd party systems or city dashboards / ERP/GIS etc.
- Fully automated synchronization through web-based interfaces
- APIs shall be based Standard web technology (REST/JSON)
- Provide ready-to-deploy packaged standardized API interfaces such as:
- Fault notification of faults generated by connected systems to 3rd party system
- Asset information on demand – 3rd party system (ERP/GIS etc.) can query street lighting management system to retrieve detailed asset information; asset information API shall support full asset data model
- Asset information streaming – Changes in asset data are synchronized in a streaming API.
- Energy data streaming - Daily energy values per asset are available in a streaming API.

7. APPLICATION Software

The LMS application software shall be operated either as a service (SaaS) eliminating the need for additional IT infrastructure by the City

In the case of SaaS, the application software shall be regularly updated by the Provider with minimum down time. The User shall automatically gain access to the latest version of the LMS application. The data shall be held within a professionally managed cloud and stored in multiple locations to allow for immediate full recovery of the system when required. Data replication shall be instant and automatic and allows for instantaneous start-up in the unlikely event of a system failure. Security software updates, implementation and maintenance shall be provided as part of the SaaS and allow for full

continuity and always ensure the current version is provided, with frequent update cycle without any local disturbance to the operation of the asset for the full duration of the contract. The server infrastructure shall be certified to International Organization for Standardization (ISO) 27001 and Service Organization Control (SOC) 1 & 2. Scalable platform for easy future upgrade developments and efficient maintenance.

Requirements:

- Cyber Essentials (Plus) certification
- SaaS cloud service
 - Availability 99.5% or higher
 - Frequent and regular deployment of updates, improvement, new features
 - Support customer sites of large numbers (millions) individually managed light points and group control cabinets

8. Security

All data stored shall stay within full ownership and control of the User. A highly reliable server infrastructure with multi-tenant software architecture and automated regular backups shall be employed to ensure the safety of data.

For SaaS cloud service, the LMS provider shall employ professional security audits by external experts on a regular basis to ensure maximum security of the application platform and database.

For On-Premise Enterprise application software, the IT infrastructure security shall be managed by the User, supported by the LMS provider to ensure maximum security of the application platform and database where required.

9. TWO-factor authentication

The LMS shall employ modern two-factor authentication to prevent inadvertent or malicious misuse of user accounts. When the two-factor authentication is activated, access to the LMS application shall require the User's password plus a verification code that is sent to the user's email address. The user shall be informed of all unsuccessful login attempts and the last successful login. The user account shall be temporarily blocked after several unsuccessful login attempts to protect the system against brute force attacks. In the event that the user did not log out of the system, the login session shall expire after some period of inactivity automatically.

10. COMMUNICATIONS & Data security

The LMS shall employ encrypted user sessions (https) with all interactions secured. Encryption shall be at least 128-bit AES between connected device and application and 256-bit AES between browser and application.

The LMS communications network shall employ highly secure networks such as the mobile cellular IP network or encrypted RF Mesh network. Industry standard encryption technology shall be used for the communications between field devices and the LMS server to ensure proper authentication and integrity while making efficient use of data traffic.

The hosted LMS shall filter all the data to prevent SQL injections and have strict firewall communication rules between the field devices and the server by employing filters by port, protocol, source IP and destination IP. The technical design of the LMS architecture shall ensure maximum robustness; the failure or temporary non-availability of a field device shall not block or degrade the service.

Only authorized and registered devices shall be able to communicate with the LMS. Traffic to and from the registered devices should be monitored closely by the LMS to detect any possible attacks automatically, such as Denial of Service, Incorrect usage or Theft. If there is a Denial of Service attack, the field device in question shall be blocked to prevent any further damage to the system.

Data of specific user accounts & sites shall not be accessible for unauthorized users. It shall be possible to grant access rights to different users to only assign a customized set of user roles that suits their daily work. Each user shall only see the data specifically granted for his need and shall only be able to execute authorized operations (Least Privilege Principle). Data of different users shall be kept strictly separated from each other.

All data shall be regularly backed up, encrypted and stored. Input validation should be done on the basis of pre-defined data types avoiding input of wrong data formats (example: numbers, string fields,

etc.). In addition, the LMS shall provide data property catalogues which are definable and pre-settable by the user to avoid wrong and invalid input.

In the event of a total failure of the LMS infrastructure or an attack, the connected Cabinets and Light points shall continue to function according to the scheduled calendar programmed into the field devices. Operational data such as energy data and faults shall continue to be recorded and stored for several days.

Specific requirements are as under :

- LMS shall ensure access to the application is protected by a unique account identifier and password per user.
- LMS shall employ strong alphanumeric passwords for login to the application.
- LMS shall enforce periodic password changes for login to the application.
- Allow users to reset their password for login to the application.
- Allow users to change their password for login to the application.
- LMS shall be able to accept information transfers in an encrypted form.
- LMS shall support audit logging showing failed or successful access to the application and data changes.
- Data storage shall be encrypted.
- LMS Infrastructure shall be ISO27000 compliant (applicable for SaaS).
- LMS provider shall describe the corporate definition of a security breach and how breach notifications are handled.
- LMS provider shall describe the corporate vulnerability management procedures.
- LMS provider shall describe the corporate patch management procedures.
- LMS provider shall describe change management processes for the environment and applications.
- LMS provider shall describe what controls are used to ensure the separation of data between Users/Site(s).
- LMS provider shall describe how they secure the backup of User's Data - If the data is encrypted (what technology is being used) or if not encrypted, how the data is secured during both transportation and physical storage.

1.3 Warranty and Spares

- Bidder to provide warranty for the defined duration as per tender conditions (7 Years) complete system proposed from the manufacturer ensuring the integration, system performance & proposed hardware.
- The Software shall be cloud hosted, with minimum 7 years of software support (SAAS Model)

1.4 Operations and Maintenance of the Project

The scope of operations and maintenance of the project will involve the following parts:

- i. Maintenance of 54,018 units installed / commissioned under this contract along with maintenance of the infrastructure installed shall be covered as maintenance.
- ii. All the poles and components of the LED fixtures under Operations and Maintenance of this contract shall be maintained by the contractor which may include but not limited to replacement of poles MCB, pole cover, box, earthing of pole, brackets, other components and cables.
- iii. All poles must be painted right after installation of LED lights and repainted in every 3 years as part of maintenance.
- iv. Operations of the entire system including CCMS and reporting system
- v. Ensure adherence of Service Level Agreements as per Section 2.

vi. In addition to the installed infrastructure, operation and maintenance must involve 15,000 preinstalled LED lights by GNIDA. These additional lights must be connected to the infrastructure as mentioned in this scope of services and be supported by CCMS system. Technical or equipment upgrade as and where required must be carried out as per the rates in this contract. The current infrastructure installed are as followed:

1.	4.0 mtr. High Galvanised Octagonal pole with Bottom 130mm A/F, Top 70mm. A/F made up of 3mm thick HT plate along with 200X200X12 mm base plate with 0.50mtr. long single arm bracket made of 4.8X3.0mm. Thick G.I. pipe and foundation bolts on plinth size 4X4-16X700mm with Anchor Plate for 4mtr. Octagonal pole complete in all respect. (As per drawing) (AR)
2.	9.0 mtr. High Galvanised Octagonal pole with Bottom 155mm A/F, Top 70mm. A/F made up of 3mm thick HT plate along with 250X250X16 base plate with 1.50mtr. long single arm bracket made of 48.3X3.25mm. Thick G.I. pipe and foundation bolts on plinth size 500mmX500mmX1850mm. (M-20 grade) with M24-J type Anchor bolt of size 750mm long X24mm dia. with Rubber Gasket complete in all respect. (As per drawing) (AR)
3.	10mtr. High Galvanised Octagonal Pole with Bottom 175mm A/F, Top 70mm A/F made up of 4mm thick HT plate along with 250X250X16 base plate along with 1.5mtr. long single arm bracket made of 48.3X3.25mm. Thick G.I. pipe and foundation bolts on plinth size 2200mmX650mmX650mm. (M-20 grade) with M24-J type Anchor bolt of size 750mm long X 24mm dia. and size of base plate 250mmX250mmX16mm. with Rubber Gasket complete in all respect. (AR)
4.	12mtr. High Galvanised Octagonal Pole with Bottom 240mm A/F, Top 90mm A/F made up of 4mm thick HT plate along with 320X320X20 base plate along with 1.5mtr. long double arm bracket made of 48.3X3.25mm. thick G.I. pipe and foundation bolts on plinth size 2200mmX650mmX650mm. (M-20 grade) with M24-J type Anchor bolt of size 700mm long X 24mm dia. and size of base plate 320mmX320mmX20mm. with Rubber Gasket complete in all respect. (SOR-77)
5.	20mtrs. High Mast System in two section for 47m/sec wind speed, foundation bolts, feeder pillar & other accessories foundation, erection, testing & commissioning of 20mtr. High Mast System with 160W, Lumens 16000 lms (typ) High Efficacy (Standard) LED fitting. (AR)
6.	30 Mtr. High Mast system a) Mast shaft shall be in three sections, hot dip galvanized, inside and outside in single dip, suitable for wind velocity as per IS 875 part 3. There shall be only one longitudinal seam weld per section and no circumferential weld. It shall also include accessories for high mast including head frame, 2-point suspension system with steel wire rope 6mm dia. (7/19 construction) double drum winch, Galvanized Lantern carriage arrangement suitable for 12 luminaries symmetrically & its control gear boxes and lighting finial. The mast shall have an integral power tool at the base compartment for its raising & lowering operation. With foundation bolts manufactured from special steel along with nuts, washers, anchor plates & templates, and supply & fixing of non-integral floodlight luminaries with two nos. 400W SON-T lamps & its control gear boxes and S/F of twin dome aviation obstruction lights with 2 nos. incandescent lamps and supply of control panel housing suitable control circuit for the automatic operation of the mast. b) Foundation and Erection suitable shallow foundation with M-20 concrete for the high mast considering the safe soil bearing capacity as 10T/Sqmtr depth Erection of the high mast with the help of suitable equipment & wiring of luminaries with all wiring material & labour G.I. pipe earthing station for high mast complete in all respect with testing & commissioning.
7.	Sintex type Junction Box of size 280X170X130mm with hinges and locking arrangement & M.S. clamp made of 50X6 mm flat, complete in all respect including 2 Nos. G.I. pipe 1.5” dia having 1.0 meter length each and chuck nut for cable connection etc. as per direction of E/I. SOR-43
8.	Sintex type Junction Box of size 388X304X170mm with hinges and locking arrangement & M.S. clamp made of 50X6 mm flat, complete in all respect including 2 Nos. G.I. pipe 1.5”

	dia having 1.0 meter length each and chuck nut for cable connection etc. as per direction of E/I. SOR-44
9.	Hot Press Moulded SMC Sintex, feeder pillar Box for Street light of size 1040X730X290mm duly hinged with locking arrangement, fitted with 200Amp copper Bus bar of size 25mmX3mm of suitable length. The feeder pillar shall consist of 4 Nos. 63Amp., MCB, MDS make, one no. 4 pole 100Amp. Isolator, L&T make with internal wiring and all items to be fitted on channel inside the feeder pillar. The feeder pillar to be installed on plinth/angle iron frame as per requirement of site. As per SOR-56
10.	600mmX600mmX6.0mm GI plate, vertically for earthing with its top atleast 3 mtr. Below ground level complete with 20mm dia GI pipe & funnel for watering & one earthing lead of 25X3 mm Al-strip & 30 mm dia GI pipe upto switch board & other equipment 300 sqmm. GI box with hinged cover masonry housing alternate layers of char-coal/coke & salt atleast 100 mm thick all-around etc. complete in all respects. PS-702
11.	Aluminium conductor, XLPE insulated, armoured served, sheathed cable 1100 V grade at a depth of 750mm below ground level over a cushion of 75mm. thick sand allround and protected with burnt bricks on sides and on top. On surface the cable run shall be fixed on M.S. clamps etc. of suitable size or as directed by the E/I, complete in all respect. The armouring of the cable shall be properly connected with the earth conductor by clamps etc. (CCI (Bombay/Nashik), Fort Gloster (Calcutta / Baripara), Asian (Thane / Silvasha), Universal (Satna), Nicco (Calcutta), ICL (Rajpura), Diamond, Havells make & for small works upto value of cable for Rs. 25.0 lacs Kalinga (Gold), Suraj, Delton, Grandley & Polycab make can be used) SOR-1
	(a) 3.5CX25 Sqmm.
	(b) 3.5CX35 Sqmm.
	(c) 3.5CX70 Sqmm.
12.	Al. conductor XLPE insulated, un-armoured cable 1100V grade laying in pole/surface/ground etc. (CCI (Bombay/Nashik), Fort Gloster (Calcutta / Baripara), Asian (Thane / Silvasha), Universal (Satna), Nicco (Calcutta), ICL (Rajpura), Diamond, Havells make & for small works upto value of cable for Rs. 25.0 lacs Kalinga (Gold), Suraj, Delton, Grandley & Polycab make can be used) make SOR-2
	a) 2CX6 Sqmm.
13.	palm or pin type copper tin plated cable socket (Lug) to the cable leads, insulating with tape & making connections etc. complete in all respects as per the directions of the Engineer-in-charge. PS-504
	i) 25 Sqmm.
	ii) 35 Sqmm.
	iii) 70 Sqmm.
14.	Straight through cable jointing kit for L.T. PVC armoured cable jointing. Complete in all respects as required for proper completion of work. (make Raychem, CCI, Forntec) SOR-8
	(a) 2CX10/16/25 Sq.mm.
	(b) 3½CX25/35/50 Sq.mm.
	(c) 3½CX70/95/120/150 Sq.mm.
15.	Al. conductor HDPE/XLPE insulated 1100V grade Arial Bunched Cable with Messenger wire as below on pole complete in all respect. (Kalinga make) SOR-50
	a) 2CX25 Sqmm. + 25 Sqmm.
16.	50 Sqm to 16 Sqm L.T. ABC connector on pole complete in all respect (A/R).
17.	90mm dia. DWC pipe for drawing of power cable across the road by drilling of 120mm dia. at 1mtr. below the road level thereby doing the work of providing DWC pipe by Trenchless method. SOR-53

18.	Streetlight panel cover of 2mm. Thick fibre sheet with 25X25X3mm. Angle iron frame on existing panel complete with Hinges, locking arrangement & painting etc. complete in all respect. (AR)
19.	copper conductor XLPE insulated, un-armoured cable (Rate contract)
	a) 4CX10 Sqmm.
	b) 2CX4 Sqmm.
20.	LED out door Driver 150W-160W (As per AR)
21.	LED Surqe Protection Device

1.5 Exit Management

This Clause sets out the provisions which shall apply on expiry or termination of the —Contract Agreementl on account of material breach by the Successful Bidder. In the case of termination of the Contract Agreement due to any illegal activity performed by the selected Bidder during/ as part of the activities related to the Project, or due to material breach by the Bidder of Contract, Client shall have the right to, at its sole discretion, apply this Clause. The Parties shall ensure that their respective associated entities, in case of the Client or its nominated agencies and any nominated agencies in case of the Selected Bidder, carry out their respective obligations set out in this Exit Management Clause.

1. Transfer of Assets

This Clause is valid till the date of expiry or notice of termination of the Agreement after which the assets have to be transferred to Client.

During this period, the Successful Bidder will transfer all the assets in normal working condition and as per the specifications of the RFP including the ones being upgraded to the Client.

The Successful Bidder, if not already done, shall transfer all the right to use software licenses under the name of Client during the Exit Management Period. The Successful Bidder shall also transfer all the relevant Software Passwords, User Names and Keys. If such a transfer of Assets happens before the expiry of Work Contract Period, the Parties shall mutually discuss and agree on the transfer value of the Assets together with the termination and transfer assistance fee.

The Successful Bidder shall be entitled to use the Assets for the duration of the exit management period which shall be 3 (three) months from the date of expiry or notice of termination of the Agreement.

For any material breach on the part of Bidder during the Project Implementation Phase and Operation & Management Phase, Client is entitled to provide notice in writing on the Selected Bidder at any time during the exit management period as detailed here in above requiring the Selected Bidder to provide the department or its nominated agencies with a complete and up to date list of the Assets within 30 (thirty) days of such notice.

Upon service of a notice as mentioned in point above, the following provisions shall apply:

All risk in and title to the Assets to be transferred to the Client on the last day of the exit management period.

All expenses incurred during transfer of assets shall be borne by the Successful Bidder.

That on the expiry of this clause, the Successful Bidder and any individual assigned for the performance of the services under this clause must hand over all the Confidential Information and all other related materials in its possession, including all the software and hardware supplied by the Selected Bidder under this Clause to the Department.

As the Successful Bidder is supposed to provide comprehensive maintenance of all the hardware / software as detailed in RFP during the Contract period, the Successful Bidder must ensure that all the items are in working condition with support of OEM related to repair/ replacement/ availability of spare parts for at least 03 (three) years at the time of exit.

From the first day of last month of the Contract period, testing phase of overall system installed by the Successful Bidder will be started in phases and in an Agreement with the GNIDA so that all the equipment are proved to be in working conditions and handed over to the GNIDA on the last date of the Contract period and before issuing completion certificate and Performance Guarantee.

2. Cooperation and Provision of Information

During the exit management period:

- a. The Successful Bidder shall permit the Client or its nominated agencies access to the information reasonably required to classify the current mode of operation related with the provision of the services to enable the Client to assess the existing services being delivered.

- b. In the event of there being a termination owing to material breach by the Successful Bidder, on quick request by the Client or its nominated agencies, the Selected Bidder shall provide access to copies of all information held or controlled by it which it has prepared or maintained in accordance with the Contract Agreement. The Project Implementation, the Operation and Management service level agreement and SoW (Scope of Work) relating to any material aspect of the services (whether provided by the Successful Bidder). The Client or its nominated agencies shall be entitled to copy all such information. Such information shall include details pertaining to the services rendered and other performance data. The Successful Bidder shall permit the Client or its nominated agencies and/or any entity nominated by the Client to have reasonable access to it employees and facilities as reasonably required to understand the methods of delivery of the services employed by the Successful Bidder and to support appropriate knowledge transfer.

3. Confidential Information, Security and Data

The Successful Bidder shall be quick on the commencement of the exit management period and supply to Client the following:

Information relating to the present services provided and customer satisfaction surveys.

Documentation pertaining to the Project related data and confidential information.

All current and updated data as is needed for purposes of the Client or its nominated agencies for transitioning the services either to the Client or the entity nominated by Client. All other information (including but not limited to documents, records and agreements) relating to the services reasonably compulsory to enable the Client or its nominated agencies, or to the entity nominated by Client to carry out due diligence in order to transition the provision of the Services to the Client or its nominated agencies, or to any entity nominated by Client (as the case maybe).

Before the exit management period expire, the Successful Bidder shall deliver to the Client or its nominated agencies all new or up-dated materials from the categories set out in point (i) above and shall not keep any copies thereof, except that the Successful Bidder shall be permitted to keep one copy of such materials for archival purposes only.

Before the exit management period expire, unless otherwise provided under the Bidder Agreement, the Client or its nominated agencies shall deliver to the Selected Bidder all forms of the Successful Bidder Confidential Data which is in the possession or control of the Client or its nominated agencies or during the exit management period In any time, the Successful Bidder shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to the Client or its nominated agencies a list of all employees (with job titles) of the Successful Bidder dedicated to providing the services at the beginning of the exit management period; its users.

4. Employees

Where any national, regional law or regulation relating to the mandatory or automatic transfer of the contracts of employment from the Successful Bidder to the Department or its nominees, or an entity nominated by the Client applies to any or all of the employees of the Successful Bidder, then the Parties shall comply with their respective obligations under such Transfer Regulations.

To the extent that any Transfer Regulation does not apply to any employee of the Successful Bidder or its nominated agencies or its entity nominated by the Client may make an offer of employment or contract for services to such employee of the Successful Bidder and the Successful Bidder shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the Client or its nominated agencies or any Replacement Bidder.

5. Transfer of Certain Agreements

On request by the Client or its nominated agencies, the Successful Bidder shall affect such assignments, transfers, novation, licenses and sub-licenses in favor of Client or its nominated agencies, or its entity nominated by the Client in relation to any equipment lease, maintenance or service provision agreement between the Successful Bidder and third party lessors, Bidders or Bidder, and which are related to the services and reasonably necessary for the carrying out of replacement Bidder.

6. Right of Access to Premises

At any time during the exit management period, where Assets are located at the Successful Bidder's premises, the Successful Bidder shall be obliged to give full rights of access to (or, in the case of Assets located on a third

party's premises, procure reasonable rights of access to the Client or its nominated agencies, and/or any entity nominated by the Client in order to inventory the assets or Assets.

The Successful Bidder shall also give the Client or its nominated agencies, or any entity nominated by Client right of reasonable access to the Successful Bidder's premises and shall procure the department or its nominated agencies and any entity nominated by the Client rights of access to relevant third party premises during the exit management period and for such period of time following termination or expiry of the Contract Agreement as is reasonably necessary to migrate the services to Client or its nominated agencies, or a Replacement Bidder.

1.6 General Obligations of the Successful Bidder

The Successful Bidder shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances the Client or its nominated agencies or any entity nominated by the Client and which the Successful Bidder has in its possession or control at any time during the exit management period.

For the purposes of this Clause, anything in the possession or control of any Successful Bidder or associated entity is deemed to be in the possession or control of the Successful Bidder.

The Successful Bidder shall commit adequate resources to comply with its obligations under this Exit Management Clause.

i) Exit Management Plan

The Successful Bidder shall provide the Client or its nominated agencies with recommended exit management plan ("Exit Management Plan") which shall deal with Contract Agreement as a whole and in relation to the Project Implementation, the Operation and Management service level agreement and SOW.

ii) End of Support

While handling over the completely working and functional network and systems, the Bidder must ensure that OEM of all hardware/software/ equipment are contractually bound to provide support for repair/replacement/availability of its spare parts for further five years. It shall be part of exit plan to submit letter from OEMs in this regard.

2. Service Level Agreements

To ensure quality and adherence to the contract terms, the following Service Level Agreements (SLAs) will be agreed between the Successful bidder and GNIDA. Compliance to these service levels must be ensured by the Successful Bidder on timely basis. The SLAs are as follows:

2.1 During Implementation Phase

These SLAs shall be used to evaluate the timelines for completion of deliverables. These SLAs will be applicable for commissioning of the project (upto GO-LIVE). For delay of every week in completion & submission of the deliverable mentioned in the proposal, the Bidder would be charged with penalty as follows:

#	Service Level	Penalty value
1.	Delay in implementation of Project as per the timelines defined in this RFP or Contract	For delay beyond the scheduled completion/installation period of 12 months, liquidated damages equivalent to 0.5% of the total Contract Value (for commissioning work PART A) for each week or part thereof may be imposed. Maximum delay period shall be 8 weeks after which Termination of Contract may be initiated. In case the Bidder reaches maximum penalty at any point of time, GNIDA reserves the right and may invoke the termination clause.

2.2 Post-Implementation SLAs

#	Service Level	Penalty
1.	To replace the defective LED lights within 48 working hours of the reported failure	Penalty for non-glowing luminaries beyond 48 hours = [(wattage of defective LED lights) X 11 hours X no. of days of default beyond 48 hours X tariff]/1000
2.	Compliant Resolution: The Bidder shall develop a grievance redressal system/helpdesk (Web Portal & Mobile Application) for citizens of Greater Noida to log compliant regarding non-functional streetlights, refer TOR. Each compliant will have to be resolved within 48 hours and a reply must be shared with the complainant within 48 hours over the grievance redressal system.	Penalty for non-achievement: INR 100/lamp or luminaire/day

#	Service Level	Penalty
3.	<p>To maintain a minimum uptime of the retrofit luminaries of 98%, Assessments pertaining to above-mentioned points shall exclude period of non-availability of power or other scheduled maintenance, or any additional work carried out for the improvement with prior approvals from GNIDA.</p>	<p>Uptime up to 98% - No deduction Between 98% to 95% - INR 50,000/- Between 95% to 90% - INR 1,00,000/- Below 90% - Not acceptable, GNIDA may terminate the Contract.</p> <p style="text-align: center;">+</p> <p>Penalty for non-glowing luminaire below 99% uptime = [(equivalent wattage of defective LED lights corresponding to quantity below 95%) X 11 hours X no. of days X tariff]/1000</p> <p>Note: all the above penalties will be quarterly deducted from the upcoming due payment of O&M.</p>
4.	<p>Maintenance of Poles: All poles must be painted at the point of installation of LED fixtures and repainted after every 3 years. All the poles must be in safe condition and must not fall under any circumstance.</p>	<p>Each fallen or damaged pole must be replaced within 7 days of the incident. In case of failure to replace the poles within 7 days, the contractor will be penalized by deduction of 0.1% per day per pole from the payment of upcoming quarter for O&M. The contractor will not be paid for unpainted poles. In addition, penal deduction for unpainted poles will be 5% of the payable amount for upcoming payment for O&M.</p>
5.	<p>The contractor must ensure minimum 50% electricity saving from the replaced lights. This saving must be monitored by meters installed along with CCMS.</p> <p>Note: The installed streetlights must ensure minimum 50% energy saving for GNIDA compared to current (pre-replacement) total energy load. This shall be only applicable to replacement of 54,018 streetlights and exclude existing LED streetlights (approx. 15000). This is to ensure that minimum 50% saving is achieved by GNIDA for the complete duration of the project. In addition, the Bidder shall also ensure there is no electricity theft at the pole or junction box/group controller which may impact overall electricity saving.</p>	<p>Penalty for not ensuring minimum energy saving will lead to the following:</p> <ul style="list-style-type: none"> i. 40% to <50% saving – penalty of INR 5,00,000/- per quarter ii. 30% to <40% saving – penalty of INR 10,00,00/- per quarter iii. under 30% shall not be – penalty of INR 15,00,00/- for first quarter. If the trend is repeated in upcoming quarters the penalty may be increased by 20% on each event for 5 such events. After 5 events if the trend is repeated then the contract may get cancelled without any further payments.

Note: for Post-Implementation period, all applicable payments shall be paid only on pro-rate basis to the Uptime of LED streetlights.

Note: 1. The Bidder shall share daily system generated electronic reports on email or ERP portal of GNIDA (or equivalent), stating which Streetlights are non-functional with individual Streetlight identification number & Group Controller number.

2. SLA compliance report shall be based on both internal streetlight management system (system generated daily/monthly reports) and complaints/grievance redressal timeline.

3. Financial Evaluation of Bids

The Bidder who meets pre-qualification and technical capacity will be allowed to participate in the financial evaluation of their respective bids. The Financial Bid shall be evaluated in two parts:

- **PART A** – Quote for end-to-end installation of LED lights along with setting up of CCMS as per the scope mentioned in this document
- **PART B** – Quote for Operations and Maintenance (O&M) for 7 years

Financial Bid = (PART A) + 7 years of O&M (PART B)

Period: Project period shall be (1+7 ~ 8 years)

For example:

Quote for PART A is INR 100.

Quote for PART B is INR 10/ year.

Financial Bid = PART A + PART B

= INR 100 + 7 x (INR 10) = INR 170/-

Hence, INR 170 will be considered as financial bid. The bidder with lowest Financial bid (L1) will be awarded the contract.

4. Payment Terms and Milestones

4.1 Installation of fixtures, supporting infrastructure and CCMS as per the Scope of Services

The modality of payment against installation of the entire setup shall be as follows:

- i) 70% (seventy percent) of quoted CAPEX amount shall be paid during the project execution period of 1 (one) year.
- ii) Minimum billing shall be for 5,400 LED lights (*10% of 54,018 LED Streetlights to be replaced as part of the project*)
- iii) After successful commissioning of the Smart LED Street Lights and Centralized Control & Monitoring System (CCMS) and after issuance of certificate by Engineer in Charge, balance 30% (thirty percent) shall be paid in equated 84 (eighty-four) monthly instalments spread over a period of 7 (seven) years under Defect Liability and O&M period.

4.2 Operations and Maintenance

The payment for the Operation and Maintenance shall be made quarterly on pro-rata basis. The Contractor shall submit the quarterly bill supported with requisite documents to the Engineer in Charge mentioning the details of the Operation and Maintenance done during the quarter. First quarterly invoice shall be paid without any SLA deductions. SLA deduction shall be applicable on next/upcoming quarter's due payment post approval/finalization by GNIDA.

Payment of infrastructure development related items will be made on actual basis.

4.3 The minimum documentary requirements to claim payment

For payment, the following minimum documents will be required to be furnished:

- i) Test and Quality Check certificate(s) of each material installed, as applicable (for installation only)
- ii) Inspection forms along with reports generated through CCMS and certified by the Engineer-in-charge (for Operations & Maintenance)

5. General Conditions of Contract

i.	Contract Period	Installation Period – 12 months Operation and Maintenance Period – 7 years post installation & commission of all streetlights
ii.	Liquidated Damages	For delay beyond the scheduled completion/installation period of 12 months, liquidated damages equivalent to 0.5% of the total Contract Value (for commissioning work PART A) for each week or part thereof maybe imposed. Maximum delay period shall be 8 weeks after which Termination of Contract may be initiated. In case of continued default or shortfall in progress, the Engineer in Charge may go on further enhancing the levy of liquidated damages, each time limited to 1% (one percent) of the amount of contract per week of further default subject to maximum limit of 5 (five) percent of the Contract value. When maximum damages payable has arisen, the Employer may terminate the Contract. The maximum amount of liquidated damages for the whole of the Works is 10% (Ten percent) of the final Contract Value, after which Termination of Contract may be initiated.
iii.	Defect Liability Period	7 (Seven) Years post installation (go-live)
iv.	Sub-contracting	Not Allowed

6. Forms

6.1 List of Documents Submitted

#	Document	Page Number in the Proposal
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

6.2 Form for Authorized Personnel

Format of Power of Attorney for Bidding

Power of Attorney (POA)

(Printed on the INR 100/- notarized stamp paper)

Know all men by these presents, We..... [name of the firm and address of the registered office] do hereby irrevocably constitute, nominate, appoint and authorize Mr/ Ms [name], son/daughter/wife of and presently residing at, who is presently employed with us and holding the position of, as our true and lawful attorney (hereinafter referred to as the —Attorney) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our application for submission of our Bid for the(Name of the Work) proposed by the GNIDA (the Procuring Entity) including but not limited to signing and submission of Bid and other documents and writings, participate in Pre-bid and other conferences and providing information/ responses to the Procuring Entity, representing us in all matters before the Procuring Entity, signing and execution of all contracts including the Contract Agreement and undertakings consequent to acceptance of our Bid, and generally dealing with the Procuring Entity in all matters in connection with or relating to or arising out of our Bid for the said Work and/ or upon award thereof to us and/or till the entering into of the Contract Agreement with the Procuring Entity.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,....., THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF 2020
(Signature, name in block letters, designation and address of the signatory delegating the POA)

Witnesses:

Witness 1

Witness 2

Name:

Name:

Address:

Address:

Occupation:

Occupation:

Accepted

(Signature)

(Name in block letters, Title and Address of the Attorney)

Notes:

- 1. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.*
 - 2. Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholder's resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*
- For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostille certificate.*

6.3 Eligible Assignments of the Bidder

(to be filled for each eligible project in addition to Appendix 'A')

Assignment name:	
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total No of man-months of the assignment:
Address:	Amount of consulting fee received by your firm (INR)
Start date (month/year):	Completion date (month/year):
Name of associated Bidders, if any:	No. of professional man-months provided by associated Bidders:
Narrative description of Project	
Description of actual services provided by your staff within the assignment:	
Firm's Name:	

6.4 Form for declaration of Equipment arrangements by the Bidder

(Please refer to Appendix 'D')

6.5 Form for Consortium/JV Formation

<this form must be produced on the letter head of the Lead Bidder>
 Formation of Consortium for execution of work as detailed in <Name of the tender>
 vide <tender ID>

Date:

List of Members of Consortium:	1. <name of legal entity>
	2. <name of legal entity>
	3. <name of legal entity>
Name and details of Authorized Personnel / Point of Contact / Representative for the Consortium:	Name: Contact Number: Email Address: Name of the Entity:
List of Authorized Personnel / Representative for each member:	Name of Entity: Name of Authorized Personnel / Representative: Contact Number: Email Address:
Share of each member in the Consortium:	In %
Name of the Consortium member whose Technical and Financial Capacity used for this project:	Qualification Criteria: Credentials of the member to be referred:

Any change in the above information in the course of project implementation or contract period must be informed to GNIDA well in advance via official communication by the Successful Bidder.

Stamp and Seal of All the member of the Consortium along with signatures of Authorized Personnel.

 Stamp and Seal of the Consortium Members

6.6 Agreement for forming a Consortium

Power of Attorney for Lead Member of Consortium

(To be executed on Stamp Paper of Rs. 100/-)

Whereas the Authority/Client has invited applications from interested parties for [•] <name of the project> Project in <Name of City>

Project <Name of the project>

Whereas, And (collectively the Consortium) being Members of the Consortium are interested in bidding for the Project in accordance with the terms and conditions of the Request for Proposal (RFP) and other connected documents in respect of the Project, and

Whereas, it is necessary for the Members of the Consortium to designate one of them as the Lead

Member with all necessary power and Authority/Client to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary with the Bid of the Project and its execution.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS

We,having our registered office at And

M/s. having our registered office at, (hereinafter collectively referred to as “Contractor”) do hereby irrevocably designate, nominate, constitute, appoint and authorize

M/s. having its registered office at, being one of the members of the Consortium, as the Lead Member and true and lawful attorney of the Consortium (hereinafter referred to as “Attorney”). We hereby irrevocably authorize the Attorney (with power to sub-delegate) to conduct all business for and on behalf of the Consortium and any one of us during the bidding process and; in the event the Consortium is awarded the contract, during the execution of the Project and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the minimum qualification criteria of the Consortium and submission of its bid for the Project, including but not limited to signing and submission of all applications, bids and other documents and writings, participate in the conferences, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of the bid of the Consortium and generally to represent the Consortium in all its dealings with the Authority, and/ or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the Consortium’s Bid for the Project and/ or upon award thereof till the contract is entered into with the Authority.

AND

hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us/ Consortium.

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS <insert date> DAY OF,.....

For

(Signature)

.....

(Name & Title)

For

(Signature)

.....

(Name & Title)

Witnesses:

1.

2.

.....

(Executants)

(To be executed by all the Members of the Consortium)

6.7 Form for JV Formation

Formation of Joint-Venture for execution of work as detailed in <Name of the tender>
vide <tender ID>

Date:

Bidder's JV Name:	<name of the JV>
List of Members of JV:	1. <name of legal entity>
	2. <name of legal entity>
	3. <name of legal entity>
Name and details of Authorized Personnel / Point of Contact / Representative for the JV:	Name: Contact Number: Email Address: Name of the Entity / Member of JV:
List of Authorized Personnel / Representative for each member:	Name of Entity / Member of JV: Name of Authorized Personnel / Representative: Contact Number: Email Address:
Share each member in the JV:	In %
Name of the JV member whose Technical and Financial Capacity used for this project	Technical qualification: Financial qualification:

Any change in the above information in the course of project implementation or contract period must be informed to GNIDA well in advance via official communication by the Successful Bidder.

Stamp and Seal of All the member of the JV along with signatures of Authorized Personnel.

Stamp and Seal of the JV Members

6.8 Agreement for forming a Joint Venture

Joint Venture Agreement (Maximum Three Members)

JOINT BIDDING AGREEMENT FOR CONSORTIUM/JOINT VENTURE

[To be executed on Stamp paper of appropriate value]

THIS JOINT BIDDING AGREEMENT is entered into on this the day of
2020

BETWEEN

1, a company/ firm/ sole proprietorship having its registered office at
(hereinafter referred to as the —First Part which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

2., a company/ firm/ sole proprietorship having its registered office at (hereinafter referred to as the —Second Part which expression shall, unless repugnant to the context includes its successors and permitted assigns).

AND

3., a company/ firm/ sole proprietorship having its registered office at (hereinafter referred to as the —Third Part which expression shall, unless repugnant to the context include its successors and permitted assigns).

The above-mentioned parties of the FIRST, SECOND and THIRD are collectively referred to as the —Parties and each is individually referred to as a —Party

WHEREAS,

A. Greater Noida Industrial Development Authority, represented by its Additional Chief Executive Officer and having its office at Plot No.1, Knowledge Park IV, Greater Noida, Gautam Budh Nagar. (hereinafter referred to as the “Procuring Entity” which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) has

B. The Parties are interested in jointly Bidding for the Works as members of a Joint Venture Agreement (JVA) and in accordance with the terms and conditions of the RFB document and other Bid documents in respect of the Works, and

C. It is a necessary condition under the RFP document that the members of the JVA shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Application.

NOW IT IS HEREBY AGREED as follows:

1. Definitions and Interpretations

In this Agreement, the capitalized terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the RFP.

2. JVA

(a) The Parties do hereby irrevocably constitute a Consortium/Joint Venture (the _____ **JV**) for the purposes of jointly participating in the Bidding Process for the Works. The Parties confirm that all JV members shall sign the Contract Agreement.

(b) The Parties hereby undertake to participate in the Bidding Process only through this JV and not individually and/ or through any other consortium constituted for this Works, either directly or indirectly or through any of their associates.

3. Covenants

The Parties hereby undertake that in the event the JV is declared the Selected Bidder and awarded the Contract, the JV members shall enter into a Contract Agreement with the Procuring Entity and, through its Lead Partner, undertake to perform all its obligations in compliance with the Contract Agreement for the Works.

4. Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below:

(a) Party of the First Part shall be the Lead Partner/ Lead Member of the JV and shall have the power of attorney from all Parties for conducting all business for and on behalf of the JV during the Tendering Process and until the Contract Agreement is entered into with the Procuring Entity; Party of the First Part shall be the..... and

(b) Party of the Second Part shall be the _____

(c) Party of the Third Part shall be the _____

5. Joint and Several Liabilities

The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Works and in accordance with the terms of the RFB, Bidding Document and the Contract Agreement.

6. Percentage Participation in the JVA

(a) The Parties agree that the proportion of percentage participation in works among the Parties in the JV shall be as follows:

First Party (Lead Member): *[should have at-least 51% percentage participation]*

Second Party:

Third party:

(b) The Parties undertake that they shall collectively hold 100% (hundred percent) of the percentage participation of the JV at all times until the completion the Contract of the Works.

7. Representation of the Parties

Each Party represents to the other Parties as of the date of this Agreement that:

(a) Such Party is duly organised, validly existing and in good standing under the laws of its incorporation and has all requisite power and authority to enter into this Agreement;

(b) The execution, delivery and performance by such Party of this Agreement has been authorised by all necessary and appropriate corporate or governmental action and a copy of the extract of the charter documents and board resolution/ power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this

Agreement on behalf of the JVA Member is annexed to this Agreement, and will not, to the best of its knowledge:

i. require any consent or approval not already obtained; or

ii. violate any Applicable Law presently in effect and having applicability to it; or

iii. violate the memorandum and articles of association, by-laws or other applicable organisational documents thereof; or

iv. violate any clearance, permit, grant, license or other governmental authorisation, approval, judgement, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or

v. create or impose any liens, mortgages, pledges, claims, security interests, charges or encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement.

(c) This Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and

(d) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its associates is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfilment of its obligations under this Agreement.

8. Termination

This Agreement shall be effective from the date hereof and shall continue in full force and effect until the Operation and Maintenance is completed under and in accordance with the Contract Agreement, in case the Contract is awarded to the JVA. However, in case the JVA is either does not get selected for award of the

Contract, the Agreement will stand terminated in case the Applicant is not meeting the minimum qualification criteria or upon return of the Bid Security by the Employer to the Bidder, as the case may be.

9. Miscellaneous

(a) This Joint Bidding Agreement shall be governed by laws of India.

(b) The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the Employer.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED

SIGNED, SEALED AND DELIVERED

For and on behalf of

For and on behalf of

LEAD MEMBER by:

SECOND/ THIRD/ FOURTH PART

(Signature)

(Signature)

(Name)

(Name)

(Designation)

(Designation)

(Address)

(Address)

In the presence of:

(Witness 1)

(Witness 2)

Notes:

1. The mode of the execution of the Joint Bidding Agreement should be in accordance with the procedure, if any, laid down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.

2. Each Joint Bidding Agreement should attach a copy of the extract of the charter documents and documents such as resolution / power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Consortium Member.

3. For a Joint Bidding Agreement executed and issued overseas, the document shall be legalised by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney has been executed. However, the Power of Attorney provided by Applicants from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostille certificate

6.9 Undertaking by the bidder for not being terminated or being unsuccessful**Declaration Letter for “<insert name of the RFP>”**

(To be printed on Letter Head)

Sir/Madam,

This is to notify you that our Company / LLP / Partnership / Society / Proprietorship <Please delete whichever is not applicable> intends to submit a proposal in response to <insert name of the RFP>, we also declare that our Company / LLP / Partnership / Society / Proprietorship <Please delete whichever is not applicable> has during the last three years, neither failed to perform on any agreement, nor has been evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award, nor been expelled from any project or agreement nor have had any agreement terminated for breach by us.

Sincerely,

(Signature of the Authorized Person)

Name:

Designation:

6.10 Undertaking by the bidder for not being Blacklisted**Declaration Letter for “<insert name of the RFP>”**

(To be printed on Letter Head)

Sir/Madam,

This is to notify you that our Company / LLP / Partnership / Society / Proprietorship <Please delete whichever is not applicable> intends to submit a proposal in response to <insert name of the RFP>, we also declare that our Company / LLP / Partnership / Society / Proprietorship <Please delete whichever is not applicable> has not been blacklisted by any Central / State Government Department / Public Sector Undertaking.

Sincerely,

(Signature of the Authorized Person)

Name:

Designation:

6.11 Manufacturer Authorization Form

To,
 The Additional Chief Executive Officer,
 GNIDA, Plot No. 1, Knowledge Park IV,
 Greater Noida, Gautam Budh Nagar

Ref: Your Tender document No. _____ dated _____.

Dear Sir/ Madam,

1. We _____, who are proven and reputable Manufacturer of LED Street Lights having factories at _____ hereby authorize M/s _____ (Name and address of Contractor/ Bidder) to submit a tender, process the same further and enter into the Contract with you against your requirement as contained in the above tender RFP No. for the above goods manufactured by us.

2. We do hereby extend our full warranty, as applicable as clause of the Condition of the Contracts read with modification, if any, offered for supply by the above

Your's Faithfully,

(Signature with date, Name and designation for and on behalf of M/s _____)
 [Name and address of Manufacturer]

Note: This letter of authorization should be on the letter head of the manufacturer firm (OEM) and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.

6.12 Memorandum of Understanding between Bidder and Manufacturer

(On stamp paper of Rs.100/- duly notarized)

THIS MEMORANDUM BETWEEN:

Party No. ONE (Bidder)

AND

Party No. TWO M/s. (Manufacturer)

who is meeting all the requisites as Specified in this RFP No._____ for the work of —Implementing Smart LED Street Lights and Centralized Control and Monitoring System on EPC Mode with Operation and Maintenance of 7(Seven) years in Greater Noida for Greater Noida Industrial Development Authority.

With this Memorandum reached between Party ONE and Party TWO mentioned above, the Party No. ONE hereby undertakes that he will procure all the (*LED Street Luminaire/Group Controllers*) required for the work detailed in the RFP No. from the Party No. TWO.

The Party No. TWO hereby undertakes to supply the (*LED Street Luminaire/Group Controllers*) manufactured by them as per RFP No._____ Specifications during the whole he Contract Period to the party No. ONE.

The Party No. TWO hereby also undertakes that it will stand guarantor for (*LED Street Luminaire/Group Controllers*) supplied by them to Party No. ONE, if any component/ party needs any replacement or repair, they shall supply the same of good quality for replacement rectification, during the said Guarantee Period.

The Party No. TWO stand unconditional guarantor for performance of the fitting/ Fixture supplied to party no. ONE as per the requirement of Tender called for the work of — Implementing Smart LED Street Lights and Centralized Control and Monitoring System on EPC Mode with Operation and Maintenance of 7 (Seven) Years in Greater Noida for Greater Noida Industrial Development Authority.

The Party No. TWO also undertakes to Supply the (*LED Street Luminaire/Group Controllers*) as per Specification and as per time schedule as mentioned in the RFP No. of GNIDA to Party No. ONE.

The Party No. ONE undertakes to procure (*LED Street Luminaire/Group Controllers*) from Party No. TWO as per specifications and in such a manner so as to install the same as per time Schedule given for installation in the above mentioned RFP for which payment whatever payment to be made to party No. TWO in whatever time period as agreed between Party ONE and TWO will be responsibility of Party No. ONE.

The Party No. ONE also undertakes to install said (*LED Street Luminaire/Group Controllers*) which will be procured from Party No. TWO in manner as prescribed by Party No. TWO for proper and safe performance of such LED Street Lights.

Party No. TWO also undertake to test the (*LED Street Luminaire/Group Controllers*) on random basis whenever directed by GNIDA and certify that they are having mandatory testing equipment for testing of the LED to be supplied as per above RFP Specifications.

In case of non-performance of their Bidder i.e. Party No. ONE during Contract Period, at any stage, the Manufacturer i.e. Party No. TWO shall execute remaining part of the Contract (Installation and O&M) for the components supplied by Manufacturer i.e. Party No. One till the completion of the project directly on its own or through their Authorized Dealer with prior approval from GNIDA.

In case Manufacturer fails to execute their role and responsibility as mentioned above or anywhere in the Tender/ RFP, GNIDA have right to blacklist the Manufacturer for non-performance and impose the penalty as per above RFP Tender Conditions.

Authorized Signatory & Seal

Authorized Signatory & Seal

(On behalf of the Bidder)

(On Behalf of the Manufacture)

Note: The content of MoU should indicate scope of work of both manufacturer and Bidder, during the Contract execution, O&M period. Both the parties should sign and seal on Rs.100/- stamp paper and the same should be uploaded in the Technical Bid.

6.13 Specification of street light Items (Only Replacement)

S. No	Existing Specification of items	Proposed Specification
1.	<p>Supply & erection of Steel tubular pole with 1/6 over all length of pole grouted with cement concrete in 1:3:6 (1 cement : 3 coarse sand : 6 stone ballast) including plinthing of pole 30 cm above the ground level, plastering of plinth including excavation back filling etc. The rates includes all materials labour & T&P. etc. required for proper completion of work as per direction of E/I. SOR-21</p> <p>410 SP-17, 8.5mtr., (Approx. wt. 92kg.)</p>	<p>Supply, installation & erection of 9.0 mtr. High Galvanised Octagonal pole with Bottom 155mm A/F, Top 70mm. A/F made up of 3mm thick HT plate alongwith 250X250X16 base plate with 1.50mtr. long single arm bracket made of 48.3X3.25mm. Thick G.I. pipe and foudation bolts on plinth size 500mmX500mmX1850mm. (M-20 grade) with M24-J type Anchor bolt of size 750mm longX24mm dia. with Rubber Galket complete in all respect.</p>
2.	<p>Supply & erection of Steel tubular pole with 1/6 over all length of pole grouted with cement concrete in 1:3:6 (1 cement : 3 coarse sand : 6 stone ballast) including plinthing of pole 30 cm above the ground level, plastering of plinth including excavation back filling etc. The rates includes all materials labour & T&P. etc. required for proper completion of work as per direction of E/I. SOR-21</p> <p>410 SP-36, 9.5mtr., (Approx. wt. 142kg.)</p> <p>410 SP-51, 11mtr., (Approx. wt. 169kg.)</p>	<p>Supply, installation & erection of 10mtr. High Galvanised Octagonal Pole with Bottom 175mm A/F, Top 70mm A/F made up of 4mm thick HT plate along with 2500X250X16 base plate along with 1.5mtr. long single arm bracket made of 48.3X3.25mm. Thick G.I. pipe and foundation bolts on plinth size 2200mmX650mmX650mm. (M-20 grade) with M24-J type Anchor bolt of size 750mm long X 24mm dia. and size of base plate 250mmX250mmX16mm. with Rubber Gasket complete in all respect.</p>
3.	<p>Supply & erection of Steel tubular pole with 1/6 over all length of pole grouted with cement concrete in 1:3:6 (1 cement : 3 coarse sand : 6 stone ballast) including plinthing of pole 30 cm above the ground level, plastering of plinth including excavation back filling etc. The rates includes all materials labour & T&P. etc. required for proper completion of work as per direction of E/I. SOR-21</p>	<p>Supply, installation & erection of 12mtr. High Galvanised Octagonal Pole with Bottom 240mm A/F, Top 90mm A/F made up of 4mm thick HT plate along with 320X320X20 base plate along with 1.5mtr. long double arm bracket made of 48.3X3.25mm. thick G.I. pipe and foundation bolts on plinth size 2200mmX650mmX650mm. (M-20 grade) with M24-J type Anchor bolt of size 700mm long X 24mm dia. and size of base plate 320mmX320mmX20mm. with Rubber Gasket complete in all respect.</p>
4.	<p>410 SP-58, 12mtr., (Approx. wt. 191kg.)</p>	
5.	<p>Supply, installation, testing & commissioning of 20mtrs. High Mast System in two section for 47m/sec wind speed, foundation bolts, feeder pillar & other accessories foundation, erection, testing & commissioning of 20mtr. High Mast System with 160W, Lumens 16000 lms (typ) High Efficacy (Standard) LED fitting. (AR)</p>	<p>Supply, installation, testing & commissioning of 20mtrs. High Mast System in two section for 47m/sec wind speed, foundation bolts, feeder pillar & other accessories foundation, erection, testing & commissioning of 20mtr. High Mast System with 160W, Lumens 16000 lms (typ) High Efficacy (Standard) LED fitting. (AR)</p>

<p>6. Supply & fixing of 30 Mtr. High Mast system a) Mast shaft shall be in three sections, hot dip galvanized, inside and outside in single dip, suitable for wind velocity as per IS 875 part 3. There shall be only one longitudinal seam weld per section and no circumferential weld. It shall also include accessories for high mast including head frame, 2 point suspension system with steel wire rope 6mm dia. (7/19 construction) double drum winch, Galvanized Lantern carriage arrangement suitable for 12 luminaries symmetrically & its control gear boxes and lighting finial. The mast shall have an integral power tool at the base compartment for its raising & lowering operation. With foundation bolts manufactured from special steel along with nuts, washers, anchor plates & templates, and supply & fixing of non-integral floodlight luminaries with two nos. 400W SON-T lamps & its control gear boxes and S/F of twin dome aviation obstruction lights with 2 nos. incandescent lamps and supply of control panel housing suitable control circuit for the automatic operation of the mast.b) Foundation and Erection Design and casting of suitable shallow foundation with M-20 concrete for the high mast considering the safe soil bearing capacity as 10T/Sqmtr depth Erection of the high mast with the help of suitable equipments & wiring of luminaries with all wiring material & labour G.I. pipe earthing station for high mast complete in all respect with testing & commissioning.</p>	<p>Supply & fixing of 30 Mtr. High Mast system a) Mast shaft shall be in three sections, hot dip galvanized, inside and outside in single dip, suitable for wind velocity as per IS 875 part 3. There shall be only one longitudinal seam weld per section and no circumferential weld. It shall also include accessories for high mast including head frame, 2 point suspension system with steel wire rope 6mm dia. (7/19 construction) double drum winch, Galvanized Lantern carriage arrangement suitable for 12 luminaries symmetrically & its control gear boxes and lighting finial. The mast shall have an integral power tool at the base compartment for its raising & lowering operation. With foundation bolts manufactured from special steel along with nuts, washers, anchor plates & templates, and supply & fixing of non-integral floodlight luminaries with two nos. 400W SON-T lamps & its control gear boxes and S/F of twin dome aviation obstruction lights with 2 nos. incandescent lamps and supply of control panel housing suitable control circuit for the automatic operation of the mast.b) Foundation and Erection Design and casting of suitable shallow foundation with M-20 concrete for the high mast considering the safe soil bearing capacity as 10T/Sqmtr depth Erection of the high mast with the help of suitable equipments & wiring of luminaries with all wiring material & labour G.I. pipe earthing station for high mast complete in all respect with testing & commissioning.</p>
<p>7. S/F of Sintex type Junction Box of size 280X170X130mm with hinges and locking arrangement & M.S. clamp made of 50X6 mm flat, complete in all respect including 2 Nos. G.I. pipe 1.5" dia having 1.0 meter length each and chuck nut for cable connection etc. as per direction of E/I. SOR-43</p>	<p>S/F of Sintex type Junction Box of size 388X304X170mm with hinges and locking arrangement & M.S. clamp made of 50X6 mm flat, complete in all respect including 2 Nos. G.I. pipe 1.5" dia having 1.0 meter length each and chuck nut for cable connection etc. as per direction of E/I. SOR-44</p>
<p>8. S/F of Sintex type Junction Box of size 388X304X170mm with hinges and locking arrangement & M.S. clamp made of 50X6 mm flat, complete in all respect including 2 Nos. G.I. pipe 1.5" dia having 1.0 meter length each and chuck nut for cable connection etc. as per direction of E/I. SOR-44</p>	

9.	Supply & laying of Aluminium conductor, XLPE insulated, armoured served, sheathed cable 1100 V grade at a depth of 750mm below ground level over a cushion of 75mm. thick sand around and protected with burnt bricks on sides and on top. On surface the cable run shall be fixed on M.S. clamps etc. of suitable size or as directed by the E/I, complete in all respect. The armouring of the cable shall be properly connected with the earth conductor by clamps etc. (CCI (Bombay/Nashik), Fort Gloster (Calcutta / Baripara), Asian (Thane / Silvasha), Universal (Satna), Nicco (Calcutta), ICL (Rajpura), Diamond, Havells make & for small works upto value of cable for Rs. 25.0 lacs Kalinga (Gold), Suraj, Delton, Grandley & Polycab make can be used) SOR-1	Supply & laying of Aluminium conductor, XLPE insulated, armoured served, sheathed cable 1100 V grade at a depth of 750mm below ground level over a cushion of 75mm. thick sand around and protected with burnt bricks on sides and on top. On surface the cable run shall be fixed on M.S. clamps etc. of suitable size or as directed by the E/I, complete in all respect. The armouring of the cable shall be properly connected with the earth conductor by clamps etc. & for small works upto value of cable for Rs. 25.0 lacs Kalinga
	(a) 3.5CX25 Sqmm.	(a) 3.5CX25 Sqmm.
	(b) 3.5CX35 Sqmm.	(b) 3.5CX35 Sqmm.
	(c) 3.5CX70 Sqmm.	(c) 3.5CX70 Sqmm.
10.	S/L of Al. conductor XLPE insulated, un-armoured cable 1100V grade laying in pole/surface/ground etc. (CCI (Bombay/Nashik), Fort Gloster (Calcutta / Baripara), Asian (Thane / Silvasha), Universal (Satna), Nicco (Calcutta), ICL (Rajpura), Diamond, Havells make & for small works upto value of cable for Rs. 25.0 lacs Kalinga (Gold), Suraj, Delton, Grandley & Polycab make can be used) make SOR-2	S/L of Al. conductor XLPE insulated, un-armoured cable 1100V grade laying in pole/surface/ground etc.
	2CX6 Sqmm.	3CX6 Sqmm
11.	Supply, Delivery, Installation, Testing & Commissioning of Straight through cable jointing kit for L.T. PVC armoured cable jointing. Complete in all respects as required for proper completion of work. (make Raychem, CCI, Forntec) SOR-8	Supply, Delivery, Installation, Testing & Commissioning of Straight through cable jointing kit for L.T. PVC armoured cable jointing. Complete in all respects as required for proper completion of work. SOR-8
	(a) 2CX10/16/25 Sq.mm.	(a) 2CX10/16/25 Sq.mm.
	(b) 3½CX25/35/50 Sq.mm.	(b) 3½CX25/35/50 Sq.mm.
	(c) 3½CX70/95/120/150 Sq.mm.	(c) 3½CX70/95/120/150 Sq.mm.
12.	Supply, delivery, testing, laying of Al. conductor HDPE/XLPE insulated 1100V grade Arial Bunched Cable with Messenger wire as below on pole complete in all respect. (Kalinga make) SOR-50	Supply & fixing of Aluminium conductor, XLPE insulated armoured served, sheathed cable 1100 V grade.
	2CX25 Sqmm. + 25 Sqmm.	4CX16 Sqmm.
13.	S/L of 90mm dia. DWC pipe for drawing of power cable across the road by drilling of 120mm dia. at 1mtr. below the road level thereby doing the work of providing DWC pipe by Trenchless method. SOR-53	S/L of 90mm dia. DWC pipe for drawing of power cable across the road by drilling of 120mm dia. at 1mtr. below the road level thereby doing the work of providing DWC pipe by Trenchless method. SOR-53
14.	S/F of copper conductor XLPE insulated, un-armoured cable (Rate contract)	S/F of copper conductor XLPE insulated, un-armoured cable (Rate contract)
	a) 4CX10 Sqmm.	a) 4CX10 Sqmm.
	b) 2CX4 Sqmm.	b) 2CX4 Sqmm.

15.	Supply and erection of 8.5 M. long P.C.C. pole, confirming to IS 1678-1960, IS 343-1960 and IS 456-1964 grouted with 1:4:8 cement concrete (1 cement, 4 fine sand : 8 over burnt brick ballast of 40 mm nominal size) including the plinthing of pole. Complete with all material, labou, T&P etc. and also including cartage of pole from store to site of works. SOR-38	Supply and erection of 8.5 M. long P.C.C. pole, confirming to IS 1678-1960, IS 343-1960 and IS 456-1964 grouted with 1:4:8 cement concrete (1 cement, 4 fine sand : 8 over burnt brick ballast of 40 mm nominal size) including the plinthing of pole. Complete with all material, labou, T&P etc. and also including cartage of pole from store to site of works. SOR-38
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