



SURAT MUNICIPAL CORPORATION

LIGHT & EEC

YEAR- 2019 – 2020

E-Tender (Online) Notice No: ACE/Light &EEC/02/2019-2020 (Work No. 2)

NAME OF WORK	: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF STREET LIGHT SYSTEM AT KATARGAM-VED DARWAJA FLY OVER BRIDGE, SURAT.
TECHNICAL BID	
Publishing Authority:	Additional City Engineer (Ele. / Ele. & Mech.)
Inviting Authority:	I/C. Executive Engineer (Ele.), Light & EEC
Concern Office:	3 RD Floor, 117, Main Office Building, Surat Municipal Corporation, Muglisara, Surat- 395 003.
Phone:	0261- 2423751 to 56 Ex- 271, 498
E-mail:	exen.electrical@suratmunicipal.org
Type:	E-tender (website: https://smc.nprocure.com)
e-Price-bid Submission	
E-Price Bid (Online only):	To be submitted on or before 17/09/2019 @ 06:00 PM
Technical-bid Submission	
Tech-bid Submission (In Hard copy):	Up to 27/09/2019 @ 05:00 PM
To be submitted to:	The Chief Accountant, Accounts Department, Main Office Building, Surat Municipal Corporation, Muglisara, Surat- 395 003.



INDEX

TECHNICAL BID		
SR. NO.	DESCRIPTION	INITIAL PAGE NO.
(1)	DETAILED TENDER NOTICE PUBLISHED ON SMC'S WEBSITE	03
(2)	Part -1 (Mandatory)	04-09
(3)	CHECK LIST OF DOCUMENTS FURNISHED ONLINE / HARD COPY	10-11
(4)	CONTRACTOR'S / BIDDER'S UNDERTAKING / CERTIFICATE	12
(5)	SPECIAL TERMS AND CONDITIONS	13
(6)	TECHNICAL / SERVICE PROFILE PERTAINING TO TENDERER	14-15
(7)	ANNEXURE (I TO VI)	16-23
(8)	Part-2 (Commercial)	24
(9)	IMPORTANT INSTRUCTIONS TO TENDERER	25-33
(10)	QUALIFICATION CRITERIA	34
(11)	SCOPE OF WORK	35-36
(12)	GENERAL TERMS AND CONDITIONS	37-40
(13)	CONDITIONS OF CONTRACT	41-49
(14)	MEMORANDUM	50
(15)	Part-3 (Technical Specifications)	51-77
(16)	GENERAL SPECIFICATION FOR ELECTRICAL INSTALLATION	78
(17)	Vendor List	79

Total Nos. of Pages: 79.

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



**SURAT MUNICIPAL CORPORATION
Light and Energy Efficiency Cell**

Online Tender Notice No. ACE (Ele.)/Light & EEC/02/2019-2020

Tender(s) are invited for the façade lighting work at various location(s) within Surat City through online process on <https://smc.nprocure.com> from experience agencies.

Sr.	Name of Work	[1]	Downloading of tender documents.
		[2]	On line Tender submission (Last date).
		[3]	Submission of Tender fee, EMD & other documents etc. in hard copy.
		[4]	Tender Fee in Rs.
		[5]	EMD in Rs.
		[6]	Class of bidder.
[1]	SITC of LED indoor luminaires at various utilities and offices of Surat Municipal Corporation including dismantling and buy back of existing tube light fittings.	[1]	09.09.2019 to 17.09.2019
		[2]	17.09.2019
		[3]	27.09.2019
		[4]	₹.1,008.00
		[5]	₹.7,000.00
		[6]	Manufacturer / Authorized Distributor / Dealer / Supplier.
[2]	SITC of street light system on Katargam Ved Darwaja Fly Over Bridge.	[1]	09.09.2019 to 17.09.2019
		[2]	17.09.2019
		[3]	27.09.2019
		[4]	₹.2,688.00
		[5]	₹.33,600.00
		[6]	Experienced.

- Tender documents are available on <https://smc.nprocure.com>
- Bidders have to submit price bid in Electronic format only on <https://smc.nprocure.com> website till the last date & time for submission. **Offers in physical form shall not be accepted in any case.**
- Submission of Tender fee, EMD & other documents etc. in hard copy to Chief Accountant, Surat Municipal Corporation, Mugalsarai, Surat **by R.P.A.D. / Speed Post only** during the date and time mentioned as above. Surat Municipal Corporation shall not be responsible for any postal delay.
- The Surat Municipal Corporation (S.M.C.) reserves the right to accept or reject any or all the tender to be received without assigning any reasons thereof.

In case bidder needs any clarification or if training required for participating in online tender, they can contact the following office:-

"(n) Code solutions – A division GNFC Ltd."

403, GNFC Info tower, Bodakdev, Ahmedabad – 380 054, Gujarat (India)

Tel: +91 26857316/17/18 Fax: + 91 79 26857321 E-mail: nprocure@gnvfc.net Web-site: www.nprocure.com

Toll Free: 1800-233-1010 (Ext. 501 & 512)

For further particulars contact above office / or visit on following websites:

www.nprocure.com / www.smc.nprocure.com

Additional City Engineer (E / E & M),
Surat Municipal Corporation.



PART-I

MANDATORY

[BIDDER MUST COMPLY]

This section contains various vital and, mandatory information(s) from the bidder.

The bidder needs to carefully fill all the data(s) in each and every field. Duly sealed and signed must upload colour scanned copy (pdf format only) with technical bid.

If bidder fails to upload any of the copy(ies) in required format, his/ her tender will be out rightly rejected without seeking any confirmation.

All Pages of Mandatory Section, Duly Filled, Sealed and Signed, must be Submitted in Hard Copy along with Bidder's Forwarding Letter, and Draft/ Banker's Cheque of Tender Fee and EMD **in Original**.



General Information: -

Name of Work : - SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF STREET LIGHT SYSTEM AT KATARGAM-VED DARWAJA FLY OVER BRIDGE, SURAT.

E-Tender (Online) Notice No: ACE/Light &EEC/12/2018-2019 (Work No 2)

Downloading of tender documents	:	From Dt. 09/09/2019 to Dt. 17/09/2019 up to 17.00 hrs.
Last date of On-line submission of Tender along with Soft copies of Necessary Documents, Tender Fees, EMD, Certificates etc.	:	Dtd. 17/09/2019 up to 18.00 hrs.
Last date of submission of, Tender Fees, EMD and in Hard Copy:	:	On or before Dtd. 27/09/2019 up to 17.00 hrs.
Earnest Money	:	Rs. 33,600.00 should be paid as per tender terms.
Pre-Bid	:	No
Tender validity period	:	One hundred twenty (120) calendar days from the last date of submission of the price bid.
Security Deposit	:	Two Percent (2%) of tendered Amount.
Time of Completion of the work.	:	45 days.

Instructions to Tenderers: -

GENERAL:

The Surat Municipal Corporation hereinafter referred to as the Corporation hereby invites tenders for the work as mentioned elsewhere in this tender document, as per the specifications in the tender documents. The Contract documents may be secured in accordance with the notice Inviting Tender for the said work.

GEOGRAPHY:

The site is located in Surat city, is very important commercial, textile and diamond city of Gujarat State located in south Gujarat region. The city is well connected to rest of India by both Rail and Road. The City locate on bank of river Tapti and enjoy moderate climate having minimum average temperature as 25°C and extreme ranging from 45°C in summer and 10°C in winter. The actual average rainfall is approximately 80 cm distributing over three months from mid-June to mid of September.

SITES:

The intending tenderer shall be deemed to have visited site and familiarized themselves thoroughly with the site conditions before submitting the tender. Non-familiarity with the site conditions will not be considered a reason either for extra claims or for not carrying out the work in strict conformity with the specifications, terms & conditions.



For site visit, the intending tenderer may contact I/C. Executive Engineer (Light & EEC), Surat Municipal Cooperation.

Service roads are laid up to the site of the work. These will be available to the contractor subject to any limitations imposed by S.M.C. However, the tenderer shall visit the site and acquaint him of the approaches to the sites before tendering.

Non availability of access roads or railway siding or permits for entry of vehicles and equipment at any specific area shall in no case be the cause to condone any delay in the execution of the works or be the cause for any claims or extra compensations.

SCOPE OF WORK:

The scope of the work includes all supply, erection, testing, commissioning, including supply of materials, labor and workmanship complete on turnkey basis as detailed in, specifications, terms & conditions, etc. The Contractor shall make his own arrangements for all materials required for completion of the work.

CONTRACT:

The entire work covered by this document viz. said work. Tenderers shall quote for this accordingly.

The quoted price shall include all taxes (excluding GST), duties, Transportation, freight etc. whatsoever and the price shall remain firm till the completion of the project in all respect.

INCLUSION OF WORK:

Any item of equipment equipment's/machineries or materials not shown in the specifications, drawings of as specified elsewhere, but is clearly essential to make the system operational, shall be supplied and installed by the Contractor as if it had been not shown or specified therein.

Subject, how're, to the above requirement, work that is not included in the Contract Documents shall not be performed except when approved in writing by the Engineer-in-charge / S.M.C.

The sole right of interpretation of all the terms, conditions, specifications etc. in the entire tender document will be rest with the department only.

BIDDERS TO CONSIDER:

- 1. The contractor shall also be required to produces solvency certificate of minimum 20% amount of the total tender value which not older than one year.**
- 2. The permit (issued by Govt. of Gujarat) holder persons must be employed for the job.** The corporation will not be responsible for any accident or injury to the workman/ staff of the contractor. No compensation of any kind shall be paid by the corporation. The contractor shall observe latest Government rules regarding labours etc.
- 3. The firm should possess adequately qualified electrical personnel required for the proposed work. Presently, if party is not in possession, the clear confirmation to arrange such staff/ facilities in the event of award of contract must be furnished.**
- 4. The firm must possess valid electrical contractor's license issued by Government of Gujarat.**



5. The firm should have full flagged office with technical personals. He should clearly state the arrangement of staff available with them in separate sheet. Relevant sheet must be clearly filled in.
6. **All-important certificate(s)/ document(s)/ evidence(s) as specified should be duly attested/ certified by Notary. All work details should be provided with self-attested copies of evidences.**

Execution of Work After Award of Work Order: -

Followings must be ensured on award of work:

- (1) Technical data sheet of all item(s) to be tested including LED luminaires (along with driver(s), LED chip(s) to be used) should be submitted for approval.
- (2) Quality assurance plan [QAP] for testing at manufacturer's works along with drawing of all item(s) to be tested including LED luminaires (with all relevant/ important technical details) should be submitted for approval.

After receiving all aforesaid details/ documents, approval will be given for go ahead to manufacture/ supply. Supply of material(s) should not be allowed before aforesaid approval(s).

- (3) Testing shall be performed as per "DETAILED SPECIFICATIONS". All relevant test certificate(s) including IES LM 79, LED Driver test certificate must be furnished for all models to LED luminaires/ lot(s).
- (4) If at any time, corporation desires to test the LED luminaires at any government recognised laboratory like ERDA/ UL/ ERTL/ third part NABL approved laboratory; the same shall be arranged by the bidder. In such case, only testing charges shall be paid by corporation, if the testing results are found satisfactory otherwise the same shall be borne by the supplier. Cost towards all arrangement(s) of such testing shall be borne by the supplier.

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



Followings are mandatory requirements and therefore, bidder must have to strictly comply.

Sr. No.	Item	Requirement(s)	
(1)	Street Light Pole and Bracket	Height	: 7.0 m
		Material	: G.I. (please see details/ specifications)
		Pole Type	: Conical with base plate.
		Base plate and J-bolt	: To be got approved prior to supply. Size as per actual site condition. Bidder has to confirm at his own prior the order placement to manufacturer. If required as per site situation, rust/ concrete removal from J-bolts/ foundation plate, fitment of adaptor plate etc. bidder has to manage at his own.
		G.I. coating	: Min.65 micron
		Bracket fitment	: Snap in type, without nut-bolts.
		Bracket angle wrt road surface	: 0 to 15
		Paint of pole and bracket	: Polyurethane-PU Paint, At manufacturer's works.
		Testing of pole and bracket	: At Manufacturer's works only.
(2)	LED Luminaries	IES file is mandatory.	: Must be attached for all luminaires.
		Rated I/P	: 240 W (Outdoor Streetlight) 120 W (Outdoor Streetlight) 80 W (High bay Outdoor)
		Life	: Life of entire LED fitting, including all part(s) and, excluding surge protection device shall be 50,000 Hrs.
		Luminaire Type	: LED, Outdoor application.
		LED Driver	: Luminaire driver shall be suitably encapsulated with min. IP 66 protection (in case of separate compartment is provided in the luminaries) and, must be suitable for outdoor application.
		Luminaire Mounting	: Adjustable
		Luminaire Housing	: Die-cast/ extruded Aluminium Material.
		Light loss factor	: 0.7
		LED operating current	: Should not exceed 750 mA for LED up to 150 W and, 1,000 mA for above 150 W.



		Luminaire Testing	:	Reverse testing at manufacturer's works. After placement of order, bidder will supply all luminaires as per tender. From the received lot(s), samples will be collected and testing will be done at manufacturer's works. If, result(s) aren't as per requirements, penalty will be imposed as mentioned elsewhere in tender.
		Luminaire Marking	:	There should be BIS registration No. marked on the LED driver.
(3)	Cables / Wires	Size	:	[1] 4 X 16 mm ² XLPE armoured cable for pole to pole & also CCMS to pole. [2] 3 X 1.5 mm ² unarmoured flexible wire for Luminaire supply.
(4)	Terminations	Glands	:	All cable glands shall be Double compression made from appropriate steel material suitable for such application(s).
		Lugs	:	Crimping type bimetallic lugs/ sockets.
(5)	Junction box	Integral part of street light pole.	:	There shall be provision for fitment of 3 Nos. of Cable Glands, MCB, terminal/ connector strip(s) and, earthing wire/ strip for luminaire(s). Having <u>Allen key type locking arrangement</u> .
(6)	DWC Pipe	size	:	OD/ID- 63/50 mm.
(7)	G.I. Pipe	size	:	N.B.: 40 mm.
(8)	CCMS	----	:	10 kW, 3-Phase, 415 V AC, 50 Hz system.
(9)	Pole Numbering	As per respective Zone Colour Code.		Good quality Radium Sticker. Number series will be finalized in consultation of Engineer-in-charge.

**I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.**

I / We have gone through the fact(s) as above and, have clear understanding regarding the scope as described.

Seal & Signature of Bidder



DOCUMENTS FURNISHED ONLINE/ HARD COPY

(MOST IMPORTANT)

MANDATORY FOR BIDDER (WITHOUT WHICH, BID(S) SHALL NOT BE CONSIDERED):

NOTE: - BIDDER HAS TO FILL RELEVANT DATA IN THE TABLE BELOW AND, AFTER DATA FILLED, DULY SEALED AND SIGNED PAGE MUST BE COLOUR SCANNED AND MUST BE SUBMITTED IN THE SOFT COPY WITH BID. IF THIS INSTRUCTION IS NOT FULFILLED, TENDER WILL BE OUT RIGHTLY REJECTED. BLACK & WHITE SCAN COPY WILL NOT BE CONSIDERED.

Sr. No.	Description		
(1)	Name of the bidder	:	
(2)	Address	:	
(3)	GST No.	:	Proper & readable SCANNED copy submitted in soft copy (pdf/ jpg format only).
(4)	PAN	:	-as above-
(5)	OEM selected	:	Copy of the authorisation letter ORIGINAL HARD COPY MUST BE SUBMITTED WITH BID.
(6)	MoU with OEM	:	ORIGINAL HARD COPY MUST BE SUBMITTED WITH BID. Not Applicable in this tender. In Original hard copy.
(7)	Bidder's Affidavit	:	ORIGINAL HARD COPY MUST BE SUBMITTED WITH BID. ---
(8)	E.M.D. & Tender Fee Details	:	Colour SCANNED copy submitted in soft copy pdf/ jpg format only)
(9)	Solvency Certificate	:	As mentioned elsewhere in tender document. Proper & readable SCANNED copy submitted in soft copy (pdf/ jpg format only).
(10)	C.A's Certificate	:	Showing financial turnover of last three years [2016-17, 2017-18, 2018-19] Colour SCANNED copy submitted in soft copy pdf/ jpg format only)
(11)	Undertaking of Bidder	:	Furnish Sealed & Signed copy. -as above-
(12)	Professional Tax paid latest receipt	:	latest receipt Proper & readable SCANNED copy submitted in soft copy (pdf/ jpg format only).
(13)	PF registration No.	:	latest receipt -as above-
(14)	Partnership agreement/ JV agreement	:	Whichever is applicable Proper & readable SCANNED copy submitted in soft copy (pdf/ jpg format only).



(15)	Undertaking on Rs 100 Non-Judicial notarised stamp paper, by bidder, confirming that bidder is not Black listed in any central government/ state government/ local self-government organisation or municipal Corporations etc.	:	ORIGINAL HARD COPY MUST BE SUBMITTED WITH BID.	-as above-
(16)	Electrical Contractor's licence	:	Must be Valid.	-as above-
(17)	Addenda corrigendum(s) duly sealed / signed.	:	If applicable.	-as above-
(18)	ALL ANNEXURES	:	Furnish Sealed & Signed copy.	-as above-
(19)	Special Terms and Conditions.	:	Furnish Sealed & Signed copy.	-as above-
(20)	Technical Compliance Sheet.	:	Furnish for each light fixture and its components along with data sheet and supportive document.	-as above-
(21)	A list of all completed works.	:	Must be furnished along with satisfactory work completion certificates / work orders {work completed other than SMC work completion / Satisfactory certificates should be notarised)	Proper & readable SCANNED copy submitted in soft copy (pdf/ jpg format only).
(22)	IES file(s)	:	To be attached with the technical-bid in soft copy only.	Without IES files, tender will be out rightly rejected.

All bidders must not specifically & submit their offer accordingly: -

- ✓ All certificates/ documents/ submission(s) should be sealed and signed by relevant authority/ authorized person/ authorized signatory only.
- ✓ Pdf/ JPG file of UL or NABL approved Indian laboratory test report(s) including IES LM 79 with latest amendment(s) (if any) for all type tests for each type of luminaries should be uploaded (with the technical bid) with the technical bid. In absence of this document offer of such bidder will be out-rightly rejected. No dispute will be entertained at later date. The bidder must have to submit IES file generated from LM 79 from UL or NABL approved laboratory test report(s).
- ✓ All tests defined as "Acceptance Tests" other than IES LM 79 and IES LM 80 are allowed to carry out at Manufacturer works. LM 79 must be prepared by NABL approved laboratory only. LM 80 report is prepared by LED Chip Manufacturer.

SEAL & SIGNATURE OF THE TENDERER: -

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.



Contractor's/ Bidder's Undertaking / Certificate

- ☞ I / we hereby declare that I / We have persuaded in detail and examined closely the specifications / general terms & conditions / special terms & conditions / important instructions / notes described in the tender documents & addenda corrigendum(s) [if any]. I / We hereby agree to be bound by and comply with all such specifications / terms, conditions etc.
- ☞ I / We also confirm that my / our offer is strictly in line with the tender specifications, stipulations, terms and conditions etc. and understand that in the event of any deviations, technical or commercial, my / our price bid will not be opened.
- ☞ I / We have understood the tender specifications / terms / conditions / all content of tender and particularly intent behind the content and bind my / ourselves for same.
- ☞ If any items / conditions / specifications / scope of work is mentioned differently at more than one place(s) by chance, most appropriate as decided by the department (Surat municipal Corporation) will apply & binding to the tenderer.
- ☞ Normally, all documents/ details/ certificates as asked/ requested along with the bids must be submitted in soft copy/ hard copy as mentioned in the tender & submission of such documents etc. after expiry of technical-bid submission date shall not be accepted and offer of all such bidders shall be rejected out-rightly. However, in specific circumstances; decision of Municipal Commissioner will be binding & acceptable to all bidders. Dispute(s) created at later date wouldn't be entertained & treated as fraudulent practice(s) and action(s) deemed fit shall be initiated against such bidder(s), which must be specifically noted and quote their offer accordingly.

Note: - Aforesaid "Undertaking" must be furnished/ attached along with technical-bid (as colour pdf/ jpg file only), failing which offer of such bidders will be rejected out-rightly.

SEAL & SIGNATURE OF THE TENDERER: -



SPECIAL TERMS AND CONDITIONS: -

THE FOLLOWINGS MUST BE CONSIDERED: -

1. Each tender must accompany with latest passport size photograph along with specimen signature of the contractor(s).
2. In the event of the tender being submitted by a partnership firm, signature of all partners must be done along with their latest photographs duly signed thereof. The partnership deed must also be attached with the tender. Power of attorney of to sign the all other documents/ certificates must be furnished failing which offer of such bidder shall not be considered.
3. The contractor(s) shall have to attach sales tax certificates with residential address evidences.
4. For contractor(s) paying royalties to the Government, the receipt of the same must be produced.
5. The successful contractor(s) shall be required to submit photographs, address and specimen signatures in duplicate at the time of executing the agreement. The agreement shall be executed by partner/ person who have signed the tender/ quotation.
6. Affix passport size photograph in table below: -

--	--	--	--

Specimen signature of all partners in case of partnership agency/ firm: -

1. _____
 2. _____
 3. _____
 4. _____
- Submission of registered agreement is compulsory in case of partnership agency.

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -

NOTE: - PLEASE CLEARLY NOTE THAT “SPECIAL TERMS AND CONDITIONS” MUST BE RETURNED DULY SEALED & SIGNED ALONG WITH THE TECHNICAL-BID.



SURAT MUNICIPAL CORPORATION

TECHNICAL/ SERVICE PROFILE PERTAINING TO TENDERER: -

Sr.	Description	:-	Filled by Contractor
1	Name of Tenderer / Contractor	:-	
2	The Applicant is a) an individual b) a proprietary firm c) a <i>firm</i> in partnership d) a Limited Company or Corporation	:-	
3	Attach the Organization Chart showing the structure of the organization including the name of the Directors & position of directors.	:-	
4	Name of contact person	:-	
	Address	:-	
	Contact No.	:-	
	Mobile No.	:-	
	E-mail address, if any.	:-	
	Address of Head Office.	:-	
	Address Main office in Gujarat.	:-	
	Office in Surat or nearest to Surat.	:-	
5	Are you a manufacturer/ authorized dealer/ sub dealer/ any other? (Please specify).	:-	
6	Give details about your service network	:-	
7	Minimum period for attending the call/ breakdown from the time of intimation.	:-	
8	Do you agree to all terms and conditions specified in the tender if no, please specify where and how you differ (attach separate sheet if necessary)	:-	Yes
9	Give details of technical personnel, list of tools/ tackles instruments possessed by you.	:-	
10	Completion period from the date of confirmed order.	:-	



Sr.	Description		Filled by bidder
11	Enumerate customer's list to whom such equipments are supplied, installed and commissioned by you and are in service at present (Attach separate sheet if necessary).	:- ⇒ ⇒ ⇒ ⇒	
12	How maintenance/ services will be offered. Specify clearly (i.e. from Surat office or any elsewhere).	:-	
13	If order is split, will it affect your any of terms/ conditions, guarantee period, servicing, maintenance? Mention clearly.	:-	No
14	Testing will be carried out at manufacturer's works prior to dispatch of equipment as specified earlier.	:-	Yes
15	Rates are inclusive of all sales tax, works contract tax, transportation, watch & ward, VAT, service tax, construction cess etc.	:-	Yes
16	Portion or percentage of the work the tenderer proposes to sub-contract (if any) in case contract is awarded.	:-	
17	For how many years has the organization been in business under its present name & style?	:-	
18	Have you ever not completed work awarded to you? (if so, give the name of project and reasons for not completing the work on separate page).	:-	
19	In which field of electrical Engineering do you claim specialization?	:-	
20	Details of your latest project completed.	:-	

Note:

- (i) Attach separate sheet/ sheets if where ever required.
- (ii) The Corporation will not issue any sales tax declaration form

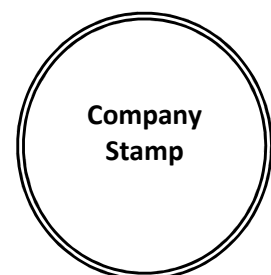
Signature of Authorized person :-

Name :-

Designation :-

Place :-

Date :-





ANNEXURE-I

Experience, Registration & Solvency Certificate

1	No. of years of experience: a) as a Prime Contractor (contractor shouldering major responsibility) i) in own country ii) other countries (specify country)	
2	For how many years has your organization been in business of similar works under its present name? What were your fields when your organization was established? Whether any new fields were added in your organization? And if so, when?	
3	Have you ever left any work awarded to you incomplete? (If so, give name of work and reasons for not completing the work).	
4	Give details of your similar type of experience in implementing turnkey projects of electrical work etc.	
5	Give details of similar type of ongoing works	
6	Name of Banker with full address	
7	Amount of Solvency Certificates issued by Bankers (Attach attested copy of latest Solvency Certificate).	

SEAL & SIGNATURE OF THE TENDERER: -



ANNEXURE-II

Information Regarding Current Litigation, Debarring/ Expelling of Bidder or Abandonment of Work by Bidder: -

1	a)	Has the Applicant or its constituent partners consistent history of litigation awarded against him.	Yes / No
	b)	If yes, give details	
2	a)	Has the Application or any of its constituent partners been debarred / expelled by any Agency in India, during the last 5 years as on the date of application, except on account of reasons other than non-performance, such as rescinding of joint venture due to most experienced partner of joint venture pulling out, court directions leading to breaking up of a joint venture before start of work.	Yes / No
	b)	If yes, give details	
3	a)	Has the Applicant or any of its constituent partners abandoned any contract work in India during the last 5 years.	Yes / No
	b)	If yes, give details	
4	a)	Has the Applicant or any of its constituent partners been declared bankrupt during the last 5 years	Yes / No
	b)	If yes, give details, including present status	
5		Has the Applicant or any of its constituent partners been debarred by any State R & B Dept. for as on the date of application	Yes / No

Note: If any information in this schedule is found to be incorrect or concealed, pre-qualification application will be summarily rejected.

SEAL & SIGNATURE OF THE TENDERER: -



ANNEXURE: III

General Data / Details of Luminaire/ Guaranteed Technical Particulars

Sr. No.	Parameters	Data/ Details/ Guaranteed Value
(1)	LED Rated Operating Current (mA)	
(2)	No(s) of LEDs (Chips) to be Used in Luminaire	
(3)	Luminaire manufacturer	
(4)	Luminaire model identification no/ name	
(5)	Rated Input of LED Streetlight luminaire	
(6)	Initial lumen output (Rated)	
(7)	Lumen output (as per LM79 report, mentioning current in mA)	
(8)	Lumen depreciation at the end of Rated Life (mentioning temperature in °C and current in mA)	
(9)	Rated Correlated colour temperature (CCT)	
(10)	Rated Colour rendering index (CRI)	
(11)	Material of Construction: - Luminaire Heat Sink Diffuser/ Lens	
(12)	Dimension	
(13)	Weight	
(14)	LED Driver's make, model no. and IS Registration Number (R-Number)	
(15)	LED Driver's rated life (hours) { min. 20,000 Operating hours }	
(16)	LED chip's rated operating current (mA)	
(17)	Rated Supply Voltage of LED Luminaire	
(18)	Operating voltage range	
(19)	Operating Frequency Range	
(20)	Rated Power factor	



Sr. No.	Parameters	Data/ Details/ Guaranteed Value
(21)	Total harmonic distortion	
(22)	Working humidity range	
(23)	Working temperature range	
(24)	Conformity with IP-66 Fixtures rating	
(25)	Electrical connector(s)	
(26)	Surge Voltage Level(s) in kV Internal & External, as applicable	
(27)	Name of the LED chip manufacturer	
(28)	LED chip model name and number	
(29)	LM 80 report from the LED chip manufacturer on the lumen depreciation characteristics of the specific LED chip employed in the proposed luminaire product	
(30)	Junction temperature (°C) of LED	
(31)	Rated Life of LED Chip	
(32)	LED driver Cut off Voltage	

Note: -

- ⇒ IES file of offered LED luminaires must be furnished in soft copy with the technical-bid; failing which your offer will be rejected out rightly.
- ⇒ Separated sheet(s) for all LED luminaires must be furnished as soft copy along with the technical-bid otherwise offer of such bidder will be rejected out-rightly.

SEAL & SIGNATURE OF THE TENDERER: -



ANNEXURE: IV

Technical confirmation sheet for LED Luminaire

<p>Tenderer shall have to study & confirm that his offered LED fitting is complying all the technical specification, specified in the detailed specification. Tenderer has to confirm followings and <u>soft copy needs to be attached with the technical-bid (strikethrough, whichever is not confirmed by the bidder): -</u></p>		
(1)	Codes & Standards	Yes/ No
(2)	Environmental Conditions	Yes/ No
(3)	Constructional Features	Yes/ No
(4)	Data Sheet: Fixed & Performance Parameters	Yes/ No
(5)	General Data Sheet	Yes/ No
(6)	Power (Price) Loading	Yes/ No
(7)	Illumination Level	Yes/ No
(8)	Penalty	Yes/ No
(9)	Details to Be Submitted by The Bidder	Yes/ No
<p>My/ our confirmation found fake/ wrong during verification at any stage or at any stage of contract, or after contract execution or after defect liability period. I/ We are agreed to whatever action(s) taken by the competent authority of corporation in the aforesaid circumstances including forfeiture of security deposit, recovery of penalty amount from any pending due(s) with SMC, debarring from participation in future tenders for the period/ years as decided by the corporation and informing the same to all other state/ central level Government/ semi-government organizations.</p>		
<p>SEAL & SIGNATURE OF THE TENDERER: -</p>		



ANNEXURE: V

BILL OF QUANTITY

Sr.	Description	Qty.
1	SETC of 7 m Conical Poles as per detailed specifications.	72 Nos.
2	[a] SETC of Single arm 1.5 m Bracket with PU paint as per detailed specifications (main carriage).	72 Nos.
	[b] SETC of Double arm 1.5 m Bracket with PU paint as per detailed specifications (main carriage).	8 Nos.
	[c] SETC of Single arm 1.5 m Bracket with PU paint as per detailed specifications (Service Road).	36 Nos.
3	[a] SETC of 120 W LED streetlight luminaires as per detailed specifications (main carriage).	72 Nos.
	[b] SETC of 240 W LED streetlight Luminaires as per detailed specifications (Service Road).	44 Nos.
	[c] SETC of 80 W LED High Bay Luminaires as per detailed specifications (Under Bridge).	40 Nos.
4	RCC foundation	00 Nos.
5	SETC of 8 SWG GI Wire.	250 kg
6	(a) SETC of 4 c x 16 sq mm Aluminium conductor armoured cable as per detailed specifications.	2,080 m
	(b) SETC of 4 c x 25 sq mm Aluminium conductor armoured cable as per detailed specifications.	0000 m
	(c) SETC of unarmoured copper cable 3 core 1.5 sq mm as per detailed specifications.	820 m
7	(a) Providing & making cable end termination using Bakelite sheet with heavy duty stud type connector & solder less crimping type lugs for Feeder Pillar .	4 Nos.
	(b) Providing & making cable end termination for 4 x 16 sq mm cable .	144 Nos.
	(c) Miniature Circuit Breaker single pole 2 A suitable to operate on 240 V A.C. system and having Breaking Capacity 10 KA to be erected in existing box confirming to IS 8828/1996 with ISI Mark. Cat. III .	156 Nos.
8	FRP Junction Box	00 Nos
9	Making trench of suitable width of 90 cms deep for laying cable & back filling the same and making the surface as normal ground and covering of cable shall be with 50 mm dia. I.D. DWC pipe. [a] Soft soil/ Kachcha Road .	100 m
	Making trench of suitable width of 90 cms deep for laying cable & back filling the same and making the surface as normal ground and covering of cable shall be with 50 mm dia. I.D. DWC pipe [b] Hard Murrum/ Asphalt Road .	100 m
	Making trench of suitable width of 90 cms deep for laying cable & back filling the same and making the surface as normal ground and covering of cable shall be with 50 mm dia. I.D. DWC pipe [c] Making 6" to 8" deep Zari & refilling by similar material.	200 m
	Supply and Laying of O.D.-63/I.D.-50 mm dia. DWC PIPE for aluminium armoured cable.	100 m
10	SETC of Centralized Control & Monitoring System (CCMS) Units of 10 KW Three Phase as per detailed specifications.	2 Nos.
11	Supply and lying of GI "B" grade pipe having 40 mm dia. for cable guard pipe.	150 m
12	Painting the Number of Pole as per detailed specifications up to 20 characters, Up to 75 mm height.	72 Nos.

Note: - Quantities shown in the tender are approximate only. No claim shall be entertained for quantities of work executed being $\pm 5\%$ of those mentioned in the above estimate. Payment shall be released for actual work done only.

SEAL & SIGNATURE OF THE TENDERER: -



ANNEXURE: VI (For bidder/ LED Manufacturer)

AFFIDAVIT

NO CONTENT NEEDS TO BE CHANGED/ MODIFIED

(To be given on Non-judicial stamp paper (Rs. 100.00) duly signed by authorized notary)

Name of Work: - SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF STREET LIGHT SYSTEM
AT KATARGAM-VED DARWAJA FLY OVER BRIDGE, SURAT.

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither our firm nor any of its constituent partners have abandoned any work in India nor any contract awarded to us for such works has been rescinded during last five years, prior to the date of this bid.
3. The undersigned hereby authorize(S) and request (s) any bank, person, authorities, government or public limited institutions, firm or corporation to furnish pertinent information deemed necessary and requested by the SMC to verify our statements or our competence and general reputation.
4. The undersigned understands and agreed that further qualifying information may be requested and agrees to furnish any such information at the request of the SMC.
5. The SMC and its authorized representative are hereby authorized to conduct any inquiries or investigations to verify the statements, documents, and information submitted in connection with this application and to seek clarification from our bankers and clients regarding any financial and technical aspects. This Affidavit will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by you to verify statements and information provided in the tender or with regard to the resources, experience and competence of the Applicant.
6. My/ our offer shall not be considered in case of fake/ forged document(s) found during verification at any stage or at any stage of contract. I/ we are agreed to whatever action(s) taken by competent authority of corporation in the aforesaid circumstances such as forfeiture of security deposit and debarring from participation in future tenders for the period/ years as deemed fit by the corporation and informing the same to all other state/ central level Government/ semi Government organizations.



I/ we confirm that my/ our (name of the firm) is a partnership/ proprietary firm/ limited company (strike out, which isn't applicable) having registered office (address), PAN number....., GST registration no..... It is to clarify that legal name mentioned in GST registration certificate is and trade name mentioned is The trade/ legal name has been prefixed with M/s. It is to clarify that legal name and trade name as mentioned is of the same entity.

I/We further clarify that any legal/ financial/ administrative issues/ liabilities arising out of difference in name, if any shall be my/ our responsibility and SMC shall not be liable for any financial/ legal consequences arising thereof.

Signed by the authorised signatory of the firm

Title of the office

Name of the firm

Date



PART-II

COMMERCIAL



IMPORTANT INSTRUCTIONS TO TENDERER

GENERAL:

The Surat Municipal Corporation hereinafter referred to as the Corporation hereby invites tenders for the work of Supply, Installation, Testing and Commissioning of street light system at Katargam-Ved Darwaja Fly over Bridge, Surat as per the specifications in the tender documents. The Contract documents may be secured in accordance with the notice Inviting Tender for the said work.

[01] NO DEVIATION IN TECHNICAL SPECIFICATION OR COMMERCIAL TERMS LIKE TERMS OF PAYMENT, COMPLETION PERIOD ETC. SHALL BE ALLOWED. SUCH DEVIATION (S), IF OFFERED WILL CAUSE THE REJECTION OF TENDER(S) OUTRIGHTLY.

[02] TENDERER TO READ AND NOTE CAREFULLY:

[A] At his own expenses and prior to submitting his tender, each tenderer shall **(a)** examine the Contract Documents **(b)** visit the sites and determine local conditions which may affect the work including the prevailing wages and other pertinent cost factors **(c)** familiarize himself with all central, State and local laws, ordinance, rules, regulations and codes affecting the material supply including the cost of permits and licenses required for the work and **(d)** correlate his observations, investigations, and determinations with the requirement of the tender documents.

[B] The documents / appendices / annexure / statements should be completed legibly in ink, checked in responsible manner, signed, stamped and returned together with the tender security Bond by the tenderer.

All the pages in which entries are required to be made by the tenderer are contained in the tender documents and the tenderer shall not take out or add to or amend the text of any of the documents or else the tender shall be rejected forfeiting the EMD.

[03] EARNEST MONEY DEPOSIT:

[A] Each tender must be accompanied by a receipt of deposit as tender guarantee (Earnest money deposit) of the amount mentioned in memorandum, in the form of crossed Demand Draft / Pay Order of Nationalized / Scheduled Bank acceptable to Corporation drawn in favour of the "Municipal Commissioner, Surat Municipal Corporation" payable at Surat. The tender bond shall be valid for a period of not less than 180 days from the date of the tenders are opened and shall comply with the requirements for Bond as stipulated in the general conditions of contract. The Corporation as a guarantee will hold the tender guarantee bond that the tenderer if awarded the contract, will enter in to the contract agreement in good faith and furnish the required bonds. Any tender not accompanied by a tender Guarantee in the form of earnest money deposit in the form of Bank Draft for the sum stipulated in the tender document will be summarily rejected.

[B] The earnest money deposit will be refunded to the unsuccessful tenderer(s) after the award of work has been finalized.



- [C] The earnest money deposit (tender guarantee) will be forfeited in the event, the successful tenderer fails to accept the contract and fails to submit the performance guarantee bond to the corporation as stipulated in the tender documents within ten days after receipt of notice of award of contract. In such case corporation, may disqualify the tenderer from tendering for further works, under the jurisdiction of the corporation (SMC).
- [D] The earnest money deposit of the successful tenderer shall be returned after the performance guarantee bond, as required, is furnished by the bidder.
- [E] No interest shall be paid by the corporation on any tender guarantee / performance guarantee.
- [F] **Bank guarantee or cheque or FDR shall not be accepted for EMD / tender guarantee.**

[04] GST REGISTRATION CERTIFICATES:

Latest GST registration certificates (along with all annexures) should accompany the tender without which, the tender is liable to be summarily rejected. The GST registration number must be clearly specified.

[05] PREPARATION OF TENDER DOCUMENTS:

Tenderer(s) are requested to note the following while preparing the tender documents:

- [A] Tender shall be submitted as specified in this tender document in English. All tender items and statements shall be properly filled in. Numbers shall be stated both in words and in figures where so indicated.
- [B] Each tender shall be accompanied by the prescribed tender security bond and other required documents and drawings. All witnesses and sureties shall be persons of status and proximity and their full names, occupations and addresses shall be stated below their signatures. All signatures in the tender documents shall be dated.
- [C] Delivery of tenders shall comply with notice inviting tenders as to place, date and time.

[06] SUBMISSION OF TENDER DOCUMENT:

Bidders wishing to participate in this e-tender shall be required to procure Digital Certificate as per Information Technology Act- 2000. By using this certificate, the bidder can digitally sign his electronic bid. Bidders can procure the Digital Certificate from any of the CCA approved certifying agency or can contact M/ s (n) Code Solution at the below mentioned address who will assist in procuring the same. Bidders who already have a valid Digital Certificate need not procure it again. In case bidders need any clarification regarding online participation they can contact:

M/ s (n) Code Solution,
301, GNFC Info Tower,
Near Grant Bhagwati Hotel,
Ahmedabad-380 015.



Tel: +91-79-26857316 / Tel: +91-79-26857317 / Tel: +91-79-26857318

URL: <https://smc.nprocure.com>

Bidders who are willing to participate in e-tender need to fill data in pre-defined forms of Tender fee, EMD (Bid Security), Qualifying Criteria & Technical Bid and Price Bid only.

Bidders should upload scan copies of reference documents in support of their eligibility of the bid. Technical-bid (except specific documents/ pages) needs not be submitted in hard-copy instead pdf file of the tech-bid/ documents must be uploaded on respective web-page in pdf format only. After filling the data in pre-defined forms, bidders need to click on final submission link to submit their encrusted bid.

Bids shall be submitted as below:

⇒ EMD & Tender Fee along with proof of Qualifying Criteria in pre-defined forms, tender papers & certificates (except specific pages, which must be furnished in hard-copy) in electronic mode.

⇒ **Price Bid must be submitted online only.**

Note: Price bid in physical form (in hard copy) will not be accepted.

The direct or indirect mention regarding cost in technical-bid shall not be allowed.

The documents shall be submitted in **one set** in the following manner:

[a] Set of documents shall be put in a **separate sealed cover. Name of the Work, Tender Notice No. and full name and address of the bidder shall be written clearly on the sealed cover.**

[b] **The Bank Draft for EMD shall be put in a separate envelope subscribed as “EMD” on top of the cover. Tender fee amount (DD) shall be put in the same cover.**

The documents along with the envelope containing EMD shall be put inside one large envelope, sealed and clearly super scribed on top of the packet name of the work & tender notice no. Name and full address of the bidder shall be written on the bottom left corner of each envelope. Due date of Receiving the tender shall also be mentioned on the envelope. This cover must be super scribed as “Technical Bid Cover”.

The hard copy as above should be sent to the Chief Accountant, Surat Municipal Corporation, Muglisara, Surat 395 003 by RPAD & Speed Post only as per the dates mentioned in the tender notice. SMC shall not be responsible for any postal delay.

DOWNLOADING OF TENDER DOCUMENT:

The tender document for this work is available only in Electronic format, which can be downloaded free of cost by the bidder. Tender documents consist of two parts (i) technical bid with qualifying requirements (ii) Price bid.



INFORMATION FOR ON LINE PARTICIPATION:

- [i] Internet site address for e-tender activities will be [https:// smc.nprocure.com](https://smc.nprocure.com).
- [ii] Interested bidders can view detailed tender notice and download tender document from the above-mentioned website.
- [iii] Bidders who wish to participate in online tender have to register with the website through the “New User Registration” link provided on the home page. Bidder will create login id & password on their own in registration process.

Tenders by partnership firm must be signed by all partners. The full name and addresses of all the partners shall be furnished. The tenders by Corporation / Companies must be signed with the legal name of the Corporation/ Company by the president / or by the secretary or other person or persons legally authorised to bind the Corporation / Company in the matter.

PRICE BID IS NOT TO BE SUBMITTED IN PHYSICAL FORM. PLEASE NOTE THAT NON-SUBMISSION OF PRICE BID DOES NOT ABSOLVE THE BIDDERS FROM ANY LIABILITY CREATED FROM THE BID CONDITIONS AND BIDDING PROCESS. ENTIRE TECHNICAL-BID NEED NOT BE SUBMITTED; HOWEVER, UNDERTAKING AS PER CHECK LIST MUST BE SUBMITTED DULY SEALED & SIGNED AS A TOKEN/ ACKNOWLEDGEMENT OF STUDYING & UNDERSTANDING THE ENTIRE TECHNICAL BID CAREFULLY & INTENDED PURPOSE OF THE WORK.

[07] TENDER VALIDITY PERIOD:

The validity period of the tender submitted for this work shall be **of one hundred twenty (120) calendar days from the last date of submission of the price bid** and, that the tenderer shall not be allowed to withdraw or modify the tender offer on his own during the validity period. The tenderer will not be allowed to withdraw the tender or make any modifications or additions in the terms and conditions of his tender. If this is done then the corporation shall, without prejudice to any right or remedy, be at liberty to reject the tender and forfeit the earnest money deposit in full.

GENERAL PERFORMANCE DATA:

Tenderer(s) shall submit all the information, which is sought for in the tender documents in the form of various schedules. Tenders may not be considered if left blank or the schedules are not properly filled in before submissions of the tender.

[08] SIGNING OF TENDER DOCUMENTS:

- [a] Documents clarifying type of business (as applicable), e.g. Self-declaration in case of proprietary firm, Partnership deed in case of Partnership firm, Power of attorney and deed of “karta” in case of HUF, Certificate of incorporation issued by registrar of companies in case of private/public limited companies etc.
- [b] Undertaking on Rs 100 Non-Judicial notarised stamp paper, by bidder, confirming that bidder is not Black listed in any central government/ state government/ local self-government organisation or municipal Corporations etc.



INDIVIDUAL	SOLE PROPRIETORSHIP	HUF	PARTNERSHIP	COMPANY	SOCIETY	CO- OP. SOCIETY	TRUST
1. Self Attested Copy of PAN Card of Individual			1. Certified Copy of Partnership Deed	1. Memorandum & Articles of Association	1. Certificate of registration issued by Registrar of Societies	1. Certificate of registration issued by Registrar of Co-operative Societies	1. Certified copy of the Trust Deed
			2. Documents to be signed by a Partner, on the basis of a resolution signed by all the other partners.	2. Certificate of Incorporation	2. Memorandum of Association and By- Laws.	2. Bye- Laws	2. Documents to be signed by a Trustee on the basis of a resolution signed by all the other Trustees.
			3. Self Attested Copy of PAN Card of Partnership Firm	3. Form 32 for all Directors	3. Documents to be signed by a Chairman/ President, Authority given on the basis of resolution of the Managing Committee	3. Documents to be signed by a Chairman/ President, Authority given on the basis of resolution of the Board of Directors	3. Self Attested Copy of PAN Card of Trust
				4. Documents to be signed by a Director on the basis of a resolution of the Board of Director		4. Self Attested Copy of PAN Card of Society	
				5. Self Attested Copy of PAN Card of Company			
				6. Board Resolut on letter			

All witnesses and sureties shall be persons of status and proximity and their full names, occupations and addresses shall be stated below their signatures.

[09] WITHDRAWAL OF TENDERS:

If, during the tender validity period, the tenderer withdraws his tender, the tender security (earnest money) shall be forfeited and the tenderer may be disqualified from tendering for further works under the jurisdictions of the SURAT MUNICIPAL CORPORATION.

[10] TAXES AND DUTIES:

Prices quoted must be inclusive of all taxes, levies, work contract tax, packing/ forwarding, transportation, freight, watch & ward, insurance etc. **excluding GST.**

The Municipal Corporation will not issue "C" or "D" form.

GST (GOODS & SERVICE TAX) has come in to existence from 1st July 2017. Contractor/ Successful Bidder is bound to pay the amount of GST prescribed by the Govt. Of India as per the Terms of Contract agreed upon during the course of execution of this Contract.

During the course of execution of Contract, if there is any change in rate of GST (GOODS & SERVICE TAX) by the Government the same shall be reimbursed/ recovered separately by SMC, subject to the submission of original Receipt/ Proof for the amount actually remitted by the successful bidder/ Contractor to the competent Authority along with a certificate



from chartered Accountant of Contractor/ Successful Bidder certifying that the amount of GST paid to the Government and the same shall be intimated/ submitted/ claimed within 30 (Thirty) Days from the sole responsibility of the Successful bidder/ Contractor, failing which, SMC may recover the amount due, from any other payable dues with SMC. Further the non-payment of the GST to the Government may lead to the termination of contract and forfeiture of Security Deposit/ Performance Guarantee Amount.

TDS of GST shall be deducted as per the act/rules from the bills of the contractor.

The Contractor shall be liable to the payment of all the Central/ State/ Local Body's Levies, taxes or duties etc. The SMC shall neither bear it nor reimburse at any time but will ensure deduction of Central/ State/ Local levies and taxes at Source at the rate provided under the relevant statutes from time to time in force. Further the work contract tax or sale tax shall be borne by the Contractor as per Rules and Regulations of Government.

Any increase or decrease in taxes/ duties or imposition of any new taxes/ duties shall be on account to the Corporation and such increase/ decrease shall be paid/ recovered to/ from the Contractor on producing documentary evidences only. The contractor shall be the sole responsible for payment of such incidentals to the concerned Government department which he has collected from the Corporation. This provision is limited for Schedule-B of the tender.

As per government G.R. Building and other construction work welfare cess act-1966 labour and employment development G.R. No. CWA/ 2004/ 841/ M-3, Dt-30/ 01/ 2006 **contractor shall have to pay 1% cess on every bill amount.**

[11] TIME REQUIRED FOR COMPLETION FOR WORK:

- [01]** The bridge is under construction presently and it shall take around 10 months for completion. However, entire work shall be completed in all respects within **45 days from the date of intimation. Rate(s) must be quoted/ offered accordingly.**
- [02]** The completion period shall be strictly as mentioned above excluding monsoon during which, site clearance/ work permission is not given by SMC.
- [03]** **Any deviation in completion period specified in the technical-bid shall not be accepted and such tender shall not be considered.**

[12] PRICES AND PAYMENTS:

The tenderer must understand clearly that the prices quoted are for the total works and include **all costs due to materials, labour, equipment, supervisions, other services, royalties, works contract tax, construction cess, all type of taxes, levies duties etc. except GST.** No claim for additional payment beyond the prices quoted will be entertained and the tenderer will not be entitled subsequently to make any claim on any ground.

- 1) The payment shall be made considering the actual measurement of each item executed multiplying the rate per unit sanctioned for each item.
- 2) The contractor is bound to carry out the work for any item mentioned above.
- 3) **The competent authority of the corporation reserves the right of reducing the scope of work by deleting any of the above items.**



- 4) The detailed specifications for each item shall remain firm as specified in the tender documents (Technical Bid).

TERMS OF PAYMENTS:

No payment shall be made in advance. The terms of payment shall be as under. The Municipal Corporation shall not under any circumstances relax the terms of payment and will not consider any alternative terms of payment. Tenderer should therefore in their own interest note this provision to avoid rejection of their tender.

(A) Equipment Supply Item: -

1. **80%** of equipment(s) supply value after satisfactory delivery/ acceptance of material and after, submission of invoice.
2. **15%** of equipment(s) supply value after satisfactory commissioning of all the equipments and after, submission of invoice.
3. Remaining **5%** of equipment(s) supply value after satisfactory completion of whole work in all respect as a final bill.

(B) Erection, Testing & Commissioning: -

1. **95%** of the value quoted against erection, testing & commissioning after satisfactory completion of erection, testing and commissioning of respective item/ equipments and after, submission of the invoice.
 2. Remaining **5%** of equipment(s) supply value after satisfactory completion of whole work in all respect as a final bill.
- ❖ Two percent (**2%**) shall be retained from every running bill as retention money and shall be released in Final Bill, after of satisfactorily completion of SETC work.
 - ❖ Security deposit shall be released after final takeover of the installation after expiry of defect liability period as well as satisfactory clearance from Audit department.
 - ❖ All payments shall be made as per prevailing rules/ regulations of SMC.
 - i. In case site access is not available within three months from the date of completion of supply period then 5% of supply value shall be released against submission of a Bank Guarantee for equivalent amount.
 - ii. Further, if in another three-month, site access is still not available further 5% of supply value shall be released against submission of a Bank Guarantee of equivalent amount.
 - iii. This means that, in case site is not clear within 06 months of completion of supply period, tenderer shall be paid 95% of supply value in total.
 - iv. The contractor shall have to submit bill in duplicate along with documents as mentioned elsewhere in this tender document for the activities completed. The payment should be made as per the actual work done and actual measurement of each item done on site.



[13] OPENING OF TENDER DOCUMENTS

The Technical Bid will be opened in the office of the competent authority, Surat Municipal Corporation, Surat, if possible, on next working day of last date of receipt at 16:00 Hours. Bidders or their representative who wish to participate in tender opening should remain present at Light & EEC-Surat Municipal Corporation. Only one representative of each firm will be allowed to remain present.

Technical bid cover containing Technical Bid papers/ documents & EMD will be opened first and relevant details will be read out.

The bidders who fulfil the requirements of the qualifying criteria & technical-bid, price-bid of such bidders will be opened.

- [14]** The price bid which is quoted online on web site <https://www.nprocure.com> or <https://smc.nprocure.com> will remain unopened till the technical bid of all tenderer are as per technically at par.

[15] EVALUATION OF TENDER

After opening of the technical bid, SMC will examine the technical bid thoroughly. The bidder must fulfil all eligibility criteria.

However, tender will be opened for the bidder who qualifies for all terms/ conditions. If bidder is disqualified on any ground, tender for the same will not be opened. For eligibility of opening of price-bid, all criteria should be fulfilled.

- [16]** The bidder is required to furnish all details, literature, certificates etc. as per specifications, terms & conditions, which is must. **Order will be placed to overall lowest bidder.**

[17] Corrupt and Fraudulent Practices: -

- [a]** The Employer (SMC) requires that bidders/ contractors under this contract **observe the highest standard of ethics during the procurement and execution of this contract. In pursuance of this policy**, the Authority; Defines, for the purpose of these provisions, the terms set forth below as follows:
- [i]** corrupt practice: means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
 - [ii]** fraudulent practice means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.
 - [iii]** Will reject a proposal for award of work if Employer determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.



[iv] Will declare a Bidder ineligible, either indefinitely or for a stated period of time, to be awarded a SMC contract/contracts if he at any time determines that the Bidder has engaged in corrupt or fraudulent practices in competing for, or in executing, the contract.

[b] The Employer will reject a proposal for award if he determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question. The Employer will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by Surat Municipal Corporation if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for the contract, or during execution.

[18] OPENING OF PRICE-BID:

The tenderer who's technical-bid is found as per terms and conditions and achieving the performance parameters as per tender terms & conditions may be allowed to remain present during the opening of the price-bid. The successful tenderer of technical bid, who choose to remain present may attend price bid opening and price break-up will be readout at that time. The competent authority of SMC reserves the right to open/ seal/ accept/ reject any tender without assigning any reasons thereof.

Price Bid(s) of Tenderer, who do not meet the technical requirements of the tender, will not be opened.

[19] Acceptance of tender will rest with the competent authority of the corporation. It does not bind SMC to accept the lowest tenderer and reserves the right to reject any or all tenders and no reasons will be given for acceptance or rejection thereof. The tenderer whose tender is accepted should enter into a regular contract agreement and to abide by all rules and regulations embodied in the tender.

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



QUALIFICATION CRITERIA

The qualification process will lay high emphasis on the ability and competency of contractors to do high quality work within the given time schedule. The following criteria along with other conditions/ criteria shall be applicable to Bidder.

- [01] Average annual financial turnover of Bidder during the **last 3 years (2016-17 to 2018-19), ending 31st March of the previous financial year** should be at least 30% of total estimated cost.
- [02] Experience of having successfully completed similar works during last 7 years ending last day of month before the one in which tenders are invited should be either of the following:

Work Completion Certificate(s) {WCC} Required for Similar Work Value. [3A form only will be considered]	Min. Nos. of WCC [Work(s) Completed.
80% of Total Estimated Cost	01
50% of Total Estimated Cost	02
40% of Total Estimated Cost	03

“Similar work” signifies SETC of street lights. (Appropriate evidence(s) like work completion certificate(s) with work order(s) must be provided).

Following enhancement factors will be used for the cost of works executed and financial figures to common base for the value of the works completed in India: -

Financial Year	Multiplying Factor
One (2018-19)	1.10
Two (2017-18)	1.21
Three (2016-17)	1.33
Four (2015-16)	1.46
Five (2014-15)	1.61
Six (2013-14)	1.77
Seven (2012-13)	1.95

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



Scope of Work

- (1) All the materials/ equipment must be supplied with the manufacturer's test certificates, whichever applicable.
- (2) The material shall be got tested/ inspected at manufacturer's works in presence of Third-Party Inspector deployed by SMC or SMC's representative before supply, as mentioned elsewhere in tender. The supplier/ contractor must make all the arrangement for testing/ inspection of equipment at manufacturer's works without any extra cost to the corporation. 07 days' clear prior-notice should be given for testing/ inspection. If at any time after commissioning, corporation desires testing at any government recognised laboratory for any item utilised by contractor, the same shall be arranged by the contractor, for which only testing charges shall be paid by corporation, if the testing results are found satisfactory otherwise charges shall be borne by the contractor. Further, such material/ equipment should be replaced/ repaired (if possible) free of cost.
- (3) Tenderer must make his own arrangement for watch and ward of material supplied till it is commissioned satisfactorily at site and handed over to the corporation. Corporation will not be responsible for theft of materials till it is commissioned satisfactorily and handed over to the corporation even if part payment is released.
- (4) Defect liability period will be **12 months from the date of satisfactory commissioning. After successful commissioning, entire system shall be handed over to O & M Contractor of the respective Zone/ Sub Zone.** However, spares/ components of streetlight system under the defect liability period, including CCMSs shall be provided by the contractor, who has installed the system. Therefore, the rates must be quoted accordingly and no dispute will be entertained at later date.
- (5) Necessary technical specifications/ information should be collected before quoting the rates. No dispute at later date shall be entertained.
- (6) The Contractor must quote the rates online "price schedule" only. No alterations in form of tender and in "price schedule" and no additions in the shape of special stipulation will be permitted. Tender/ tenders, which do not fulfil all or any of the above conditions or are incomplete in any respect, shall be liable for rejection and price-bid of such bidder shall not be opened.
- (7) The works shall be entrusted to **overall lowest** tenderer only. All contractors should note the same and participate/ offer the self-supporting rates accordingly.



- (8) The TENDER GUARANTEE paid against this tender shall be retained till submission of performance guarantee on award of contract. The earnest money deposit will be forfeited in the event; the successful contractor denies to accept the contract and fails to submit the performance guarantee bond to the corporation as stipulated in the tender documents within ten days after receipt of notice of award of contract. The bidder is required to understand clearly the purpose of the tender.
- (9) All equipment/ materials / accessories are to be supplied by contractor and to be erected by contractor. No tools-tackles / machinery/ manpower will be provided by the Corporation. No change in units shall be allowed.
- (10) Entire lighting system installation with methodology shall have to be got approved before commencement of actual work on site. Map/ installation drawing needs to be provided with actual work done/ quantities of materials/ equipment supplied/ installed with table after commissioning. Final bill will be released after satisfactory commissioning along with submission of map/ drawing as above.

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



GENERAL TERMS AND CONDITIONS

- [01] It should be clearly noted that payment of earnest money deposit & Tender fee either by pay order or demand draft only is must for consideration of the tender. TENDER GUARANTEE & Tender fee in any other form like cash, cheque, Bank guarantee etc. shall not be accepted. Tender without TENDER GUARANTEE & Tender fee shall be out rightly rejected. The demand draft or pay order should be in the name of "MUNICIPAL COMMISSIONER, SURAT MUNICIPAL CORPORATION" only and must be enclosed with the tender. The pay order/ demand draft should be valid for minimum 180 days.
- [02] The tenderer/ contractor shall also attach with the tender the copy of Registration in SMC or any other Government/ Semi Government department, the latest sales tax registration.
- [03] The work must be completed in all respect within stipulated time period as mentioned in Important instruction to bidder, failing which penalty @ 0.2% of order value of unexecuted portion per day of delay subject to maximum 10% of ~~unexecuted portion~~ order value shall be charged and shall be deducted from the bill or any outstanding payment. Also, if contractor fails to execute the work than action against contractor will be taken as per decision of competent authority of SMC and that should bind to contractor.
- [04] Quantities shown in the tender are approximate and no claim shall be entertained for quantities of work executed being either more or less than 5% those entered in the tender of estimate.
- [05] Disputes if any shall be discussed and mutually settled and in case of disagreement the same shall be referred to Commissioner/ Standing Committee. After referring to Commissioner/ Standing Committee if the said dispute is not solved, the same be referred to the court subject to Surat jurisdiction only.
- [06] List of reputed customers/ similar works executed must be furnished with the tender.
- [07] The supply shall be done during working days between 8.00 A.M. to 6.00 P.M. only. If the contractor intends to work in holidays or outside working hours specified, he shall take prior written permission from Engineer in charge/ Zonal officers.
- [08] The material/ equipment offered by the tenderer must carry an un-conditional guarantee of minimum one year from date of commissioning or 18 months of date of satisfactory supply at site, whichever finishes earlier. The amount of performance guarantee shall be retained till expiry of satisfactory guarantee period. During the defect liability period, all necessary spare(s)/ material(s) required will be supplied/ arranged by contractor.
- [09] During defect liability period, if any spare(s)/ material(s) found defective than same should be repaired or new spare(s)/ material(s) is to be replaced. In no case second hand/ used material/ equipment wouldn't be allowed.
- [10] The terms of payment shall be as specified earlier in important instruction to tenderer. The corporation shall not accept advance payment term. All payments are subject to income tax, construction cess, etc. at source as per prevailing rules. All payments shall be made by A/C Payee cheque of any schedule bank Surat branch only or as per prevailing rules/ regulations of SMC.



- [11] The validity of the tender should be minimum 120 days from the last date of submission of the tender (Price-Bid).
- [12] The technical illustrative literatures with sketches, if required, giving full details for each item must be enclosed with the tender clearly indicating the model quoted.
- [13] The successful Supplier shall be required to deposit an **amount equal to 5% (2.0% in case of SITC works) of the total order value** as **Security Deposit** in Municipal Treasury in Cash/ by Demand Draft (**up to Order value of Rs. 2.0 Cr.**) or in cash/ DD/BG/ FDR (For Order value exceeding Rs. 2.0 Cr.) in the name of "Municipal Commissioner, SURAT MUNICIPAL CORPORATION", of any Nationalized Bank, ~~(The Surat People's Co. Op. bank, IDBI bank, Axis bank, HDFC bank and ICICI bank are allowed)~~ Surat Branch only, within 10 (Ten) days of order failing which penalty @ 0.065% of the Security Amount per day of delay shall be charged. The successful Contractor shall also be required to enter into contract agreement along with undertaking and local surety on Gujarat Stamp Paper purchased from Surat worth Rs. 900.00 (i.e. Rs. 300.00 + 300.00 +300.00 for each) (To be brought by the contractor) on getting the order. If security deposit in form of FDR, the Bidder shall have to become the contract agreement on non-judicial Gujarat stamp paper of amount of 4.92% of security deposit amount or as per latest amendments of government.
- [14] The rates for all individual items should be filled in the price schedule and all the tender documents duly filled in wherever necessary and tender papers duly signed wherever specified must be returned. If any page is taken out or tender papers are not returned or any change is made in tender papers, the TENDER GUARANTEE shall be forfeited rejecting the offer out rightly. Tenderer may attach separate sheet for any remarks or specifications if they intend to specify along with the tender only.
- [15] Unless specified the equipment must comply with relevant IS, which must be specified.
- [16] Sealed Technical Bid duly super scribed with tender notice number and due date must reach the office of the Chief Accountant, Surat Municipal Corporation, Muglisara, Surat-395 003 on or before the date mentioned in the memorandum by Registered post or Speed post only. Tender sent through Angadia/ courier or Hand delivery shall not be accepted. The Technical Bid shall be opened on the next working day if possible, at 4:00 PM in presence of intending tenderer. **The corporation shall not be responsible for postal delay.**
- [17] Conditional tenders shall not be accepted.
- [18] No correction, overwriting erasures in filling tender papers shall be considered unless countersigned.
- [19] **In case of any misunderstanding due to interpretation of any terms, conditions or specifications the decision of Municipal Commissioner, Surat Municipal Corporation, Surat shall be final and binding on the part of contractor.** In unnecessary queries raised verbally/ and/ or in writing shall be treated as "Fraudulent Practice(s)" and action(s) deemed shall be taken against such bidder(s) will be taken after taking due permission of Municipal Commissioner.
- [20] The contract shall be constituted according to and subject to laws in India and State of Gujarat and under the jurisdiction of courts of Gujarat at Surat only.



- [21] The correctness of each detail given in the tender documents is not guaranteed. The contractor shall independently obtain all necessary information for quoting/ offering the tender. The contractor shall be deemed to have examined the contract documents, to have generally obtained his own information in all matters that might affect the tendered rates.
- [22] Any Error in description does not relieve the contractor from executing the work according to the specifications, terms & conditions. Tender documents must be viewed in totality. If there is contradiction in any specification(s)/ General terms/ Conditions, appropriate as decided by the department/ municipal commissioner will be final & binding to contractor/ bidder(s).
- [23] No officer, Employee of Municipal Corporation is admitted to any share or part of this contract to any benefit that may rise there from.
- [24] Tender documents are not transferable.
- [25] The competent authority of Surat Municipal Corporation reserves the right to reduce the scope of work ~~and split the tender in two parts or more~~ without assigning any reason even after award of contract.
- [26] Corporation will not defray expenses incurred by tenderer in tendering.
- [27] After completion of job, contractor shall submit the test reports, technical literatures, wiring diagram, operation and maintenance manual, complete installation drawings etc. All these shall be printed and bound in book form. Payment shall be released only on receipt of this volume.
- [28] Price variation clause of any form shall not be accepted. Price shall remain firm till execution of work in all respects till the release of security deposit.
- [29] Any damage to any service or accident in carrying out the works pertaining to this contract shall be to contractor's account.
- [30] INSURANCE:
Contractor shall be responsible, at his own expenses for confirming to and complying with all existing laws and regulations to protect his personnel against job connected accidents and third party claim against property damage as well as for the death and injury arising out of any action on the part of the contractor personnel while engaged in the performance of duties in connection with the contract.
- [31] TERMINATION FOR UNSATISFACTORY PERFORMANCE:
If the corporation considers that the performance of the contractor is unsatisfactory or not up to the expected standard, the corporation shall notify the contractor in writing and specify in detail the cause of dissatisfaction. The corporation shall have the option to handover this work to other agency(ies) at risk & cost of the contractor and terminate this contract if the contractor fails to comply with the requisition contained in the said written notice issued by the corporation to the contractor within fifteen days of the receipt thereof. Decision of the competent authority shall be final regarding deduction of performance guarantee or release the performance guarantee.



[32] Any other details, if required can be obtained from the office of the I/C. Executive Engineer, Light & EEC, Surat Municipal Corporation, Main Office Building, Muglisara, Surat- 395 003 on request and prior to submitting the tender. No dispute at a later date shall be entertained.

[33] Responsibility of contractor under Construction and Demolition Waste (C & D Waste) rules 2016:

- [01]** Contractor shall remove all construction and demolition waste (C & D Waste) and clean the area every day, or depending upon (1) The type & schedule of work. (2) The quality and type of waste generated, appropriate storage and collection facility shall be developed at site. Reasonable timeframe shall be worked out in consultation with engineer in charge of the project, for storage & usage of C & D Waste.
- [02]** If it's found that contractor is irregular and showing negligence to management of C & D Waste, then if deem fit, Engineer in charge would arrange to dispose the said C & D Waste through an Authorized C & D Waste Contractor/agency of Surat Municipal Corporation and All expenditure made towards disposal of this C & D Waste shall be recovered from the contractor as per the prevailing charges.
- [03]** Contractor shall have to bear the expenses towards management of C & D Waste as per the prevailing norms, no extra payment shall be entertained for the same.
- [04]** Contractor shall keep record of the generation and disposal of Construction and Demolition waste(C & D Waste) and proof of its disposal as per the provision of C & D Waste rules and he has to submit along with running bills.
- [05]** If contractor fails to upkeep and maintain records of C & D Waste generation Disposal records etc. than it shall be calculated as per the provision of the Standing Committee Resolution no 1621/2016, Dt.01/10/2016 and charges shall be recovered from due of contractor with Surat Municipal Corporation.

Contractor shall also ensure use of recycled product made from SMC authorized C & D Waste agency as far as possible to promote the C & D Waste management project.

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



CONDITIONS OF CONTRACT

CLAUSE-1 {ACTION WHEN WHOLE OF THE SECURITY DEPOSIT IS FORFEITED}

In any case in which under any clause of or clauses this contract the contractor shall have tendered himself liable to pay compensation amounting to the whole of this security deposit (whether it is paid in one sum or deducted by instalments) or in the case of abandonment of the work owing to serious illness or death of the contractor or any other causes, the Commissioner on behalf of the Corporation shall have power to adopt of the following courses, as he may deem best suited to the interest of Municipal Corporation.

- a) To rescind the contract (of which rescission notice in writing to the contractor under the hand of the Commissioner shall be conclusive evidence) and in that case that security deposit of the contractor shall stand forfeited and be absolutely at the disposal of Municipal Corporation.
- b) To employ labour paid by the corporation and to supply material to carry out the works, or any part of the work debiting, the contractor with correctness of which cost and price the certificate of Zone Engineer shall be final and conclusive against the contractor and crediting him with the value of the work done, in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract, and in that case the certificate of the Zone Engineer as to the value of the work done shall be final and conclusive against the contractor.
- c) To order that the work of the contractor be in measured up and to take such part thereof as shall be unexecuted 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 original contractor, if the whole work had been executed by him (as to the amount of which excess expenses the certificate in writing of the Zone Engineer shall be final and conclusive) be borne & paid by the original contractor shall be deducted from any money due to him by Municipal Corporation under the contract or otherwise from his security deposit or the proceeds of sale thereof, or a sufficient part thereof.

In the event of any of the above courses be adopted by the Commissioner the contractor shall have no claim to compensation for any loss sustained by him by reason of his purchased or procured any materials or entered into any engagements, or made any advances on account of or with a view to the execution of the work or the performance of the contract. And in case the contract shall be rescinded under provision aforesaid, the contractor shall not be entitled to recover, or be paid any sum for any work thereto actually performed by him under this contract unless and until the City Engineer shall have certified in writing the performance of such work and the amount payable to him in respect thereof, and he shall only be entitled to paid the Particular so certified.

CLAUSE-2 {CONTRACTOR REMAINS LIABLE TO PAY COMPENSATION IF ACTION NOT TAKEN UNDER CLAUSE (3)}

If the progress of any particular portion of the work is unsatisfactory the Commissioner shall notwithstanding that the general progress of the work is satisfactory in accordance with clause 2, be entitled to take action under clause 3 (b) after giving the contractor 15 days' notice in writing and contractor will have no claim for compensation for any loss sustained by him owing to such action.



CLAUSE-3 {POWER TO TAKE POSSESSION OF, REQUIRE OR REMOVAL OF, OR SELL CONTRACTOR'S PLANT/ ASSETS}

In any case in which any of the powers conferred upon the Commissioner by clause 3 and 4 hereof shall have become exercisable and same shall not have been exercised the non-exercise thereof shall not constitute a waiver of any of the conditions hereof such powers shall notwithstanding be exercisable in any future case default by the contractor for which by any clause or clauses hereof he is declared liable to pay compensation amounting to the whole of his security deposit and the liability of the contractor for past and future compensation shall remain unaffected.

In the event of the Commissioner taking action under sub-clause (a) or (c) of clause 1, he may, be he so desire to take possession of all or any tools, plant materials and stores in or upon the works, or the site thereof or belonging to the contractor, or procured by him and intended to be used for the execution of the work of any part thereof, paying or allowing for the same in account at the contract rates, or in the case of contract rates not being applicable, at current market rates, to be certified by the Zone Engineer whose certificate thereof shall be final. In the alternative the Commissioner may by notice in writing to the contractor or his clerk of the works. Foremen or other authorised agent require him to remove such tools, plant, materials, or stores from the premises within a time specified in such notice; & in the event of the contractor failing to comply with any such requisition, the Commissioner may remove them at the contractor's expense or sell them by action or private sale at the risk and account of the contractor in all respects, and certificate of the Engineer-in-charge as to the expense of any such removal, and the amount of the proceeds and Extension to expense of any of any sale shall be final and time conclusive against the contractor.

CLAUSE-4 {PAYMENT AT REDUCED RATE}

The rates for several items of the work agreed to within, shall be valid only when the item concerned is accepted as having been completed fully in accordance with the sanctioned specifications. In cases where the items of works are not accepted the Engineer-in-charge may make payment on account of such items at such reduced rates as he may consider reasonable in the preparation of final or on account bills.

CLAUSE-5 {STORES SUPPLIED BY SMC}

If the specification or estimate of the work provides for the use of any special description of materials to be supplied from the Municipal Store or if it is required that the contractor shall use certain stores to be provided by the Engineer-in-charge (such materials and stores and the prices to be charged thereof as hereinafter mentioned being so far as practicable for the convenience of the contractor but not so as in any way to control meaning or effect of the contract specified in the schedule or memorandum hereto annexed) the contractor shall be supplied with such materials and stores as may be required from time to time to be used by him for the purpose of the contract only and the value of the full quantity of materials and stores so supplied shall be set off deducted from any sums then due, or thereafter to become due to the contractor under the contract, or otherwise or from the security deposit, or the proceeds of sale thereof shall be deposit is held in Government securities the same or a sufficient portion there of shall in that case be sold for the purpose. All material supplied to the contractor shall remain the absolute property of Municipal Corporation and shall on no account be removed from the site of the work, and shall at all times be opened to inspection by the Engineer-in-charge. Any such materials unused and in perfectly good condition at the time of completion or determination of the contract shall be returned to the Public Works Department store, if the Engineer-in-charge so requires by a notice in writing given under his hand,



but the contractor shall not be entitled to return any such materials except with such consent and he shall have no claim for compensation on account of any such materials supplied to him as aforesaid but remaining unused by him or for any wastage in or damage thereto.

CLAUSE-6 {WORKS TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS ETC.}

The contractor shall execute the whole and every part of the work in the most substantial and workman like manner, and both as regards materials and in every other respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to 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 for the purpose of inspection at such office, or on the site of the work during office hours, and the contractor shall, if he so requires, be entitled at his own expense to make or cause to be made copies of the specifications and of all such designs, drawings and instruction on aforesaid.

CLAUSE-7 {ALTERATION IN SPECIFICATIONS}

The Engineer-in- charge shall have Alternation in power to take any alteration in, or addition to specifications the original specifications, drawings, designs and design not instruction that may appear to him to be necessary to invalidate or advisable during the progress of the work, and contractors. the contractor shall be bound to carry out the work in accordance with any instructions in this connection which may be given to him in writing signed by the Engineer- in-charge and such alteration shall not invalidate the contract and any additional 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 respect on which he agreed to do the main work and at the same rates as are specified in the tender for the main work. And if the additional and altered work includes any class of work for which no rates are specified in this contract than such class of work shall be carried out at the rates entered in the schedule of rates of Municipal Corporation or at the rates mutually agreed upon between the Engineer-in-charge and the contractor whichever are lower if the additional or altered work for which no rate is entered in the schedule Rates for works of Rates of Municipal Corporation is ordered to be not entered in carried out before the rates are agreed upon then estimate or the contractor shall, within seven days of the schedule of date of receipt by him of the order to carry out rates of the work, inform the Engineer-in-charge of the Municipal rate which it is his intention to charge for such Corporation. class of work and if the Engineer-in-charge does not agree to this rate he shall by notice in writing be at liberty to cancel his order to carry out such class of work, and arrange to carry it out in such manner as he may consider advisable provided always that if the contractor shall commence the work or incur any expenditure in regards thereto before the rates shall have been determined as lastly herein before mentioned, then in such case he shall only be entitled to be paid in such case he shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of the determination of the rate as aforesaid according to such rate or rates as shall be fixed by the Engineer-in-charge. In the event of a dispute, the decision of the Commissioner will be final.

Where, however, the work shall have to be executed according to the designs; drawings and specifications recommended by the contractor and accepted by the competent authority the alteration above referred to shall within the scope of such designs drawings and specification appended to the tender.



The time limit for the completion of work shall be extended in the proportion that the increase in its cost occasioned by alterations or addition consequence of the cost of the original contract work, and the certificate of the Engineer-in-charge as to such proportion shall be conclusive.

CLAUSE-8 {NO COMPENSATION FOR ALTERATION OR RESTRICTION OF WORKS TO BE CARRIED OUT}

If at any time after the execution of the contract documents the Engineer-in-charge shall for any reason whatsoever, require the whole or any part of the work as specified in the tender to be stopped for any period or shall not require the whole or part of the work to be carried out at all or to be carried out by the contractor, he shall give notice in writing of the fact to the contractor who shall thereupon suspend or stop, the work totally or partially, as the case may be. In any such case, except as provided hereunder, the contractor 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 so derive in consequence of the full amount of the work nor having been carried out, or on account of any loss that he may be put to on account of materials purchased or agreed to be purchased, or for unemployment of labour recruited by him. He shall not also have any claim for compensation by reason of any alteration having been made in the original specifications, drawings, designs and instructions may involve any curtailment of the work as originals contemplated. Where which however, materials have already been purchased or agreed to be purchased by the contractor, before receipt by him of the said notice, the contractor shall be paid for such materials at the rate determined by the Engineer-in-charge, provided they are not in excess of requirements and are of approved quality and/ or shall be compensated for the loss, if any that he may be put to in respect of materials agreed to be purchased by him, the amount of such compensation to be determined by the Engineer-in-charge, whose decision shall be final. If the contractor suffers any loss on account of his having to pay labour charges during the period during which to stoppage of work has been ordered under this clause the contractor shall on application be entitled to such compensation on account of labour charges as the Engineer-in-charge, whose decision shall be final, may consider reasonable, provided that the contractor shall not be entitled to any compensation on account of labour charges if, in the opinion of the Engineer-in-charge, the labour could have been employed by the contractor elsewhere for the whole or part of the period during which the stoppage of the work has been ordered as aforesaid.

CLAUSE-9

The Contractor is to cover up and protect the works from the weather, and is suspend all 'wet' operations during weather which, in the Additional City Engineer opinion, will be detrimental to the work.

CLAUSE-10

Samples of each class of material and workmanship shall be submitted by the Contractor for the approval of Engineer-in-charge and after such approval these samples shall be deposited at any place the Engineer-in-charge may appoint and the Contractor shall be required to perform all the works of this contract in accordance with the samples.

CLAUSE-11

On completion, all work must be cleaned down; rubbish removed and the works and land cleaned of rubbish; surplus materials and other accumulations, and everything left in a clean and ordinary condition.



CLAUSE-12

The contractor shall provide, erect and maintain proper sheds and temporary buildings for the storage and protection of materials and goods and for the execution of work which may be fabricated or brought on the site.

CLAUSE-13

The contractor shall permit the execution of the work not provided for in the tender by artists; tradesman, or others engaged by the Municipal Corporation. The contractor shall allow all reasonable facilities and the use of his scaffolding and water for the execution of such work, but is not required to provide any special scaffolding for the execution of such work except by special arrangement with Municipal Corporation.

CLAUSE-14 {ACTION AND COMPENSATION PAYABLE IN CASE OF BAD WORK}

If at any time before the security deposit is refunded to the contractor, 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 unskilful workmanship or with materials of inferior quality; or that any materials 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, it shall be lawful for the Engineer-in-charge to intimate this fact in writing to the contractor and them notwithstanding the fact that the work, materials or articles complained of may have been inadvertently passed, certified and paid for, the contractor shall be bound forthwith to rectify, or remove and reconstruct the work so specified in whole or in part as the case may require, or if so required shall remove the materials or articles so specified and provide other proper and suitable materials or articles at his own 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 the written intimation aforesaid, the contractor shall be liable to pay compensation at the rate of one percent on the amount of the tender for every day not exceeding ten days, during which the failure so contaminate and in the event of any such failure as aforesaid the Engineer-in-charge may rectify or remove and re-execute the work or remove and replace the materials or articles complained or as the case may be at the risk and expense in all respects of the contractor, should the Engineer-in-charge consider that any such inferior work or materials as described above may be accepted or made use of it; shall be within his discretion to accept the same at such reduced rates along with the appropriate penalty as the Commissioner may deem fit. The period to be counted from that date of final completion and handing over of the work to the Municipal Corporation during which the contractor is so liable for any defects in the work shall be the Defects Liability Period shown in the attached Memorandum.

CLAUSE-15 {WORK TO BE OPEN TO INSPECTION}

All works under in course of execution or executed in pursuance of the contract shall at all-time be open to the inspection and supervision of the Engineer-in-charge and his subordinates, and the contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer-in-charge or his subordinate to visit the work 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 duly authorised agent shall be considered to have the same force and effect as if they had been given to the contractor himself.



CLAUSE- 16 {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 measurement any work in order that the same may be measured; and correct dimensions thereof taken before the same is so covered up or placed beyond the reach of measurement any work without the consent in writing of the Engineer- in- charge or his subordinate in charge of the work, and if any work shall be covered up or placed beyond the reach of measurement without such notice having been given or consent obtained, the same shall be uncovered at the contractor's expense, and in default thereof no payment or allowance shall be made for such work or for the materials with which the same was executed.

CLAUSE-17 {CONTRACTOR LIABLE FOR DAMAGE DONE}

If the contractor or his workmen; or servants shall break, deface injure or destroy any part of a building in which they may be working, or any building, road, fence enclosure or grass land or cultivated ground continuous to the premises on which the work of any part thereof is being executed; or if any damage shall be done to the work for any cause whatever while it is in progress or if any imperfection become apparent in it within the Defect liability period mentioned above by Engineer- in- charge the contractor shall make good the same 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 expenses (of which certificate of Engineer-in- charge shall be final) from any sum that may be due or thereafter become due to the contractor or from his security deposit or the proceed of sale thereof or of a sufficient portion thereof.

CLAUSE-18

The contractor shall supply at his own cost all materials (except such special materials, if any, as may be supplied from the SMC Stores in accordance with the contract).plant tools, appliances implements, ladders, cordage, scaffolding and any temporary works which may be required for the proper execution of the work, in the original; altered or substituted from, and whether included in these specification or, other documents forming part of the contract or referred to in these conditions or not and which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-charge as to any matter on which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage thereof To and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials necessary for the purpose of setting out works and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or materials, Failing this the same may be provided by the Engineer-in-charge at the expense of the contractor and the expense may be deducted from any money due to the contractor under the contract, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The contractor shall provide all necessary fencing and lights required to protect the public from accident; and shall also be bound to bear the expenses of every suit. Action or other legal proceedings, at law, that may be brought by any person for Injury sustained owing to negligence of the above precautions, and to pay damages and costs which may be awarded in any such suit action or proceedings, to any such person, or which may with the consent of the contractor be paid in compromising any claim by any such person.

**CLAUSE-19**

The contractor shall make his own arrangement for drinking water for the labour employed by him.

CLAUSE-20 {LIABILITY OF CONTRACTOR FOR ANY DAMAGE DONE IN OR OUTSIDE WORK AREA}

Compensation for all damage done intentionally or unintentionally or by contractor's labourers whether in or beyond the limits of municipal property shall be estimated by the Engineer-in-charge or such other office as he may appoint & estimates of Engineer-in-charge subject to the decision of the Commissioner on appeal be final & the contractor shall be bound to pay the amount of the assessed compensation of demand failing which the same will be recovered from the contractor as damage from the security deposit or deducted by the Engineer-in-charge from any sum that may be due or become due from Municipal Corporation to the contractor under this contract or otherwise. The contractor shall bear the expenses of defending any action or other legal proceedings that may be brought by any person from injury sustained by him owing to negligence of precautions to prevent the spread of fire & he shall also pay any damages and cost that may be awarded by the court in consequence.

CLAUSE-21

No work shall be done on Sunday without the sanction in writing of the Engineer-in -charge.

CLAUSE-22

The contract shall not be assigned or subject without the written approval of the Engineer- in-charge, and if the contractor shall assign or sublet his contract or attempt to do so or become insolvent or commence any proceedings to be adjudicated an insolvent or make any composition with his creditors, or attempt to do the Engineer-in-charge may, by notice in writing rescind the contract. Also if any bribe, gratuity gift, loan, perquisite, reward or directly advantage, pecuniary or otherwise, shall either or indirectly be given, promised, or offered by the contractor, or any of his servants agents to any public officer or person in the employ of Municipal Corporation in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract the Engineer- in-charge may be notice in writing rescind the contract. In the event of contract being rescinded, the security deposit of the contractor shall thereupon stand forfeited and be absolutely at the deposit of the Municipal Corporation & the same consequences shall ensure as if the contract had been rescinded under clause-3 hereof and in addition the contractor, shall not be entitled to recover or be paid for any work thereto for, actually performed under the contract.

CLAUSE-23

All sums payable by a contractor by way of compensation under any of these conditions shall be considered as a reasonable compensation to be applied to the use of Municipal Corporation without reference to the actual loss or damage sustained and whether any damage has or has not been sustained actual loss.

CLAUSE-24 {CHANGES IN THE CONSTITUTION OF FIRM TO BE NOTIFIED}

In the case of a tender by partners any change in the constitution of a firm shall be forthwith notified by the contractor to the Engineer-in-charge for his information.



CLAUSE-25

All works to be executed under the control shall be executed under the directions and subject to the approval in the respects of the I/C. Executive Engineer who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

CLAUSE-26 {DECISION OF COMMISSIONER TO BE FINAL}

Except where otherwise specified in the contract decision of the Commissioner shall be final conclusive and binding on all parties to the contract upon all questions relating to the meaning of the specification designs, drawings and instructions here in before mentioned and as to the quality of workmanship, or materials used on the work, or as to any other question, claim, right, matter, or thing whatsoever in any way arising or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions, or otherwise concerning the works or the execution or failure to execute the same, whether arising, during the progress of the work or after the completion or abandonment thereof.

CLAUSE-27

All quarry fees and royalties shall be paid by the contractor All taxes shall also be paid contractor according to the Municipal rules in force at the time and no refund shall be given Certificate for refund of quarry fees and royalties in admissible under existing rules shall be given by the Municipal to the contractor after successful completion of the contract. For the levy of water charges for construction work, please see the attached Memorandum.

CLAUSE-28 {COMPENSATION UNDER WORKMAN'S COMPENSATION ACT}

The contractor shall be responsible for and shall pay any compensation to his workmen payable under the workmen's Compensation Act 1923 (VIII of 1923) or any statutory modification thereof for injuries caused to workmen.

CLAUSE-29 {CLAIM FOR QUANTITIES OF WORK ENTERED IN TENDER ESTIMATE}

Quantities shown in the tender are approximate and no claim shall be entertained for quantities of work executed being either more or less than those entered in the tender of estimate.

CLAUSE-30 {CLAIM FOR COMPENSATION FOR DELAY IN STARTING THE WORK}

No compensation shall be allowed for any delay caused in the starting of the work on account of any acquisition of land and in the case of clearance work, for any delay in accordance to estimate.

CLAUSE-31 {CLAIM FOR COMPENSATION FOR DELAY IN EXECUTION OF WORK}

No compensation shall be allowed for any delay in execution of the work on account of water standing in borrow-pits or compartments. The rates are inclusive for hard or cracked soil, excavation in mud, soil water or water standing in borrow-pits, and no claim for an extra rate shall be entertained, unless otherwise expressly specified.

CLAUSE-32

The contractor shall not enter upon or commence any portion of work except with the written authority and instructions of the Engineer-in-charge or of his subordinate in charge of the work failing such authority the contractor shall have no claim to ask for measurements for payment of work.



CLAUSE-33

Disputes if any shall be discussed and mutually settled and in case of disagreement the same shall be referred to Commissioner/ Standing Committee. After referring to Commissioner/ Standing Committee if the said dispute is not solved, the same shall be referred to the court subject to Surat Jurisdiction only.

➤ **ALL CLAUSES ARE OF GENERAL IN NATURE; BIDDER/ CONTRACTOR MUST FOLLOW; WHICHEVER IS/ ARE APPLICABLE FOR WORK UNDER CONSIDERATION.**

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



MEMORANDUM

Notice: -

The Tender will be received up to 5:00 PM on **09/09/2019 TO 27/09/2019** by R.P.A.D/ SPEED POST only and will be opened on next working day if possible, in presence of those tenderer who those to remain present on the occasion.

Sr. No.	Particulars	:	Value/ Description
(1)	General Description of works	:	Supply, Installation, Testing and Commissioning of street light system at Katargam-Ved Darwaja Fly over Bridge, Surat.
(2)	Estimated Cost	:	Rs. 33,56,494.56
(3)	Earnest Money Deposited	:	Rs. 33,600.00
(4)	Tender fee	:	Rs. 2,688.00
(5)	Required registration class	:	Experienced Contractors
(6)	Last Date of online submission of Price bid	:	17/09/2019 up to 18:00 hours
(7)	Submission of Technical Bid Papers, Tender Fee, EMD and other documents etc. In hard copy to Chief Accountant, SMC, Muglisara, Surat.	:	From 09/09/2019 to 27/09/2019 @ 05:00 PM by Registered post or Speed Post only.
(8)	Performance guarantee	:	5.0% (2.0% in case of SITC works) of Tender amount. (As per tender) Security Deposit should be in the form of cash/ DD/ pay order in case of work amounting less than equal to Rs. 2.00 Cr.
(9)	Time Allowed for the Completion of contract from date of intimation.	:	45 Days.
(10)	Compensation for delayed work	:	0.2% (Zero-point Two Percent) of the tender value of unexecuted work per day of delay subject to maximum 10% of unexecuted work amount.
(11)	Percentage to be retained from running account Bill	:	As per Payment condition
(12)	Defect Liability Period	:	12 months of the date satisfactory commissioning of entire streetlight system.

I/C. Executive Engineer,
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



PART III

TECHNICAL SPECIFICATIONS



DETAILED TECHNICAL SPECIFICATIONS

ITEM NO. 1:

Supply, Erection, Testing and Commissioning of GI conical pole:

1.1 Structure: -

The conical Poles shall be designed to withstand the maximum wind speed of 159 km/ hour. The maximum stress at wind speed of 159 km/ hour shall not exceed 80% of the strength of steel. The detail of top loading i.e. the weight and area of top luminaries are worked out based on this consideration. Maximum deflection of the pole shall meet the requirement of BS 5649: part 6, 1982. The pole shall be hot dip galvanized as per IS 2629/ IS 2633/ IS 4759 standards with minimum coating thickness of **65 microns** considering operating conditions of the city. The pole shaft shall have conical cross section and shall be continuously tapered with single longitudinal welding. **There shall not be any circumferential welding.** The welding of pole shaft shall be done by Submerged Arc Welding process using state of the art know how.

All conical Pole shafts shall be **single piece** and shall be provided with the rigid flange plate of suitable thickness with provision for fixing four bolts. This base plate shall be fillet welded to pole shaft at two locations i.e. from inside and outside and supports to be provided. Door height should be 1,500 mm above from the bottom of the Pole and door opening should be hinged type with necessary special locking bolt. Suitable plate shall be provided for cable gland support. Pole drawing from manufacturer must be got approved from concerned department.

The detail dimensions are follows: -

Height of Pole	O.D. TOP (Min.)	O.D. BOTTOM (Min.)	THICK-NESS (Min.)	Preferable BASE PLATE (Min.)	Bolt Details	Length of J Bolt	Size of Foundation (L x B x H in mm)
7 m	As per manufacturer's standard		3 mm	280 x 280 x 20 mm	4-M16	Scope of Bridge Department	
11 m			3 mm	280 x 280 x 20 mm	4-M24	750 mm	500 X 500 X 2050
12 m			3 mm	350 x 350 x 20 mm	4-M24	750 mm	500 X 500 X 2500

- Terminal plate made up of Bakelite, **stud type terminal** shall be mounted at the base of the pole. If a particular light fitting has to be manually operated the same can be done by this MCB provided on terminal plate. The provided terminal shall be suitable for loop-in-loop-out of max. 4 Core x 25 sq mm armoured cable.
- The cable shall be terminated at connector in the pole using ISI Marked PVC 1.1 kV grade insulating tape roll with appropriate colour code. All items shall be fixed on the Bakelite sheet of suitable size having 12 mm thickness. There shall also be welded a clit of size 40 x 40 x 4 mm for the purpose of earthing. Termination (lugs, gland, labour) cost should not be considered in the cost of pole.
- The pole shall be adequately strengthened at the location of the door to complete for the loss in section.



- The door opening shall be carefully designed and reinforced welded steel rod, so that undue buckling of the cut section under heavy wind conditions.
- The Poles must be got tested/ inspected for all tests at manufacturer's works in presence of corporation's/ TPI's representative before supply. The supplier must make all the arrangement for testing/inspection at manufacturer's works without any extra cost to the corporation. 7 days' clear prior notice should be given for testing/ inspection. All the material/ equipment/ accessories must confirm to the relevant IS with its latest amendments. If quantity is less than 10 nos., supplier should submit internal test reports of pole.
- All the poles should be supplied with manufacturer's test certificates.
- Product manual & spare parts list along with drawing of Pole & Bracket must be submitted along with offer for each product quoted.
- Calculation of top and bottom dia. of pole shall be provided according to wind speed mentioned during pole approval stage, it should be manufactured, accordingly.

1.2 Material: -

Conical Poles: - As per BSEN 10025 grade S355 Jo. Yield strength Min. 355 N/mm²

Foundation Bolts: - EN 8 grade

Base Plate: -Steel as per IS 226/ IS 2062

Please note that among the various standards mentioned, most appropriate will be applied and will be binding to contractor.

1.3 Qualification Criteria for Pole manufacturer: -

Streetlight conical pole vendor should have following qualifications for eligible to supply streetlight conical pole(s): -

- (1) The vendor must be in particular business for at least 3 years.
- (2) They shall also have enough experience in supply of similar type of poles in the country and must have supplied 1,000 nos. of similar poles till date. Proof(s) for the experience/ satisfactory work completion must be produced.
- (3) Vendor should have own testing facility for streetlight conical pole in the country.
- (4) The bidder shall produce proof of the following for eligible to supply the poles under consideration: -
 - (i) Appropriate details/ documents for testing facility.
 - (ii) Average annual turnover (sales) of the company should be Rs. 2.50 Crores (min.) during last 3 years.



Note: -

1. The Poles shall be got tested/ inspected for all relevant tests at manufacturer's works in presence of corporation's representative/ TPI before supply. The supplier must make all the arrangement for testing/inspection at manufacturer's works without any extra cost to the corporation. 7 days' clear prior notice should be given for testing/ inspection. All the material/ equipment/ accessories must confirm to the relevant IS with its latest amendments.
2. All the material/ equipment/ accessories must be supplied with manufacturer's test certificates.
3. Product manual & spare parts list along with drawing of Pole along with offer for each product quoted.

ITEM NO. 2:

Supply, Erection, Testing and Commissioning of Brackets: -

2 (a) Single arm 1.5 m for main carriage and

2 (b) Double arms 1.5 m

2 (c) Single arm 1.5 m for service road.

SNAP IN DESIGN:

Streetlight bracket, single / double arm, shall be manufactured from 3.0 mm GI sheet and having the spread of 1.5 m and, angle must be maintained suitably **to achieve uniform lux level on the bridge surface of tar/ asphalt road.**

The bottom and top of the bracket's sleeve shall be manufactured in such a way that, it can be easily snapped in tightly on the pole and bracket's fitment on poles without nut and bolt. Suitable size G.I. nipple needs to be provided for proper installation of luminaires.

The bracket shall be paint as per standard engineering practice as per manufacturer.

Bracket will also be tested at manufacturer's works along with the conical poles.

The drawing(s) needs to be got approved from the department before execution of the work at site.

ITEM NO. 3(a), 3(b) & 3(c):

Supply, Erection, Testing & Commissioning of LED Luminaries:



TECHNICAL SPECIFICATION FOR ENERGY EFFICIENT LED BASED LUMINAIRE UNIT FOR OUTDOOR STREETLIGHT: -

This specification is for technical and general requirements design, development, manufacturing, testing and supply of energy efficient LED luminaire for streetlight complete with all accessories, LED lamps with suitable current control driver circuit and required optics including mounting arrangement.

3.1 CODES & STANDARDS: -

⇒ IEC 60529 Classification of degree of protections provided by enclosures (IP Codes)



- ⇒ All LED luminaires should be manufactured & supplied as per all applicable & relevant standards for various components as well as functioning as specified in the tender documents, purposes intendeds and keeping safer, longer & reliable operation up to 10 years' lifespan.
- ⇒ (i) Limits and methods of measurement of radio disturbance characteristic of electrical lighting and similar equipment (ii) LED modules for general Lighting-Safety requirements, (iii) EMC Immunity requirement, (iv) Electro Magnetic compatibility (EMC)- Limits for Harmonic current emission — (equipment input current ≤ 16 A per phase, (v) Environmental Testing: Test Z- AD: composite temperature/ humidity cyclic test etc. should be as per relevant international standard/ all applicable Indian standard(s).
- ⇒ Further, LED should be designed, manufactured and supplied as per relevant Indian/ international standards applicable for fixed general-purpose luminaries, Lamp control gear: particular requirements for DC or AC supplied electronic control gear for LED modules, DC or AC supplied electronic control gear for LED modules performance requirements and Self-ballasted LED lamps for general lighting services- Performance requirements.
- ⇒ IS 4905 Method for random sampling shall be applied unless it is specifically specified.
- ⇒ IES LM 79 LED luminaire photometry and electrical parameters measurement as applicable & IES LM 80 for lumen maintenance shall be applicable.
- ⇒ **All applicable relevant Indian Standards published till now for LED luminaires.**

3.2 ENVIRONMENTAL CONDITIONS: -

The LED streetlight is to be used in city of Surat, which is in Southern part of Gujarat. It is well connected with rails & roads, situated on Mumbai Ahmedabad Railway and nearby road is NH # 8. The average atmospheric condition during the year is mentioned below. The equipment shall be designed to work in such environmental conditions:

- (i) Maximum ambient air temperature: **50° C**
- (ii) Minimum ambient air temperature: **5° C**
- (iii) Max. Relative humidity: **90%**
- (iv) Average Rainfall: **55 inches**
- (v) Atmosphere: **Dusty and Heavy chemical smoke at times in certain areas.**
- (vi) Coastal area: **The equipment shall be designed to work in coastal area in humid, salt laden and corrosive atmosphere.**

3.3 CONSTRUCTIONAL FEATURES:

General: -

- a) Luminaries shall be made of die cast aluminium/ extruded Aluminium body with powder coated finish having safety.



- b) Heat sink used should be aluminium extrusion having high conductivity. Heat sink should be integrated within luminaries and efforts shall be made to keep the overall outer dimension optimum such that it permits sufficient heat dissipation through the body itself to prevent abnormal temperature inside the luminaries and consequential damage to cover, gasket material, LEDs, lenses and drivers.
- c) LED must be mounted on Metal core PCB with suitable large area surface by means of fins to dissipate the conduct heat. The fins must be exposed to ambient flowing air.
- d) All luminaries shall be provided with toughened glass of **min. 0.8 mm thickness of sufficient strength. UV stabilized Poly carbonate material is also acceptable.** The luminaire should be provided with individual optical lens/ optical lens plate on the LED chip for achieving desired photometric distribution.
- e) **The minimum IK protection of optic cover shall be IK 06. Appropriate test certificate/ evidences shall be provided with the technical-bid.**
- f) Suitable number of LED lamps shall be used in the luminaries. **The manufacturer shall submit the proof of procurement of LEDs from OEMs at the time of testing. Please clearly note that LED chips used/ to be used in the luminaires must be from manufacturers mentioned in the vendor's list.**
- g) The electrical component of the LED must be suitably encapsulated with proper heat dissipation facility to function in environment conditions mentioned earlier. Further, **LED drivers used must be appropriately sealed and open driver circuit shall not be accepted.** Proper evidence(s) if required should be provided with the technical-bid.
- h) The connecting wires/ materials used inside the luminaries, shall be low smoke halogen free, fire retardant e-beam cable and fuse protection shall be provided in input side.
- i) Design of the thermal management shall be done in such a way that it shall not affect the properties of the diffuser.
- j) Heat sink must be thermally connected to MCPCB/ LED light source. The LED Module(s), Driver gear, etc. shall be designed in such a way so that temperature of heat sink shall not exceed 70° C.
- k) The infrastructure for Quality Assurance facilities to verify/ test/ prove above specifications must be available at the manufacturing facility of the offered company(ies). Compliance shall be ensured with submission of appropriate evidence(s) with the technical-bid.
- l) **All fasteners must be of stainless steel.**
- m) **Cable gland(s) should be provided for cable entry/ exit.** All glands inside/ outside luminaries must have IP 65 protection.
- n) **Integral Surge Protection of 4 kV (min.).**

High power and high lumen efficient LEDs suitable for following features shall be used: -

- a) The working life of the lamp at junction temperature of 85° C (max) at operating current shall be more than 50,000 working hours of accumulative operation and shall be suitable for continuous operation of 24 hours per day. These features shall be supported with datasheet.



- b) **Lumen maintenance report as per LM 80 guidelines shall be produced for the power LEDs used with the technical-bid.**
- c) Thermal management shall be in such a way that LED soldering point temperature shall not go beyond 75° C.
- d) The luminaries shall be so designed that the illumination level shall be evenly distributed and shall be free from glare. The lux distribution curve/ graph/ spatial distribution shall be submitted.

LED DRIVER specification used for streetlight: -

- a) Current waveform should meet relevant nation and international standard.
- b) LED Driver shall withstand, withstand voltage up to level mentioned elsewhere in tender and restore once normal working when normal voltage is applied.
- c) **The life of the driver should be more than equal to 20,000 Hours.**
- d) Maximum Temperature rise $\leq 30^{\circ}\text{C}$ @ 45°C T_{amb} , with safety margin of 10°C .
- e) The control gear should be compliant to relevant international standard/ all applicable Indian standard(s) as per the requirements.
- f) The driver of the luminaries should have Short Circuit, Over Voltage, over current, over temperature, Under Voltage, String Open protections.
- g) **The LED driver must be confirming to IS 16104: 2012.**

The electronic components used shall be as follows: -

- a) The protective cum adhesive coating used on PCBs should be cleared and transparent and should not affect colour code of electronic components or the product code of the company.
- b) The construction of PCBs and the assembly for components for PCBs should be as per IS standards.
- c) **Specific mentioned of the Indian Standard(s) or international standard(s) does not relieve contractor to design, supply & installation of LED luminaires as designed to give intended performance up to lifespan of 10 years.**



3.4 GENERAL DATA SHEET

Sr. No.	Parameter	Value/ Detail for LED Luminaires		
		80 W High Bay	120 W Streetlight	240 W Streetlight
(1)	Rated Supply Voltage (AC, 50 Hz)	230/ 240 V		
(2)	Input supply voltage range	140 – 270 V		
(3)	Expected Input Frequency	50 Hz \pm 3%		
(4)	Working Temperature	+5° to +50° C		
(5)	Working Humidity	10% - 90% RH		
(6)	Usage hours	Dusk to dawn range 10 hours to 12.75 hours/ day		
(7)	Average Power Factor	\geq 0.90		
(8)	Index of Protection Level (min.)	IP 66 as per IEC 60529		
(9)	LED Chip Efficacy (LED manufacturer shall submit the proof)	135 lm/ W (min.)		
(10)	Driver Efficiency	\geq 85%		
(11)	Junction Temperature of LED	\leq 85° C		
(12)	Rated Life @ L70	50,000 burning hours at 35° C ambient temp.		
(13)	Nominal Correlated Colour Temperature	5,000° K to 6,000° K		
(14)	Dispersion Angle	Minimum 120°		
(15)	Tilting angle	Adjustable/Fixed		
(16)	Overall Light Loss/ Maintenance Factor	0.70		
(17)	Colour Rendering Index	\geq 70		
(18)	Total Harmonic Distortion	\leq 15 % (EMI/ EMC Certification)		
(19)	LED Chip Make	Cree/ Osram/ Nichia/ Philips Lumileds		
(20)	Minimum initial lumen output of Luminaire	8,400 lm	13,200 lm	26,400 lm
(21)	Max. I/P power of LED luminaires	80 W	120 W	240 W
(22)	Distribution	Symmetrical/ Asymmetrical	---	---
(23)	Mounting	Wall or surface through clamps	On street light pole through bracket	

3.5 Reduce rate/ penalty applicable: -

If guaranteed rated power input at fixed parameter is not achieved during the test. Municipal Corporation shall have,



- ⇒ **The right to accept the luminaries & shall have right to charge penalty or reduce rate; in case of input power measured (during test) found more than the max. limit mentioned. The penalty/ reduced rates shall be Rs. 1,69,000.00 per kW; or (2) also right to reject the luminaries/ replaced it with appropriate input power. Decision of Additional City Engineer (Ele...) will be final and binding the contractor.**

3.6 Details to be submitted by the bidder:

For proper assessment and due diligence on submissions, the Bidder should provide various information regarding LED chip/ drive/ luminaires as per **Annexure- III as mentioned earlier in the technical-bid.**

3.7 TESTS & CERTIFICATES:

Tests are classified as: –

- **Type test**
- **Acceptance test**
- **Routine test.**

The luminaire should be tested as per IEC 60598-2-3: 2002 standards and following test reports should be submitted: -

- I. Heat Resistance Test
- II. Thermal in SITU Test
- III. Ingress Protection Test
- IV. Drop Test
- V. Electrical/ Insulation Resistance Test,
- VI. Endurance Test,
- VII. Humidity Test,
- VIII. Electrical and Photometric Measurements Test Report (IES LM 79)
- IX. LED Lumen Maintenance Test Report (IES LM 80)
- X. Vibration test as per ANSI

Type Test: -

Acceptance Tests: -

These tests are carried out by an inspecting agency/ engineer as per quality assurance plan/ details mentioned in the technical-bid. Acceptance tests shall not be carried out from particular size from the lot on which type tests have already been conducted. Recommended sampling plan is given below.

Sample size and criteria for conformity

The luminaries shall be selected from the lot at random. Appropriate method of sampling shall be applied as mentioned earlier in the technical-bid.



Routine Tests:

These tests shall be performed by the manufacturer on complete units of the same type and the results shall be submitted to the inspecting agency, prior to offering the lot for acceptance test. The firm shall maintain the records with traceability.

Table # 1: Test Scheme: -

Sr. No.	Description of test	Prototype Test	Type Test	Acceptance Test	Routine Test
(1)	Visual and Dimensional check	Y	Y	Y	---
(2)	Checking of documents of purchase of LED	Y	Y	Y	Y
(3)	Resistance to humidity	Y	Y	---	---
(4)	Insulation resistance	Y	Y	Y	Y
(5)	HV	Y	Y	Y	Y
(6)	Over voltage protection	Y	Y	Y	---
(7)	Surge protection	Y	Y	Y	---
(8)	Reverse polarity	Y	Y	Y	Y
(9)	Temperature rise	Y	Y	---	---
(10)	Ra (CRI) measurement	Y	Y	---	---
(11)	Lux measurement	Y	Y	Y	Y
(12)	Fire retardant	Y	Y	---	---
(13)	Test for photometric	Y	Y	Y	Y
(14)	Environmental	Y	---	---	---
(15)	Reliability	Y	---	---	---
(16)	Life	Y	Y	---	---
(17)	Endurance	Y	---	---	---
(18)	IP protection	Y	Y	Y	---
**	Quality Assurance Plan/ Details				
(19)	Testing at	Approved Govt. Lab	Approved Govt. Lab	Manufacturer works	Manufacturer works
(20)	Testing by	---	---	SMC/ TPI	SMC/ TPI
(21)	Test frequency	---	As per Manufacturer	Lot wise	Lot wise
(22)	Lot size Not less than	---	---	1,000 Nos.	20 Nos.
(23)	Test Sample Size	---	---	1 no Min.	Min. 10%.
(24)	Documentation to be submitted	Whenever asked	With technical bid	During testing at Manufacturer works	During testing at Manufacturer works
(25)	LM 79 and LM 80 test report & result	---	Must to be submitted with technical bid	---	---



Method of Testing: -

⇒ Visual and Dimensional Check:

The unit shall be checked visually for all dimensions as per approved design and drawing.

General workmanship should be good; all the components properly secured and sharp edges shall be rounded off. Check the marking and quality of the workmanship visually. Check the rating and make of electronic/ electrical items.

⇒ Checking of documents of purchase of LED

Check Document of purchase of LED lamps of approved sources viz. NICHIA/ OSRAM/ PHILIPS LUMILEDS/ CREE.

⇒ Resistance to humidity test

This is carried out by suspending the painted panels in corrosion chamber maintained at 100% RH and temperature cycle of 42° to 48° C for 7 days and examining it for any sign of deterioration and corrosion of metal surface.

⇒ Insulation resistance test

The insulation resistance of the unit between earth and current carrying parts shorted together shall not be less than 2 MΩ when measured with 500 V megger.

⇒ HV test

Immediately after insulation resistance test, an AC voltage of 1.72 kV rms (1,500 + 2 x rated voltage) of sine wave form of 50 Hz shall be applied for one minute between the live parts and frame. There shall not be any kind of break down, flashover or tripping of supply.

⇒ Over voltage protection

The LED Driver Shall be cut off (preferably) once voltage exceeds 288 V AC. It shall be reconnected when supply comes within limit. However, higher cut-off voltage shall be permitted provided the input current to the LEDs should not exceed the rated current when operated up to cut-off voltage offered by the manufacturer.

⇒ Surge protection

It shall withstand a surge of 4 kV at the input terminals for all types.

⇒ Reverse polarity

The Luminaire shall withstand polarity reversal. It shall be operated with reverse voltage for Min. 1 minute at maximum value of voltage range. At the end of this period, the supply shall be made correct polarity and Luminaire shall operate in a normal way.



⇒ **Temperature rise Test:**

Temperature rise Test shall be conducted at 100 V ~ with full load. The temperature rise shall be recorded by temperature detectors mounted at the specified reference points on the body of semiconductors, capacitors and other components as agreed between purchaser and manufacturer. The maximum-recorded temperature under worst conditions shall be corrected to 55° C and compared with maximum permissible temperature (for power devices at junction). Under loading conditions as specified above, the corrected temperature of the power devices shall have a safety margin of minimum 10° C.

Temperature at junction shall not exceed 100° C when corrected to 55° C. The Luminaire shall also be subjected for short time rating after continuous loading to ensure the temperature rise is within the permissible limit. The maximum temperature rise of the electronics devices on the PCBs shall be in limit for industrial grade components suitable for 85° C environment. In case of exceeding limit, use of MIL-grade component shall be considered keeping RDSO informed.

⇒ **Ra (Colour Rendering Index) measurement test**

The lumen is the unit of luminous flux, which is equal to the flux emitted in a solid angle of one steradian by a uniform point source of one candela.

The initial reading of the chromaticity co-ordinates x & y shall be within 5 SDCM (Standards Deviation for Colour matching) from the standardised rated value as per Annex: D of IEC 60081- 1997.

The initial reading of the general colour-rendering index (Ra) shall not be less than the rated value decreased by 3.

The lumen maintenance of the lamp shall not be less than 80% of the initial lumen after 20,000 burning hours and 70% of the initial lumen after 50,000 hours. The initial lumen will be taken after 100 hours aging.

Photometric test shall be conducted as per Annexure: B of IEC 60081-97.

The lumen maintenance test shall be done as per Annexure: C of IEC 60081-97.

⇒ **Fire retardant Test**

Fire Retardant test shall be conducted as per IEC 60332-1 of the wire used in the luminaires.

⇒ **Test for IP protection**

This test shall be conducted as per IEC 60529.

⇒ **Environmental tests (Prototype Test)**

The Luminaire shall meet the following tests as prescribed in IEC-60571: -

(i) Dry heat test.



- (ii) Damp heat test
- (iii) Test in corrosive atmosphere
- (iv) Combined dust, humidity and heat test

⇒ **Reliability Test**

The reliability can only be determined in actual service. However, the following tests shall be carried out on the prototype to simulate as close as possible, the service conditions.

There shall be no failure during this test.

- (i) The light unit shall be mounted in an oven maintained at 45° C.
- (ii) The light will be operated at the specified maximum voltage and at 45° C for a period of 100 hours.

⇒ **Photometry Test: -**

The test shall be carried out for Total Luminous Flux, Luminous Intensity Distribution, Electrical Power, Luminous Efficacy (calculation), Colour Characteristics– Chromaticity, CCT & CRI etc. as per IES LM 79.

⇒ **Life Test**

The lumen maintenance & life test shall be done as per IES LM 80 for LEDs.

⇒ **Endurance Test**

The Luminaire shall be kept “ON” with input voltage of 250 V ~ for 200 hours. After this the Luminaire is subjected to 20,000 cycles of “ON” and “OFF”, each cycle consisting of 3 seconds “ON” and 10 seconds “OFF” period. Luminaire should survive this test. Test is to be continued for 20,000 cycles, followed by performance test.

⇒ **Safety:**

The Luminaire shall comply with the safety requirements as per IEC 61195.

⇒ **All Tests defined for acceptance other than LM 79 and LM 80 is allowed to be carried out at Manufacturer works.**

⇒ **The testing methodology mentioned above, is for reference. Competent authority or concern department head of SMC can waive some or all tests, in case of quantity of the LED luminaires is less.**

3.8 INFRINGEMENT OF PATENT RIGHTS:

Surat Municipal Corporation shall not be responsible for infringement of patent rights arising due to similarity in design, manufacturing process, use of the components, used in design, development and manufacturing of these light luminaires and any other factor which may cause such dispute. The responsibility to settle any issue rises with the manufacturer.



3.9 MARKING:

The following information shall be distinctly and indelibly marked on the housing:

- Year of manufacture/ Batch Number/ Serial Number
- **Name of Manufacturer (Engraving only, stickers not allowed)**
- Rated Input Power (W), Supply Voltage, Input frequency

ITEM NO. 4: **NOT APPLICABLE FOR THE WORK**

Providing and constructing Reinforced Cement Concrete Foundation for Conical poles:

Foundation should be made in such a way as the foundation's frame / "Ferma" for the foundation must be having height at least 1.0 M, out of which 300 mm should be above the ground level.

Reinforced Cement Concrete (RCC) foundation having Grade M20 along with necessary Foundation Bolt, Nuts, Washers with anchor plate and DWC pipe for cable access etc. shall be casted having size as shown in table at item no. 1 or recommended by Conical pole manufacturer, minimum depth as shown in table at item no. 1 or appropriate with necessary plastering and lime wash. This section should be finished in decorative manner as directed by Engineer-in-charge. The item includes excavation, necessary reinforcement recommended by Conical pole manufacturing co, Shuttering and M20 grade cc from preferably RMC plant or mixture of 1:1.5:3 M20 grade CC. The Contractor should make necessary arrangement for curing required for the works at his own cost. The site should be cleaned or excess material should be removed after the work is completed. While making foundation, best civil engineering practice(s) must be exercised. Bidder must take approval of foundation drawing before carrying of work.

ITEM NO. 5:

Supply, laying, testing and commissioning of GI wire:

The item includes SITC of 8 SWG GI wire for earthing of pole. The GI wire should be laid in DWC pipe with cable and fitted with bolt welded in inner portion of the base of pole. The GI wire should be carried up to the feeder pillar parallel with the cable and should be connected with the earthing of feeder pillar.

ITEM NO. 6(a), 6(b) & 6 (c):

Supply, Laying, Testing & Commissioning (SLTC) of aluminium conductor armoured cables & cu conductor fitting wire/ cable: -

The cable shall be multi stranded aluminium conductor, XLPE/ PVC insulated/ sheathed, having round wire armoured of galvanized steel, 1.1 kV grade confirming to relevant IS specifications bearing ISI marked.



Sr. No.	Detail	4 x 16 mm ²	4 x 25 mm ² (NOT INCLUDED IN THE WORK)
1	Type of Cable	A2XFY	A2XFY
2	Voltage Grade	1.1 kV	1.1 kV
3	Applicable Standard	IS: 7098 Part I	IS: 7098 Part I
4	Cable Size	4 x 16 mm ²	4 x 25 mm ²
5	CONDUCTOR		
	a. Material	Stranded Aluminium	Stranded Aluminium
	b. Nominal Cross section area	16 mm ²	25 mm ²
	c. Max. DC Resistance per km length at 20° C	3.08 Ω	1.20 Ω
6	INSULATION		
	a. Material	Cross Linked Polyethylene	Cross Linked Polyethylene
	b. Nominal Thickness (mm)	Avg. minimum 0.70 mm	Avg. minimum 0.90 mm
	Core Identification	As per Cl. no 10.1 of IS 7098 (part :1)	As per Cl. no 10.1 of IS 7098 (part :1)
7	INNER SHEATH		
	a. Material	As per Cl. no 5.2 of IS 7098 (part :1)	As per Cl. no 5.2 of IS 7098 (part :1)
	b. Minimum Thickness (mm)	0.3 mm	0.3 mm
8	ARMOUR		
	a. Material	Round Armour	Strip Armour
	b. Size of Armour	As per IS standard	As per IS standard
9	OUTER SHEATH		
	a. Material	PVC	PVC
	b. Nominal Thickness (mm)	As per IS	As per IS
	c. Identification	Manufacturer's Name, Trade mark, Voltage grade and words Electric cable and meter mark showing measurement of cable & shall embossed/ printed/ indicated at each 1 m throughout the length of cable	
10	Approx. overall diameter (mm)	As per IS	As per IS
11	Max. Conductor temperature during short circuit	As per IS	As per IS
12	Max. Short circuit current for 1 sec.	As per IS	As per IS
13	Max. Conductor temperature during short circuit	As per IS	As per IS



14	Continuous current rating for standard condition laid direct		
	In ground	As per IS	As per IS
	In air	As per IS	As per IS
15	Test	IS: 7098 Part I (All acceptance Tests)	

The cable laying procedure should be as per relevant IS and NEC Code 2011. Any damage to other services during excavation, cable laying or refilling work shall be solely on the Contractor's account. The following factors should be considered while laying the cable.

- I. Before laying, the insulation strength of the cable should be checked with Insulation Tester in presence of representative of corporation as a preliminary check against any probable damage.
- II. Manufacturer's test certificate must be furnished for cable of concerned work. If the quantity of cable is more/ equal than the standard packing drum, the cable must be got tested at manufacturer's works for all routine tests as well as acceptance tests presence of representative of TPI/ SMC before supply. The contractor must make all the arrangement for testing at manufacturer's works without any extra cost to the corporation. 15 days' clear prior notice should be given for testing. If the quantity of cable required for the work is less than the standard packing drum length contractor is permitted to use the cable from tested cable drum only.
- III. If corporation desires to test the cable at ERDA/ any other government recognized laboratory, the same shall be arranged by the contractor. Testing charges shall be paid by corporation if the testing results are found satisfactory, otherwise necessary expenses towards testing of cable will be borne by contractor.
- IV. Cable length marking at interval of one-meter length shall also be embossed/ Printed/ indicated in figures.

6 (c): - SLTC of unarmoured copper cable (3 x 1.5/ 2.5 mm²):

The item includes supply, laying, testing and commissioning of round 3 x 1.5/2.5 mm² (as per IS: 694) for LED luminaries flexible unarmoured single PVC insulated copper conductor cable 1.1 kV grade to be laid through the pole from luminaries to junction box by experienced technician without any damage. The cable joint shall not be allowed. Further necessary hole should be provided on the existing pole for passing the unarmoured cable for luminaire which are to be installed on the bottom part of existing pole.

ITEM NO. 7:

(A) Providing and making of cable end termination for 4 x 16 mm² Al armoured conductor: -

The item includes supply, erection, testing and commissioning of end termination at the integral junction boxes or wherever required. The item includes supply of nickel-plated single compression cable gland, solder less crimping Aluminium lugs suitable for cable and Heavy-duty type stud connector. The gland should be fixed and cable shall be terminated at connector in terminal box or wherever required using ISI Marked PVC 1.1 kV grade insulating tape roll with appropriate colour code.



(B) Providing and making of cable end termination for 4 x 25 mm² Al armoured conductor (NOT INCLUDED IN THE WORK): -

The item includes supply, erection, testing and commissioning of end termination at the integral junction boxes or wherever required. The item includes supply of nickel-plated single compression cable gland, solder less crimping Aluminium lugs suitable for cable and Heavy-duty type stud connector. The gland should be fixed and cable shall be terminated at connector in terminal box or wherever required using ISI Marked PVC 1.1 kV grade insulating tape roll with appropriate colour code.

(C) Single pole MCB for item 7 (A): -

2 A, SP MCB with breaking capacity of 10 kA for each fitting, DIN rail mounting channel provided at base of the pole. If, a particular light fitting has to be manually operated the same can be done by this MCB provided on terminal plate.

(D) Providing and making cable end termination using Bakelite sheet with heavy duty stud type connector and solderless crimping lugs for feeder pillar.

ITEM NO. 8: SUPPLY, ERECTION AND COMMISSIONING OF F.R.P. JUNCTION BOX (NOT INCLUDED IN THE WORK):

SETC of SMC press moulded composite FRP (Plastic) loop- in, loop-out, dust & water proof, junction box, minimum 2 mm thick, with doors hinged on top side (open able from bottom to top) having locking arrangements, with 25 mm x 3 mm size GI mounting clamp with nuts, bolts & washers suitable for erection on pole/ wall with cable clamps & earth bolt.

The box should have provision for 2 Nos. (or 3 Nos. if required) cable entries suitable for size of the cable. The min. size of the box should be 280 x 170 x 110 mm. The box should be so designed to prevent ingress of foreign material including rainwater.

Side opening with three nos. of locks can also be permitted.

The box should accommodate the following: -

4 Nos. Panel type, 60 A, 500 V, Porcelain/ Heavy duty FRP/ DMC connectors or strip erected on suitable wooden plank with necessary termination arrangement. A danger notice caution sticker should be fixed on the Junction box. Each box should be complete with earthing strip for cable (armoured) termination and earthing bolts for the same.

ITEM NO. 9: Supply and Laying of DWC pipe including excavation & backfilling:

(i) Soft Soil/ Kachcha Road

(ii) Hard Murrum/ Asphalt Road

Supply & laying of 63 mm OD/ 50 mm ID Double Walled Corrugated (DWC) Pipe with necessary socket/ coupling confirming to IS 14930 part-II with necessary connecting accessories of same material for laying/ passing of cable through DWC pipe. The rate should include excavation of ground/tar road and refilling of trench having depth of 75 cm or as per site requirement. DWC pipe must be laid first. Cable drawing work must be carried out after completion of backfilling.



Any damage to any of the services during excavation & refilling shall be to the contractor's account. The work shall be carried out to the satisfaction of Engineer- in-charge. Refilling work of the trench should be carried out after final supervision of the representative of the corporation. After completion of DWC pipe laying, trench should be refilled and ground should be levelled including watering etc. The site should be cleaned of excess material/debris after the work is completed, without any extra cost.

(iii) Making Zari& Refilling by similar material:

If the cable is to be laid for road crossing on Hard murrum/ Asphalt road the same shall be laid by making 6" to 8" deep zari & refilling must be done with similar material after cable laying.

ITEM NO. 10: SUPPLY, ERECTION, TESTING AND COMMISSIONING OF CENTRALIZED CONTROL AND MONITORING SYSTEM UNIT with BYPASS FACILITY: -

SMC has already installed CCMS units in SMC area for street light network. Here the CCMS Unit means the outdoor unit to be installed on the site which will have ability to communicate with Centralized Software installed at Central Control Room (SMAC Centre) necessary data in bilateral way.

Bidder should supply, install, test, commissioning and maintenance of lighting controls (Centralized Control & Monitoring System – CCMS) for LED streetlights.

For technical specification & features, please refer below.

Features: -

Controller and Metering unit: -

- Schedule the timing of lights (pre-programmed based on astronomical clock or on field or through central control)
- ON / OFF Switch (on field or centrally)
- CCMS System for Capture the energy usage and other parameters at pre-determined interval and store data for 30 days
- Ability to connect with a communication device
- Ability to download data in field
- System protection against surges
- Ability to upgrade firmware on field using a communication device

Enclosure: -

- Enclosure should be made of fire-retardant FRS/ SMC material and with impact resistance of **IK 10** & IP 65.



- Dimensions of the enclosure box should be such as there should be adequate space to access components of the box for R & M purpose. The vendor must also ensure at least 20% space is left in the box for future up-gradation/ devices to be added.
- The enclosure box must have a standard lock which cannot be opened by all kinds of commonly available tools.
- SMC shall be providing the design and size/specification of sticker including the logo after the award of work. For placement of sticker, an area of 9" x 7" should be available on the front of the box.
- Wiring inside the enclosure box should be done neatly with proper use connectors & numbering with use of Ferrule PVC Tube.

Communication Module: -

- Ability to communicate securely with via cellular networks (GSM / GPRS) and/ or RF networks
- Communication technology between CCMS unit and central server should be 2G/3G/4G hardware device which should be capable to run 2G/3G/4G as per availability in the site.
- Two-way communicator
- Ability to send data regarding energy usage, ON/OFF status etc. from controller
- Ability to give commands from a central level for switching ON/OFF scheduling etc.
- Ability to remotely upgrade the CCMS device firmware from central server

Software (At Control Room): -

- A web-based/ mobile based software package with a detailed information dashboard
- Ability to show the status of each controller on the dashboard.
- Ability to schedule and switch ON/OFF controllers remotely through the dashboard
- Reports in form of matrix as well as graphical representation
- Ability to provide overload indication.
- 10 Year Software Support Should be at free of cost and communication charge should be included.
- Server uptime should be minimum 95 % with disaster backup and sufficient storage capacity and processing power to ensure stable operation of CCMS throughout the contract period. Maintenance of the server and software is the responsibility of the vendor.

Specifications: -



Single phase (240 Volt P-N, Whole Current, Class 1.0) or a Three phase system (Wires 3 * 240 Volts P-N, Whole Current, Class 1.0) electronic controller and energy controller compiled as per IS: 13779 & CBIP-88 with add on MCB.

Rating of the CCMS units for (including rating of safety equipment's - MCB, Relay, etc.) should be 6 kW (Single Phase).

Controller is also compatible for remote communication using GPRS/GSM modem for operations like controller data downloading, & relay ON-OFF for maintenance purpose. Controller Records events like supply ON-OFF and relay ON-OFF for analysis etc.

The controller should be type tested in a NABL certified Lab The controller should be interfaced with a communication module which would wirelessly transmit data recorded to a dedicated server or on cloud-based architecture. The communication module also relays commands to schedule and control the cluster of street lights.

Street Light Controller: -

Rated Electrical Parameter

- | | |
|----------------------|--|
| 1. Connection type | System for Single Phase/Three Phase Switching points |
| 2. Voltage | 240 volts P-N (+20% to -40% Vref) on each phase |
| 3. Current | 05 - 63 A for each phase (Withstands 120% I _{max}), Starting current- 0.2% I _b |
| 4. Frequency | 50 Hz \pm 5% (47.5 to 52.5) Hz |
| 5. Power Factor | Zero (lag)- Unity-Zero (Lead) |
| 6. Accuracy | 1.0 |
| 7. Withstand Voltage | 440 V up-to 5 minutes between Phase – Phase |
| 8. Rating | Rating of the CCMS units for each phase (including rating of safety equipment's - MCB, Relay, etc.) should be – 3 kW |

Functional Specifications

Input / Output

- | | |
|---------|---|
| 1. Data | the CCMS unit Should be able to capture (record) and provide following parameters at variable time-intervals <ul style="list-style-type: none">• Cumulative Active Energy• Average Power Factor• Power on hours• Monthly Load on/off |
|---------|---|

Controller has the provision to store last 30 days data at one-hour interval. All these data are accessible for reading, recording by downloading through HHT (Hand Held Unit) through optical port or USB/Bluetooth given on controller front or from website/ web application. For HHT, a smartphone-based solution for collecting/ accessing data is also acceptable.



- 2. RTC** the controller has a built-in calendar & clock, having an accuracy of +/- 1 minute per year or better, however meter may confirm to accuracy as per IS 13779. A separate internal Lithium battery back-up is provided for continuous operation of controller RTC for at least two years under controller un-powered conditions.
- 3. Tamperers** Following tamperers are logged with occurrence and restoration in FIFO manner:
- Ø Low Load
 - Ø Over load
 - Ø Under voltage
 - Ø Over voltage
- 4. Astronomical Calendar for switching operation**
- Based on latitude and longitude of the installation place controller itself decides switch on –off timings.
- 5. Maintenance Mode of switching**
- In case of emergency it should be manually ON/OFF and in case of maintenance it can be ON/OFF from Website after login.
- 6. Switch on –off operation events**
- Switching events with the following reasons will be logged:
- 4 Timed operation- As per astronomical calendar
 - 5 Unscheduled operation – In maintenance mode
 - 6 Event based like on over current, overload switching
- 7. Power on-off events**
- Last 20 power on-off events with power off duration will be logged.
- 8. Separate Energy Consumption registration for unscheduled switch on period**
- Last 20 events of maintenance mode with snap of energy register and date/time is logged in meter. In BCS, with these events, duration of these events and energy consumption during that period is also shown.
- 9. Switching on Overload/ Over current**
- Controller will continue monitor over current & overload condition against the threshold defined in controller and if condition persist for predefined time period (default 5 minutes) then disconnection of switch will be occurred. However, if required this feature should be bypassed.
- 10. LED** Flashing Indication LED is provided on controller front.
- 11. Communication**



Controller stored data can be downloaded through its optical port or USB using HHT (Hand held Unit) or directly by Laptop using Base computer software or can be downloaded from website.

Controller should be able to interface with the communication module through a serial port

12. Surge Protection

Standard CAT B 6000 V protection (IEC 61000-4-5)

13. Programmable Scheduling

The schedule for light operations can be programmed on field or during installation overriding the astronomical-clock.

14. Operating temperature 0° C to 70° C

15. Storage temperature -20° C to 80° C

17. Humidity 95% non-condensing

Constructional specifications

1 Controller sealing as per IS 13779 and CEA Metering Regulation 2006

2 Guarantee 1 year

3 Insulation Withstand an insulation test of 4 KV and impulse test at 6 KV

4 Resistance of heat and fire the terminal block and Controller case have safety against the spread of fire. They will not be ignited by thermal overload of live parts in contact with them as per the relevant IS 13779.

Contactor: Contactor confirming to relevant IEC/IS Standard

Polycarbonate Box – Enclosure: Enclosure should be made of fire-retardant FRS/ SMC material and with impact resistance of IK10.

- Ø Dimensions of the enclosure box should be such as there should be adequate space to access components of the box for R&M purpose. The vendor must also ensure at least 20% space is left in the box for future up-gradation/devices to be added.
- Ø The enclosure box must have a standard lock which cannot be opened by commonly available tools
- Ø SMC shall be providing the design and size/specification of sticker including the logo after the award of work. For placement of sticker, an area of 9"X7" should be available on the front of the box.
- Ø Wiring inside the enclosure box should be done neatly with proper use connectors & numbering with use of Ferrule PVC Tube.
- Ø The enclosure should have theft control mechanism and generate alerts when opened or if the unit experiences motion of any kind beyond a configured threshold



MCB

- Ø Should conform to IEC 62053/ 62054
- Ø MCB along with design for protection & auto-recovery/ self-healing is accepted.

Controller (Communication Module)

- | | |
|-----------------------------------|--|
| 1. Power Supply | 240 V AC |
| 2. Mobile / Communication Network | GSM/ GPRS: Quad band 850/900/1800/1900 MHz |
| 3. Communication Method | TCP – IP/http via GPRS / 3G and/ or RF SMS |
| 5. Status of Sim | Based on LED on the module |

Features:

- Ø Remote ON/ OFF in case bad weather, maintenance or emergency
- Ø Remote RTC Synchronisation of Street Light Controller
- Ø Communication should be encrypted by 128-bit encryption or adequate security protocol should be incorporated.
- Ø Alert message in pre-defined abnormal system conditions through SMS (5 numbers) and mobile/web-based application through GSM/GPRS/RF for:
 - Phase-wise currents on crossing threshold values*
 - Phase-wise voltages on crossing threshold values*
 - MCB trips
 - Theft alerts
 - Group failure of lights
 - No output supply

Web based software provided by the bidder must be compatible with SMAC centre CCMS monitoring software and it should support features given in SMAC Centre CCMS Monitoring Software.

Following are the key feature of our SMAC Centre CCMS Monitoring Software: -

- Ø The Main page of software shows real-time information about the cumulative load, number of faulty lights, total number of lights on/off (uptime %), number of approx. faulty lights, number of faulty switching points.
- Ø A separate tab in the software to show the list of CCMS units installed in the project area along with the meter parameters being showcased against each CCMS Unit.
- Ø Alert in case of fault – describing the fault.
- Ø A separate tab in the software to show the switch point summary which showcases the meter parameters, active alerts, link to the map page, etc.



- Ø A separate tab in the software for - monitoring & controlling, Alerts, Maps, Configuration page, Reports – uptime, history, energy savings, power failure, operational hour.
- Ø It should be able to display the power failure details of a particular switching point.
- Ø It should register all fault conditions like excess voltage/ current drawn, no-power supply, etc. through the instantaneous alert messages sent by the CCMS unit.
- Ø It can generate MIS reports in Matrix as well as in Graphical format based on Power supply status, Energy Consumption, Over/ Under Voltage/ Load, System parameter/ controllers i.e. Voltage, Current, Power factor, Cumulative KWH/ KVAH for individual switching points.
- Ø Different user authorization levels should be settable and the central server should be capable of handling high traffic.
- Ø GIS Mapping should be done covering all switching points and the details of each switch point shall be viewable in the web application software through a Google-map interface or web based digital map.
- Ø All the CCMS units should be remotely configured from the Central Control Unit:
 - Setting new ON/OFF timings
 - Setting the RTC time of Automation unit
 - Knowing the current status of any particular switching point.
 - Reset the unit.
 - The minimum interval for the update of data should be 15 minutes but in case of any event it should send immediately.
- Ø Auto synchronization of controller with server timing to be further synchronized with standard GPS/Network clock timing.
- Ø Further, system can indicate various faults as below: -
 - Failure of lights (by association to a drop-in power consumption against a set benchmark)
 - Status of the incoming supply (power failure)
 - High /low voltage
 - Overload on the phases
- Ø Ability to remotely upgrade the CCMS device firmware from central server.



Bill of Quantity:

Any other item/ material/ equipment/ system as may be required to be supplied for completing the work and successful commissioning under this contract in all respects in accordance with the provisions of the contract and/or to ensure the safety of installation during and after execution should be carried out by successful vendor at 'No extra to SMC'.

Following is list of materials (but not limited to) to be included in the streetlight controller for configuration - 1. Bidder shall use required material per unit to ensure the entire specifications as given in the tender document are met.

- (1) IP 65 or better enclosure box with min. IK-10 impact resistance
- (2) Class 1.0 accuracy Energy Meter with IS-13779
- (3) Controller Module (GSM/GPRS Module, Microcontroller and Power Supply)
- (4) Contactor
- (5) Door Tamper Switch
- (6) MCB (for Bypass facility): 2 Pole, 32 A
- (7) MCB (out going from CCMS): 2 Pole, 32 A
- (8) Neutral Link: 1 No. of 32 A with copper connector strip of 25 x 3 mm size
- (9) Copper wiring should be used for connections with 6 mm² size wires.
- (10) ELCB (out going from Energy meter): 2 Pole, 32 A

1. **Warranty of the product will be minimum 1 year from the date of commissioning.**
2. The feature proposed for CCMS is indicative. However, bidders are free to offer their lighting control technology which should encompass all key features as above. But, the same time, software must have open source code, compatible with all relevant software(s) are in use by SMC. It means control, supervision, data acquisition must be possible with the software to be provided.
3. Offered brand has a dedicated telephone number/ Toll Free Number to lodge a complaint by PROJECT AREA Officials/ Public in respect of system problems.
4. For comprehensive on-site Warranty and Maintenance for 1 year: Successful bidder shall ensure 97% service level through CCMS Unit at any point of time during the contract period of 1 year. In case of failure of CCMS Unit which is brought to the notice of successful bidder (by mail, letter etc.). The same has to be replaced within 48 hours of intimation. If vendor fails to correct the fault within 48 hours, the penalty starts with first penalty being levied on completion of 72 hours from logging of complaint. Penalty rate @ Rs. 100 per day per light connected to the CCMS unit shall be imposed and the amount shall be deducted from the vendor payment.
5. Ceiling limit of 10% on penalty shall be set, over and above the LD Limit of 10%. SMC is at
6. Liberty to carry out Third Party Inspection at any time during the contract period.



BYPASS FACILITY: -

In case of mal-functioning or non-functioning of the CCMS, streetlight operation can be done manually without any additional installation a 2 Poles MCB having 32 A capacity will be provided. The MCB should be connected with outgoing wires from energy meter and outgoing MCB of CCMS.

Detailed Specifications of Various Components are as under:

*** Detailed specifications for MCB/ ELCB:**

- Ø Characteristic - B
- Ø Breaking Capacity – as per relevant IS/ International Standard
- Ø Rated voltage - 240/ 415 V (as applicable)
- Ø Frequency - 45 to 60 Hz, Rated operating voltage – 240 V
- Ø Fixing - Snap fixing on standard DIN rail profile EN 50 023 - 35 x 7.5

*** Detailed specifications for ELCB: -**

Earth Leakage Circuit Breaker confirming to IS- 12640/ 1988 & BS 4293/ 1983 with latest amendment(s) having sensitivity 100 mA and breaking capacity of 16 kA and suitable for 1 Ø & 3 Ø, 4 pole having characteristic of quick acting & tripping with all advance feature with suitable enclosure box/ mounting rail.

*** Detailed specifications for earthing of Feeder Pillar: -**

The pipe type earthing having 1.5 m long and 2.5 cm ϕ Galvanised iron pipe with coupling and buried in specially prepared earth pit complete with necessary 25 x 3 mm Size GI earthing strip with coupling and GI plug for earthing of switch gear as directed by Engineer-in-charge. This item includes supply, erection, testing and commissioning. The earthing must be as per IS 3043 (1987) with latest amendment(s), if any.

Since the technology is updating every day and hence the intention behind the installation of CCMS unit mentioned in first paragraph is important and if any deviation in offered CCMS unit is there it should be brought in notice and these deviations can be accepted if they are fulfilling the intentions of the installation of CCMS Unit.

Installation

The CCMS unit shall be installed on suitable fabricated stand made from GI. Reinforced Cement Concrete (RCC) foundation having Grade M20 along with necessary Foundation Bolt, Nuts, Washers with anchor plate and DWC pipe for cable access etc. shall be casted having required size as proposed by manufacturer of CCMS unit with necessary plastering. Foundation should be made in such a way as site requirement. This section should be finished in decorative manner as directed by Engineer-in-charge. The item includes excavation, necessary reinforcement recommended by manufacturing co, Shuttering and M20 grade CC from preferably RMC plant or mixture of 1:1.5:3 M20 grade CC. The Contractor should make necessary arrangement for curing required for the works at his own cost. The site should be cleaned or excess material should be removed after the work is completed. While making foundation, best civil engineering practice(s) must be exercised. Bidder must take approval of foundation drawing before carrying out the work.

**ITEM No. 11:****Supply and Laying of 40 mm dia., GI "B" class pipe:**

The item includes Supply & laying of GI "B" grade pipe (ISI Marked) for laying/ passing of cable through GI pipe. Any damage to any of the services during excavation & refilling shall be to the contractor's account. The work shall be carried out to the satisfaction of Engineer-in-charge. Refilling work of the trench should be carried out after final supervision of the representative of the corporation. After completion of GI pipe laying, trench should be refilled and ground should be levelled including watering etc. The site should be cleaned of excess material/debris after the work is completed, without any extra cost.

ITEM No. 12:**Painting the Number of Pole:**

Painting the number and words for (streetlight pole numbering and back ground of colour as per Zone Code) inventory Identification on erected fittings/ equipment's or such accessories as may be required with good quality of enamelled paint up to 20 characters, up to 75 mm Height.

I/C. Executive Engineer (Ele),
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



GENERAL SPECIFICATION FOR ELECTRICAL INSTALLATION: -

WIRING RULES:

The installation should be carried in conformity with the Indian Electricity Act/ Rules and the latest edition of the wiring rules of the Institution of Electrical Engineers (London) but where this specification differs from those rules the specifications shall be followed.

DEFINITION:

The definitions of terms in the IEC wiring rules shall apply.

SUPPLY PRESSURE AND FREQUENCY:

The supply will be three phases, 50 cycles/ second AC, 4 wire system, 415 V between phase and 230/ 240 V between phase and neutral and apparatus required shall be suitable for this supply.

GENERAL TEST FOR INSTALLATION:

The installation with fittings complete shall satisfactorily pass the following tests, before the current is switched on: -

"All the lamps and appliance having been connected to the conductors and all switches and fuses be ON. A pressure not less than twice the working pressure (subject to a limit of 500 volts) shall be applied and the insulation resistance of the whole or any part of the installation to earth must not be less in MΩ than 25 divided by the number of points, subject to Min. of 1.5 MΩ."

SUPERVISION: -

The whole of the work shall be carried out to the satisfaction of the Engineer in charge and under the constant supervision of the contractor's competent qualified and experienced supervisor/ engineer. The contractor shall if required by the department, furnish the full details of the supervisor's/ engineer's qualification. Only permit holder persons should be allowed to work at the site.

I/C. Executive Engineer (Ele),
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -



VENDOR'S LIST

Sr. No.	Equipment/ Accessories	Make
(1)	LED Chip	Cree/ Osram/ Nichia/ Philips Lumileds
(2)	Armoured/ Un armoured Cable	UNISTAR, Gloster, CCI, Incab, Torrent, FINOLEX, Bharat Cab, Havells, Avocab, KEI, RR Kabel
(3)	ELCB/ MCB/ Distribution Board	Standard, Indokupp, MDS, Havells, Hager, Schneider, Siemens, ABB, L & T, Bentec, C&S
(4)	Time Switches	L & T, MDS, Theaben, Siemens, Prottime, Schneider, Legrand
(5)	Contactor	L&T, Siemens, Havells, Schneider, ABB, GE.
(6)	Conical Pole (HR)	As per enclosed qualification criteria
(7)	GI Round Pole/ Guard Pipe	Tata, Asian, CTC, Jindal, Apollo, Zenith, Ambica, GST
(8)	DWC Pipe	Rex, Gemini, Duraline, SY-ARON (VARAHI POLYMERS)
(9)	Junction Box	Sintex, Everest, ESCO, National, EPP, Welltech

I/C. Executive Engineer (Ele),
Light & EEC,
Surat Municipal Corporation.

SEAL & SIGNATURE OF THE TENDERER: -