DUPLICATE

BID NO: ME/ME/ML/62/2020

COLOMBO MUNICIPAL COUNCIL
INVITATION FOR BIDS (IFB)

Municipal Commissioner of Colombo Municipal Council invites sealed bids for the following work.

	Bid item	Eligibility of Bidder	Value of Bid Security Rs. Cts.
1.	Calling rates for construction of electrical installations	Individuals / firms / limited liability companies with a valid business registration.	Rs.500.000.00 Unconditional on demand Guarantee.

Bidding document (Original & Duplicate) could be obtained by two methods.

1) Download from the CMC website (www.colombo.mc.gov.lk).

   i. Non-refundable bidding document fee of Rs.5,400/- for Bid can be paid by following method.

      a) Any People's Bank branch to credit **People's Bank, Town Hall branch, Acc. No: 167-1-001-6-3169425.**

      b) Payment counters of following Municipal premises of Colombo city limit from 9.00 a.m. to 3.00 p.m. on week days.

         - District Office 04,
           No: 147, High Level Road, Kirulapone,
           Colombo 06.

         - Drainage & Water Supply Division,
           Maligakanda,
           Colombo 10.

   ii. It is mandatory to attach the receipt / slip with the bidding document.

2) Collect from Town Hall Premises.

   i. Bidding document could be obtained from the office of Project Management Division of Municipal Engineers' Department, **Municipal Council, Town Hall, Colombo 07 on submission of a written request during working days from 9.00 a.m. to 3.00 p.m. till 19/08/2021, upon payment of nonrefundable bidding document fee of Rs. 5,400/- for Bid** to the Shroff counters of Town Hall Premises.

Bidding documents will not be available on the website/issued **after 3.00 p.m. on 19/08/2021.**

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Every bidder should produce valid documents to prove the CIDA Grade at the time of collecting tender documents (if applicable). Bids shall be submitted only on the forms available for this purpose. Bidding documents will be issued only on a letter of request submitted on a business letter head on payment. Bidding documents may be inspected free of charge at the Project Management Division of Municipal Engineer's Department.

Value of unconditional on demand Bid security should be valid till **210 days** from the date of closing Bids **Bid should be valid till 18/03/2022. Offer should be valid till 16/02/2022**

Duly filled sealed bidding documents in original with duplicate should be deposited in the Tender box (Bid box) kept at the **Municipal Secretary's Department, Town Hall, Colombo 07 on or before 10.00 a.m. on 20/08/2021.**

Bids will be closed at 10.00 a.m. on 20/08/2021 and Bids received after closing time will be rejected and bids will be opened immediately after closing time. If this day is declared as a Public Holiday, Bids will be closed at 10.00 hrs. on the following working day. Authorized representatives of the bidders are allowed to be present at the opening. Clarification (if any) shall be sought from the Dir. Engineering (Projects) on Tel: 011-2692403

Detailed invitation for bids will be issued with the bidding documents. Please Refer Circular Number PCA/13278 Of Department of the Registrar of Companies attached with the bidding documents.

ROSHANIE DISSANAYAKE - ATTORNEY AT LAW,
MUNICIPAL COMMISSIONER,
COLOMBO MUNICIPAL COUNCIL.

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SECTION 1

Bidding conditions

Calling rates for construction items related to electrical installations

1. The eligible bidders to submit bids in this tender are individuals/firms/limited liability companies who possess a valid business registration certificate and have experience in this type of work.
2. The scope of this tender is to select contractors to undertake electrical installations as per items in the Form of Bid for equal rates. Bidders shall participate in negotiations and be agreeable to bring down the rate for each item to the rate of the lowest bidder to qualify for selection.
3. Bidders shall quote rates for all items in the Form of Bid (Section 3) issued with bidding documents. Bidders are expected to observe the samples of electrical items at Municipal Workshop prior to quote rates for items in the Form of Bid.
4. Each bidder shall submit a bid security of worth Rs. 500,000.00 valid till the date given in newspaper advertisement. This bid security shall be on demand unconditional guarantee and obtained from a reputed Bank or Insurance Company.
5. The bid shall be valid till the date given in newspaper advertisement.
6. This contract will be awarded for a period of 2 years from the date of signing the agreement and price escalations shall not be paid during the whole period of contract. Supplying and fixing of all accessories will be the responsibility of the successful bidder and bidder shall rate items accordingly and no extra payments will be made.
7. Supply and erection of RCC street lighting poles shall be undertaken in accordance with standards of Colombo Municipal Council. Erection method may vary according to the ground conditions and rate shall be included for suitable erection method as instructed by Engineer.
8. Bidder shall have experience of at least 1 year in similar types of work (Installation of street lights) within the last three years (Proof documents shall be submitted with the bid).
9. The bidder should have at least one qualified Technical Officer with more than one- year experience in Electrical Engineering field.
10. Bids shall be submitted in duplicate as follows.

An envelop marked "ORIGINAL" shall comprise of following documents

a. Priced Form of Bid (Section 3) duly filled and signed.
b. Copy of Business registration certificate
c. Bid security.
d. Bidding conditions (Section 1) duly signed.
e. Contract conditions (Section 2) duly signed.
f. Proof documents for 7 and 8 above with Letters of acceptances and completion certificates for completed projects, educational and professional qualifications of available staff etc.
g. Power of attorney for signatory of the bid (if necessary).
h. Copies of Memorandum of articles/Articles of association (in case of a limited liability company).

An envelop marked "DUPLICATE" shall comprise of following documents

a. Priced Form of Bid (Section 3) duly filled & signed.
b. Bidding conditions (Section 1) duly signed.
c. Contract conditions (Section 2) duly signed.

Both the envelops shall be inserted in another envelop where name of the tender written on top left hand corner and submitted as per bid notice.

Signature of bidder: **Rubber stamp:**

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SECTION 2

Contract conditions

Calling rates for construction items related to electrical installations

1. Selected contractors shall enter in to an agreement with Colombo Municipal Council within 28 days of the date of Letter of Acceptance to execute the work entrusted by Director Engineering (Workshop). The work includes proper construction of relevant items in the Form of Bid for approved rates on award of the contract to the extreme satisfaction of Director Engineering (Workshop) for a period of 2 years from the date of signing the agreement. Director Engineering (Workshop) will issue letters to implement projects comprising electrical installation items for approved rates.
2. Selected contractors shall produce an on demand unconditional performance security in the form of a guarantee from an acceptable commercial bank or reputed insurance company at the time of signing agreement. Value of the guarantee shall be Rs. 500,000.00 and contractor is liable to maintain the validity of said guarantee for the whole period of contract and one month more beyond. In case when contractor refuses to duplicate the work of unacceptable standard at contractor's cost and/or abandon any assigned project/work for more than 28 days once it is entrusted and/or refuse to undertake any entrusted project/work and/or fail to perform work due to any other reason and/or violate any condition in the signed agreement, action will be taken to forfeit the performance guarantee. Cost of performance guarantee shall be bared by the contractor.
3. Contractor shall maintain suitable insurance policies to compensate any damages to his/her own personnel, machinery, equipments and other properties/employers' personnel, machinery, equipments and other properties and all other types of third party damages while attending work. This will be a responsibility of the contractor and contractor shall indemnify Colombo Municipal Council from any such claims.
4. Contractor will be assigned projects by Director Engineering (Workshop) from time to time at various locations in Colombo. Contractor shall start each project within 14 days of notice and finish within a specific period noticed by Director Engineering (Workshop) of Colombo Municipal Council. Liquidated damages of Rs. 1000.00 per day will be deducted from payments for any delay beyond the specified period. However, Deputy Municipal Commissioner (Engineering Services) has the authority to extend the time of any project on request by the contractor on valid reasons.
5. Contractor shall manage traffic for construction activities and shall keep the area clean and free of debris during implementation of projects.
6. Contractor shall agree to implement any of the selected items given by the Electrical Engineer.
7. Contractor shall take the prior approval of Electrical Engineer for all electrical items prior to supply and installation.
8. All P.V.C. wire types using in installations shall have certification by Sri Lanka Standards Institution.
9. Contractor may carry out inspections of locations of all awarded projects at their own cost.

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10. As projects are to be undertaken sometimes at narrow roads, lanes, streets, underserved settlements and common places such as temples, schools etc., contractor shall ensure following requirements.
    a. The work is carried out in an orderly manner without noise and obstruction to flow of traffic.
    b. Disposable materials, rubbish etc. shall be disposed out of site as early as possible. Contractor shall keep site clean and orderly at the end of each day of work.
    c. Contractor shall ensure safety of his workers, surrounding people and properties during work and contractor shall solely responsible for any damages to such people or properties.
11. Disposable items shall be taken over by the contractor and contractor shall dispose such items to a suitable location identified by the contractor. Contractor shall provide an inventory of removed items with information such as number of scrap items, details of components of such items and its valuation details duly signed by the contractor. Reusable items shall be handed over to Colombo Municipal Council.
12. Contractor shall submit the work program before commencing the assign work and prior approval should be taken from the Engineer.
13. Test reports and warranties shall be handed over to Engineer before taking over completed site.
14. Payments will be made to the contractor at approved rates on measure & pay basis for each project.
15. Director Engineering (Workshop) may proceed to make an interim payment to the contractor on request at his/her discretion.
16. The maintenance period of each project will be one year after the date of certificate of completion of the project and during maintenance period contractor shall attend to rectify any defects of construction due to failure of the contractor at his/her own cost. Retention will be released after deducting the cost of defects that contractor has not attended on instruction by the Engineer for the project.
17. A retention of 5% of work done (excluding taxes) will be kept from each project till the end of maintenance period of each project.
18. Contractor shall clean the site immediately after construction is over to the satisfaction of Engineer and failure to do so action will be taken to deduct the cost of cleaning the site from contractor's bills.

I agree with above conditions.

Signature of bidder:

Rubber stamp:

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FORM OF BID

It is required for bidding rates to the items given in following table.

No	Description	Unit	Unit Rate Rs.
1.0	**Support systems**		
1.1	~~Supplying~~ Supply and erection of R.C.C. street lighting pole in accordance with the specifications which cover the requirement and necessary standards of CMC. This shall consist of supplying three (03) types of street lighting poles and all details are as shown in relevant drawings or as directed by the Electrical Engineer.		
1.1.1	**TYPE 01 : 6.0m - 50kg (Light Weight),** STREET LIGHTING SPECIFICATION SL001-1: 2019	Per pole	
1.1.2	**TYPE 02 : 6.0m - 50kg** STREET LIGHTING SPECIFICATION SL001-2: 2019	Per pole	
1.1.3	**TYPE 03 : 8.3m - 100kg** ***(Samples can be inspected from the Employer/Client)***	Per pole	
1.2	Transportation of a **6.0m - 50kg** or **8.3m - 100kg** R.C.C. lamp post to the proposed location ***where the work can easily be done by using a crane lorry*** and erection of the pole	Per pole	
1.3	Transportation of **6.0m - 50kg (Light Weight)** R.C.C. lamp post to a nearby road and carriage of a light weight R.C.C. pole **by shoulder,** erection of the pole at the proposed remote location ***where a crane lorry cannot travel***	Per pole	
	NOTE:- During the pole erection process, digging / preparation of pits are been varied with the pole type and pole pit preparation should be done as per the instructions/instruction sheets given by the Street Lighting Section **e.x: Digging of Pits 1.4m depth for erection of 8.3m / 100kg RCC supports**		
1.4	If there is a damaged or non reusable lamp post at the proposed / nearby location of a project, removal of the pole and other electrical items fixed in that pole. ***(All disposable materials shall be removed and take over by the contractor. See Special Conditions 5 (c))***	Per pole	

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2.0	**Optical system**		
2.1	Supplying of LED lamp in accordance with the specifications which cover the requirement and necessary standards of CMC. This shall consist of supplying three (03) types of street lamps and all details are as shown in relevant drawings or as directed by the Electrical Engineer.		
2.1.1	**TYPE A :** Cobra head type LED street lamp - 60W STREET LIGHTING SPECIFICATION SL002-2: 2019	Per Lamp	
2.1.2	**TYPE B :** Cobra head type LED street lamp - 90W STREET LIGHTING SPECIFICATION SL002-3: 2019	Per Lamp	
2.1.3	**TYPE C :** Cobra head type LED street lamp - 120W STREET LIGHTING SPECIFICATION SL002-4: 2019	Per Lamp	
2.1.4	G. I. Brackets	Each	
2.1.5	Aluminium Clamps for Lamps	Each	
2.2	Installation of a LED lamp (60W/90W/120W) to a **newly erected pole or an existing pole** by using required accessories (G. I. Bracket, Aluminium Clamps, etc.) ***(Supplying and fixing of all other accessories will be the responsibility of the successful bidder and samples for all required items can be inspected from the Employer/Client)***	Per set	
2.3	**Replacement** of 150W/250W existing SV/MV street light luminary with a more energy efficient 60W/90W/120W LED street lamp and replace other accessories (G. I. Bracket, Aluminium Clamps, ect.) if required. ***(All disposable materials shall be removed and take over by the contractor. See Special Conditions 5 (c))***	Per set	
	NOTE:- Luminaires shall be installed in accordance with manufacturer's instructions. Cobra-head type luminaries must be properly leveled, and post top Luminaires must be securely fastened to the light pole in a vertical position.		
3.0	**Electrical systems**		
3.1	Supplying & Preparing the Electricity overhead connection to a LED lamp as per the requirement / necessary standards of CMC and make the LED lamp to an operational level		
3.1.1	PVC Cable 7/0.53 mm , CU/PVC/PVC - Single	Per meter	

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3.1.2	PVC Cable 7/0.85 mm, CU/PVC/PVC - Single	Per meter	
3.1.3	PVC Cable 7/1.04 mm, CU/PVC/PVC - Single	Per meter	
3.1.4	"D" Brackets Complete 3"×3 1/2"	Each	
3.1.5	Line Tap for bundle Wires	Each	
3.2	Supplying & erecting street light control panel and other related electrical items as per the requirement and necessary standards of CMC		
3.2.1.	Powder coated metal enclosure 900×600×200 mm (Outdoor Type)	Each	
3.2.2.	Powder coated metal enclosure 300×300×200 mm (Outdoor Type)	Each	
3.2.3.	Digital Programmable Time Switch - (24 Hour) (Din Rail installation)	Each	
3.3.4.	Auto/Manual selector switch	Each	
3.2.5.	Switch – Photo Cell – 6 A, ***(Bi-metal type)***	Each	
3.2.6.	Switch – Photo Cell – 10 A	Each	
3.2.7.	MCB. 6A – Type C , Single Pole ****MCB should be genuine Hager, Orange (Sigma) or Krypton make or superior***	Each	
3.2.8.	MCB. 32A – Type C , Single Pole ****MCB should be genuine Hager, Orange (Sigma) or Krypton make or superior***	Each	
3.2.9.	Isolator 40 A – 4 Pole ****Product should be genuine Hager, Orange (Sigma) or Krypton make or superior***	Each	
3.2.10.	Isolator 40 A – 2 Pole ****Product should be genuine Hager, Orange (Sigma) or Krypton make or superior***	Each	
	**** Bidder should mention the Product Make/Model and unit prices separately***		
3.2.11.	Contactor switch – 4 Pole, 230V coil, (Din Rail installation)	Each	
3.2.12.	Bus bar 40 A – 4 Pole	Each	

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	Supplying and fixing of all accessories will be the responsibility of the successful bidder and samples for all required items can be inspected from the Employer/Client

NOTE:-

a) ***Making the final connections of lighting systems to the Main Electricity supplies shall be made ONLY by Employer's Staff***

b) ***For the newly installed street lamps (if it is not a replacement for an old lamp), final connections shall be made by Employer's Staff ONLY after receiving the permission of electricity distribution organization in particular Area.***

Signature of bidder:

Rubber stamp:

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SECTION 04

TECHNICAL SPECIFICATION

1 APPLICABLE STANDARDS

Where applicable, the following EN / IEC Standards and Directives apply and/or are used as references in these requirements, for LED luminaires and LED modules. Unless otherwise stated, the latest issue of the cited publication including all amendments or approved replacement shall apply.

Standards	**Description**
EN 60598-1	Luminaires – Part 1: General requirements and tests
EN 60598-2-3	Luminaires – Part 2-3: Particular requirements – Luminaires for road and street lighting
EN 62031	LED modules for general lighting-Safety specifications
EN 61347-2-13	Lamp control gear Part 2-13: Particular Requirements for DC or AC supplied electronic control gear for LED Modules.
EN 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impact (IK code)
EMC Standards	**Description**
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment.
EN 61000-3-2	Electromagnetic Compatibility (EMC)-limits. Limits for harmonic current emissions (equipment input current up to and including 16A per phase)
EN 61547	Equipment for general lighting purposes-EMC immunity requirements.
EN61000-4-5	Electromagnetic compatibility (EMC) Testing and measurement techniques-
Directives	**Description**
73/23/EEC	Electrical equipment designed for use within certain voltage limits. Low Voltage Directive as amended by Directive 93/68/EEC
89/336/EEC	Electromagnetic Compatibility Directive as amended by Directive 92/31/EEC
2002/95 EC (RoHS)	RoHS Directive-Restriction of the use of certain hazardous substances.
Other Standards	**Description**
ISO 9001:2008	Requirements for a Quality Management System
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories

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SPECIFICATIONS FOR REINFORCED CONCRETE POLES – 6 m, 50 kg, Light Weight

Note: Bidder should duly fill and sign the given Spec. Sheet. Otherwise the bid will be rejected.

Stipulated Specifications		Offered Specifications	
		Yes/No	If 'No' indicate your offer
Name of the Manufacturer	(Specify)		
Height of pole (m)	6.0 m (± 15mm)		
Buried Length (m)	1.0 m		
Bottom Dimensions as per Section B-B in Drawing (mm)	134 × 134		
Top Dimensions (mm) as per Section A-A in Drawing (mm)	100 × 100		
Working Load (kg)	50 kg		
Purpose	Fixing street lamps in narrow lanes/gardens where transportation is difficult		
Approximate weight of the pole	Less than 200kg		
03 nos. of 20 mm Ø through holes with 265mm spacing on narrow face	(Specify)		
03 nos. of 20 mm Ø through holes with 265mm spacing on broad face	(Specify)		
02 nos. of 20 mm Ø through holes with 133mm spacing (on broad face and narrow face) as in drawing	(Specify)		
01 no. of 20 mm Ø through hole at ground level	(Specify)		
The identification mark shall be located at approximately 1500mm above ground level and consist of following information.			
(I) Date of manufacture	(Specify)		
(II) Serial Number	(Specify)		
(III) Name (Identification) of manufacturer	(Specify)		
Supporting documents of specification with drawings of quoted product should be provided	(Attach)		

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Authorized Signature & Rubber Stamp

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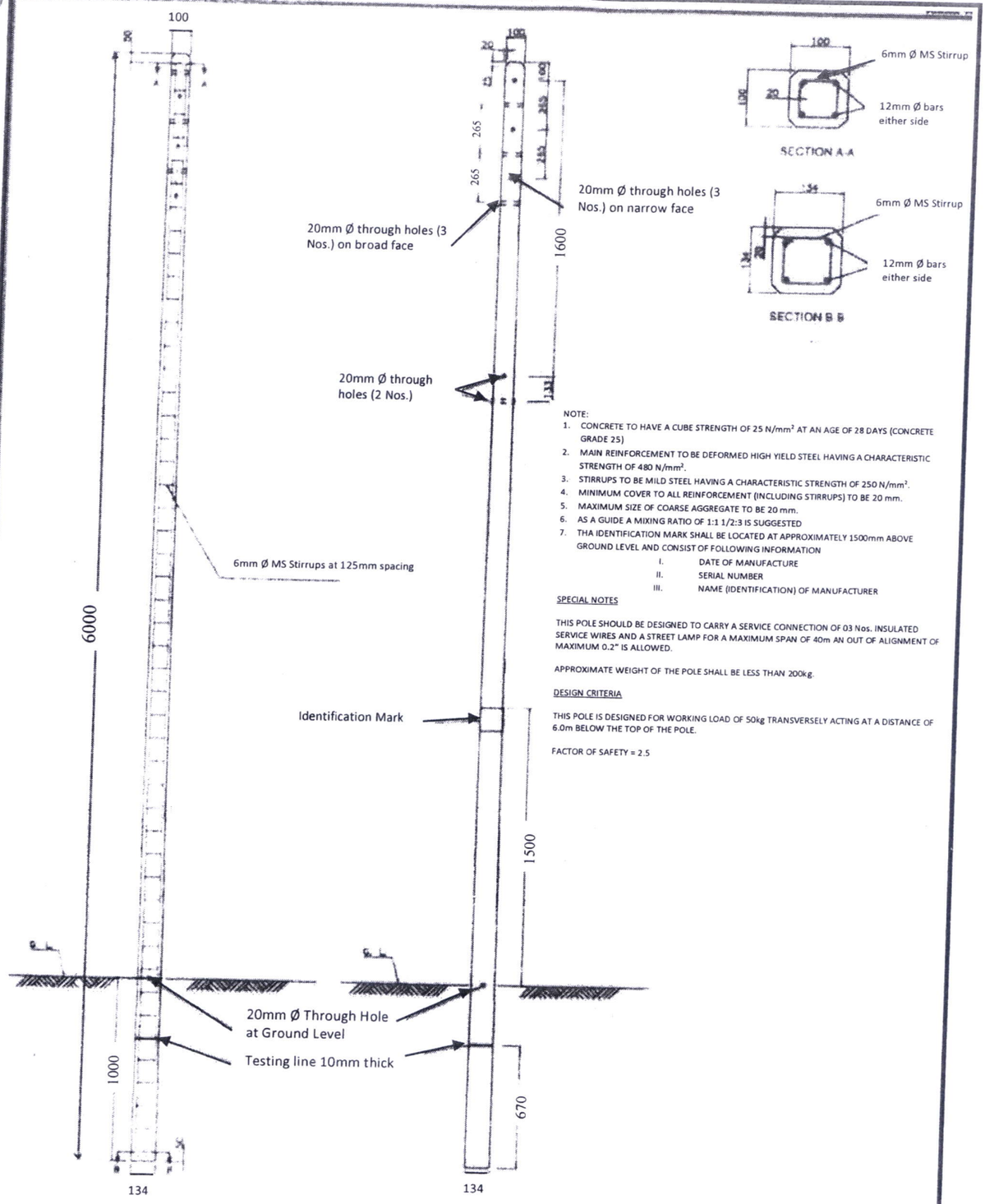
Annex A



NOTE:

1. CONCRETE TO HAVE A CUBE STRENGTH OF 25 N/mm² AT AN AGE OF 28 DAYS (CONCRETE GRADE 25)
2. MAIN REINFORCEMENT TO BE DEFORMED HIGH YIELD STEEL HAVING A CHARACTERISTIC STRENGTH OF 480 N/mm².
3. STIRRUPS TO BE MILD STEEL HAVING A CHARACTERISTIC STRENGTH OF 250 N/mm².
4. MINIMUM COVER TO ALL REINFORCEMENT (INCLUDING STIRRUPS) TO BE 20 mm.
5. MAXIMUM SIZE OF COARSE AGGREGATE TO BE 20 mm.
6. AS A GUIDE A MIXING RATIO OF 1:1 1/2:3 IS SUGGESTED
7. THA IDENTIFICATION MARK SHALL BE LOCATED AT APPROXIMATELY 1500mm ABOVE GROUND LEVEL AND CONSIST OF FOLLOWING INFORMATION
   - I. DATE OF MANUFACTURE
   - II. SERIAL NUMBER
   - III. NAME (IDENTIFICATION) OF MANUFACTURER

SPECIAL NOTES

THIS POLE SHOULD BE DESIGNED TO CARRY A SERVICE CONNECTION OF 03 Nos. INSULATED SERVICE WIRES AND A STREET LAMP FOR A MAXIMUM SPAN OF 40m AN OUT OF ALIGNMENT OF MAXIMUM 0.2" IS ALLOWED.

APPROXIMATE WEIGHT OF THE POLE SHALL BE LESS THAN 200kg.

DESIGN CRITERIA

THIS POLE IS DESIGNED FOR WORKING LOAD OF 50kg TRANSVERSELY ACTING AT A DISTANCE OF 6.0m BELOW THE TOP OF THE POLE.

FACTOR OF SAFETY = 2.5

SECTIONAL ELEVATION OF BROAD FACE

SECTIONAL ELEVATION OF NARROW FACE

ALL DIMENSIONS ARE IN mm

SCALE: NOT TO SCALE

Figure: 6 m / 50 kg LIGHT WEIGHT REINFORCED CONCRETE POLE

DUPLICATE

SPECIFICATIONS FOR REINFORCED CONCRETE POLES – 6.0 m, 50 kg

Note: Bidder should duly fill and sign the given Spec. Sheet. Otherwise the bid will be rejected.

Stipulated Specifications		Offered Specifications	
		Yes/No	If 'No' indicate your offer
Name of the Manufacturer	(Specify)		
Height of pole (m)	6.0 m (± 15mm)		
Buried Length (m)	1.4 m		
Bottom Dimensions as per Section B-B in Drawing (mm)	178 × 178		
Top Dimensions (mm) as per Section A-A in Drawing (mm)	127 × 127		
Working Load (kg)	50 kg		
Purpose	Fixing street lamps in narrow lanes/gardens where transportation is difficult		
Approximate weight of the pole	345kg		
03 nos. of 20 mm Ø through holes with 265mm spacing on narrow face	(Specify)		
03 nos. of 20 mm Ø through holes with 265mm spacing on broad face	(Specify)		
02 nos. of 20 mm Ø through holes with 133mm spacing (on broad face and narrow face) as in drawing	(Specify)		
01 no. of 20 mm Ø through hole at ground level	(Specify)		
The identification mark shall be located at approximately 1500mm above ground level and consist of following information.			
(I) Date of manufacture	(Specify)		
(II) Serial Number	(Specify)		
(III) Name (Identification) of manufacturer	(Specify)		
Supporting documents of specification with drawings of quoted product should be provided	(Attach)		

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Authorized Signature & Rubber Stamp

DUPLICATE

Annex B

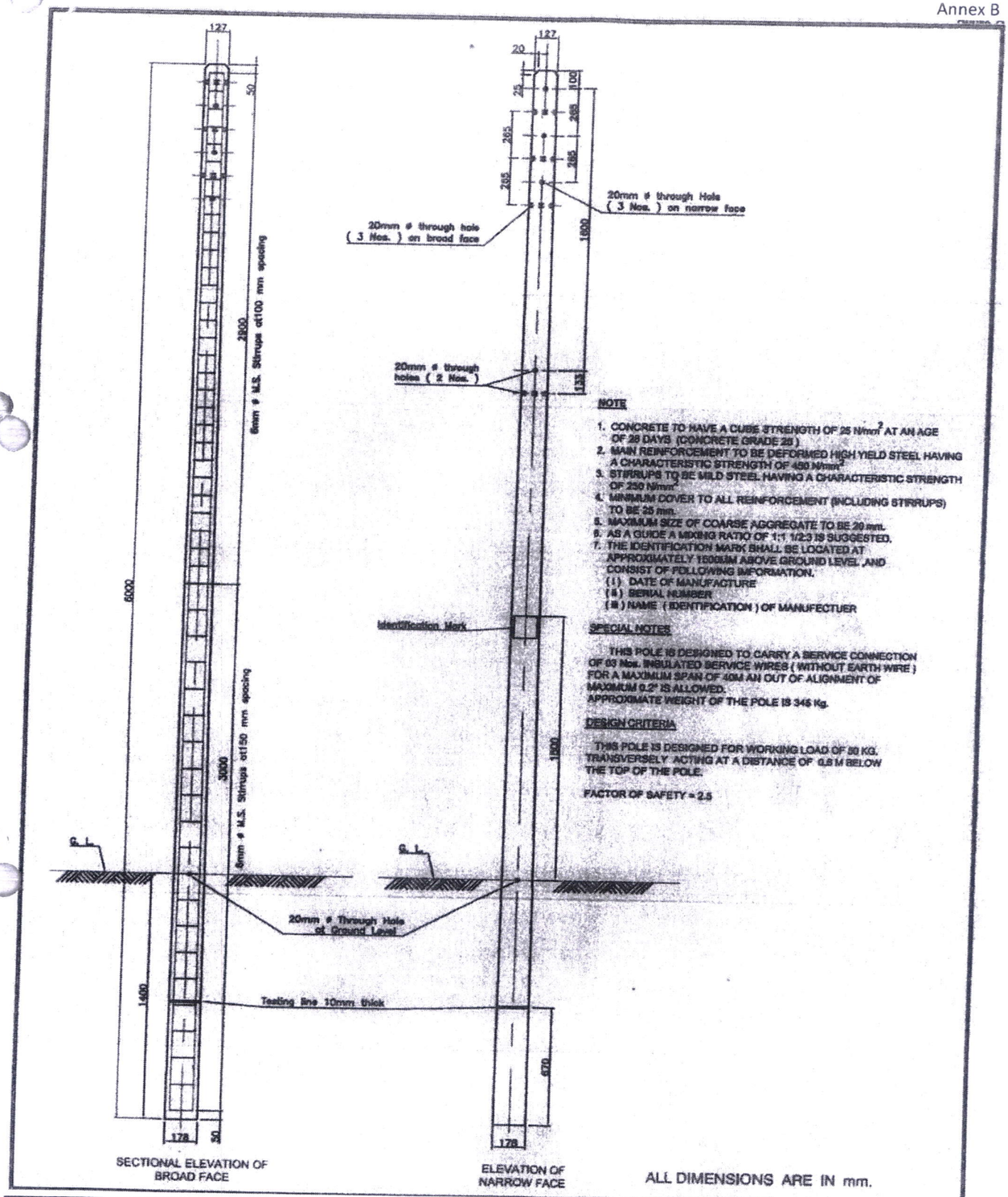

Figure: 6.0 m / 50 kg REINFORCED CONCRETE POLE

DUPLICATE

SPECIFICATIONS FOR COBRA HEAD TYPE LED STREET LAMP - 60W

Note: Bidder should duly fill and sign the given Spec. Sheet. Otherwise the bid will be rejected.

Type	
Make/Model	
Country of Manufacture	

Stipulated Specifications		**Offered Specifications**	
		Yes/ No	**If 'No' indicate your offer**
Luminaire Technical Data			
Luminaire Type	LED Cobra Head Type		
Power Consumption (W)	60W		
Power requirement	AC 230V, 50Hz		
Power Factor	> 0.90		
Housing Material	Die-cast Aluminium		
Protective Cover	Clear Tempered Glass		
Colour	Dark Grey		
Product Size (mm) L×W×H	Size should be suitable for installing in the areas of underserved settlements , narrow lanes and other common places e.g: 540(L) × 203(W) × 93(H)		
Approximate Weight (kg)	Less than 4.2 kg		
Ingress Protection	IP66		
Operating Temperature (^{0}C)	-30 ~ +45		
Insulation Classification	Class 1		
Application	Road lighting and lighting in areas that include low-income and other underserved settlements		
Installation Method	Side Mounting / Top Mounting		
Surge Protection	External SPD 10kV, 20kA		
Beam Angle (^{0})	140 × 70		
LED Module Technical Data			
LED Light Source	(Specify)		
Color Temperature	3000-6000K		
Color Rendering Index (Ra)	> 70		
Typical Luminous Flux @ 700mA (lm)	280		

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LED Viewing Angle (^{0})	120		
Max. Junction Temperature (^{0}C)	150		
LED Life Cycle (hrs)	Minimum 50,000 hrs		
No. of Modules	2 pieces of Modules		
Min. No. of LED pieces per Module	Minimum 14 nos. of series connected LEDs per module		
Method of mounting	Surface mount LEDs		
LED Manufacturer	(Specify)		
Measured Luminous Flux (lm)	6,200 (5,300K)		
Compliance Standard			
LED	LM80		
Driver	BS EN 61000-3-2:2006+A2:2009		
	IEC 61000-3-3:2013		
	EN55015:2013		
	EN61547:2009		
It is essential to submit Certification & Test reports along with the quotation			
Manufacturer Warranty	**Minimum 05 years**		
Product catalogue should be submitted along with the quotation			
A sample of the quoted product should be submitted to the Technical Evaluation Committee, if request			

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Authorized Signature & Rubber Stamp

DUPLICATE

SPECIFICATIONS FOR COBRA HEAD TYPE LED STREET LAMP - 90W

Note: Bidder should duly fill and sign the given Spec. Sheet. Otherwise the bid will be rejected.

Type	
Make/Model	
Country of Manufacture	

Stipulated Specifications		**Offered Specifications**	
		Yes/No	**If 'No' indicate your offer**
Luminaire Technical Data			
Luminaire Type	LED Cobra Head Type		
Power Consumption (W)	90W		
Power requirement	AC 230V, 50Hz		
Housing Material	Die-cast/Marine Grade Non-Corrosive Aluminium		
Protective Cover	Tempered Glass		
Colour	Dark Grey		
Product Size (mm) L×W×H	(Specify)		
Approximate Weight (kg)	Less than 11.5 kg		
Ingress Protection	IP66		
Operating Temperature (^{0}C)	-30 ~ +45		
Insulation Classification	Class 1		
Application	Road Lightings in Municipal Areas		
Installation Method	Side Entry Mounting Spigot		
Surge Protection	External SPD 10kV, 20kA		
Beam Angle (^{0})	(Specify)		
LED Module Technical Data			
LED Light Source	(Specify)		
Color Temperature	3000-6000K		
Color Rendering Index (Ra)	>70		
Typical Luminous Flux (lm)	300		
LED Viewing Angle (^{0})	115		
Max. Junction Temperature (^{0}C)	150		

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LED Life Cycle (hrs)	100,000 or above		
No. of Modules	(Specify)		
Measured Luminous Flux (lm)	(Specify)		
Compliance Standard			
LED	LM80		
Driver	BS EN 61000-3-2:2006+A2:2009		
	IEC 61000-3-3:2013		
	EN55015:2013		
	EN61547:2009		
Certification & Test reports should be submitted along with the quotation			
Manufacturer Warranty	**Minimum 05 years**		
Product catalogue should be submitted along with the quotation			
A sample of the quoted product should be submitted to the Technical Evaluation Committee, if requested			

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Authorized Signature & Rubber Stamp

DUPLICATE

SPECIFICATIONS FOR COBRA HEAD TYPE LED STREET LAMP - 120W

Note: Bidder should duly fill and sign the given Spec. Sheet. Otherwise the bid will be rejected.

Type	
Make/Model	
Country of Manufacture	

Stipulated Specifications		**Offered Specifications**	
		Yes/No	**If 'No' indicate your offer**
Luminaire Technical Data			
Luminaire Type	LED Cobra Head Type		
Power Consumption (W)	120W		
Incoming Power Supply	AC 230V, 50Hz		
Housing Material	Die-cast Aluminium		
Protective Cover	Clear Tempered Glass		
Colour	Dark Grey		
Product Size (mm) L×W×H	(Specify)		
Approximate Weight (kg)	Less than 8.5kg		
Ingress Protection	IP66		
Operating Temperature (^{0}C)	-30 ~ +45		
Insulation Classification	Class 1		
Application	Road Lightings		
Installation Method	Side Mounting		
Surge Protection	External SPD 10kV, 20kA		
Beam Angle (^{0})	140 × 70		
LED Module Technical Data			
LED Light Source	(Specify)		
Color Temperature	3000-6000K		
Color Rendering Index (Ra)	> 70		
Typical Luminous Flux @ 700mA (lm)	280		
LED Viewing Angle (^{o})	120		
Max. Junction Temperature (^{o}C)	150		
LED Life Cycle (hrs)	50,000		

DUPLICATE

(22)

No. of Modules	(Specify)		
Measured Luminous Flux (lm)	13,180 (5,300K)		
Compliance Standard			
LED	LM80		
Driver	BS EN 61000-3-2:2006+A2:2009		
	IEC 61000-3-3:2013		
	EN55015:2013		
	EN61547:2009		
Certification & Test reports should be submitted along with the quotation			
Warranty	**Minimum 05 years**		
Product catalogue should be submitted along with the quotation			
A sample of the quoted product should be submitted to the Technical Evaluation Committee, if request			

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Authorized Signature & Rubber Stamp