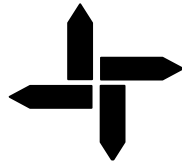


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF TRANSPORT, HIGHWAYS, PORTS AND CIVIL AVIATION

ROAD DEVELOPMENT AUTHORITY



PROCUREMENT DOCUMENT

FOR

**REFURBISHMENT OF ROAD LIGHTING SYSTEM FROM 0+600KM TO
4+670KM OF MARINE DRIVE ROAD, COLOMBO**

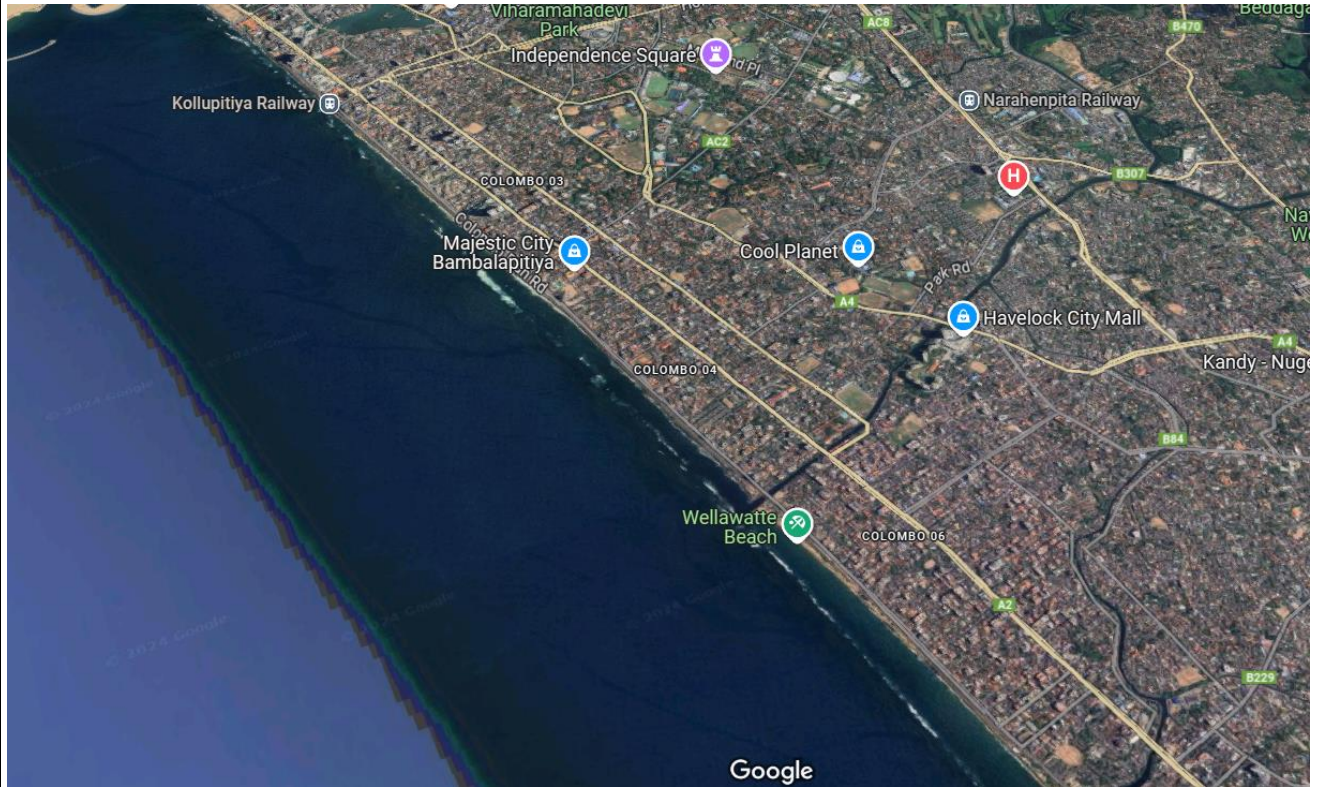
CONTRACT NO. RDA/RM&M/WP/RMI/2025/02

.....
[Name of the Bidder]

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Project Location Map



Introduction

This Bidding Document has two parts, namely, Volume 1 and Volume 2.

The bidders are expected to buy the following Standard Bidding Document from the Institute for Construction Industry Development Authority (Former ICTAD): -

STANDARD BIDDING DOCUMENT
PROCUREMENT OF WORKS
MAJOR CONTRACTS
SECOND EDITION – JANUARY 2007
CIDA PUBLICATION NO – CIDA/SBD/02

This Bidding Document shall be read in conjunction with the above Standard Bidding Document.

The Address of CIDA is

Construction Industry Development Authority,
'Savsiripaya'123, Wijerama Mawatha,
Colombo-07

VOLUME - 1

Consists of:

- | | |
|-----------|---------------------------|
| Section 1 | Instructions to Bidders |
| Section 2 | Conditions of Contract |
| Section 3 | Standard Forms (Contract) |

SECTION - 1

INSTRUCTIONS TO BIDDERS

The text of this 'Instructions to Bidders' is found in the "Standard Bidding Document Procurement of Works Major Contracts", ICTAD Publication No. CIDA/SBD/02 – Second Edition – January 2007 **with addendum issued in October 2009 by ICTAD.**

This publication is copyright and bidders, if they do not already possess a copy, may obtain it from:

Construction Industry Development Authority,
'Savsiripaya'
123, Wijerama Mawatha
Colombo-07

This has to be read in conjunction with Section 2 – 'Bidding Data' of this Bidding Document. Wherever the Clauses of the Section 1 – 'Instruction to Bidders' have to be modified and/or supplemented, it is done through the text in the Section 2 – 'Bidding Data'.

SECTION - 2

CONDITIONS OF CONTRACT

The text of this 'Conditions of Contract' is found in the "Standard Bidding Document Procurement of Works Major Contracts", CIDA Publication No. CIDA/SBD/02 – Second Edition – January 2007 **with addendum issued in October 2009 by ICTAD.**

This publication is copyright and bidders, if they do not already possess a copy, may obtain it from:

Construction Industry Development Authority,
'Savsiripaya'
123, Wijerama Mawatha
Colombo-07

This has to be read in conjunction with Section 4 – 'Contract Data' of this Bidding Document. Wherever the Clauses of the Section 3 – 'Conditions of Contract Bidders' have to be modified and/or supplemented, it is done through the text in the Section 4 – 'Contract Data'.

SECTION - 3

STANDARD FORMS (Contract)

- FORM NO. 01: Letter of Acceptance
- FORM NO. 02: Performance Security
- FORM NO. 03: Agreement
- FORM NO. 04: Advance Payment Security
- FORM NO. 05: Retention Money Guarantee

FORM No 01: LETTER OF ACCEPTANCE

[letter head paper of the Employer]

_____ [Date]

[Contractor's Name & Address]

This is to notify you that your bid dated for the **"REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO"** under Contract No: **RDA/RM&M/WP/RMI/2025/02** for the Contract Price of Rupees as corrected in accordance with Instruction to Bidders is hereby accepted.

You are hereby instructed to proceed with the execution of the said Works in accordance with the Contract Documents.

The commencement Date shall be

The amount of Performance Security is.....

The Performance Security shall be submitted on or before

Authorized Signatory
Road Development Authority

FORM No 02: PERFORMANCE SECURITY **(Unconditional)**

.....
[Issuing Agency's Name, and Address of Issuing Branch or Office]

Beneficiary: Director General, Road Development Authority (hereinafter called and referred to as "the Employer") 1st floor, "Maganeguma Mahamedura", Battaramulla.

Date:

PERFORMANCE GUARANTEE No.:

We have been informed that *[name of Contractor]*
(hereinafter called, "the Contractor") has entered into Contract No **RDA/ RM&M/WP/RMI/2025/02**
dated with you, for the **"REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM
0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO"** (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we *[name of Agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[amount in figures]*
(.....) *[amount in words]*, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the day of2025. *[28 days beyond the Intended Completion Date]* and any demand for payment under it must be received by us at this office on or before that date.

Signature and the Seal of the Agency:

Name of the Organization

Designation

Date:

Witness:

Name NIC No Signature

Name NIC No Signature

FORM No 03: FORM OF AGREEMENT

This Agreement made on the[day] of[Month] 2025, between the Road Development Authority established by the Road Development Authority Act No. 73 of 1981, situated at "Maganeguma Mahamedura" Battaramulla, (hereinafter called and referred to as "the Employer"), of the one part, and..... [name and address of Contractor]) (hereinafter called and referred to as "the Contractor"), of the other part:

Whereas the Employer desires that the Contractor execute "**REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO**" under Contract No **RDA/ RM&M/WP/RMI/2025/02** (hereinafter called and referred to as "the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and remedying of any defects therein.

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract.
2. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and remedying any defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof the parties hereto have caused this Agreement to be executed on the day and year aforementioned in accordance with laws of Sri Lanka.

.....

Name:

Authorised Signatory of Contractor
In the presence of Witness:

1.....

Name

NIC No.

Address

2.....

Name

NIC No.

Address

.....

Authorised Signatory of Employer
Name and Title of Signatory

In the presence of Witness:

1.....

Name

NIC No.

Address

2.....

Name

NIC No.

Address

FORM NO. 04: ADVANCE PAYMENT SECURITY

.....
[Name and address of Agency, and Address of Issuing Branch or Office]

Beneficiary: Director General, Road Development Authority (hereinafter called and referred to as “the Employer”) 1st floor, “Maganeguma Mahamedura”, Battaramulla.

Date:

ADVANCE PAYMENT GUARANTEE No.:

We have been informed that [name of Contractor]
(hereinafter called, “the Contractor”) has entered into Contract No. **RDA/RM&M/WP/RMI/2025/02**
dated2024, with you, for the **“REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM
0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO”** (hereinafter called “the Contract”).

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum [amount in figures] (.....) [amount in words] is to be made against an advance payment guarantee.

At the request of the Contractor, we [name of issuing Agency] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of [amount in figures] (.....) [amount in words], upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation in repayment of the advance payment under the Contract.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor.

This guarantee shall expire on[insert the date, 28 days beyond the Time for Completion]

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

Signature and the Seal of the Agency:

Name of the Organization

Designation

Date:

Witness:

Name NIC NoSignature

Name NIC NoSignature

FORM NO. 05: RETENTION MONEY GUARANTEE

_____(Issuing Agency's Name and Address of Issuing Branch or Office)_____

Beneficiary: Director General, Road Development Authority

Date:-----

RETENTION MONEY GUARANTEE No.:-----

we have been informed that -----(name of Contractor) (hereinafter called "the Contractor") had entered into Contract No **RDA/RM&M/WP/RMI/2025/02** dated2025, with you, for the execution of **"REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO"** (hereinafter called "the Contract")

Furthermore, we understand that, according to the Conditions of Contract, when the works have been taken over and the first half of the Retention Money has been certified for payment, payment of the second half of the Retention Money may be made against a Retention Money guarantee.

At the request of the Contractor, we -----(name of agency) hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ----- (amount in figures)-----
----- (amount in words) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor has not attended to the defects in accordance with the Contract.

The guarantee shall expire, at the latest, ----- (insert 28 days after the end of the Defects Notification Period). Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

Signature and the Seal of the Agency:

Name of the Organization

Designation

Date:

Witness:

Name NIC NoSignature

Name NIC NoSignature

VOLUME - 2

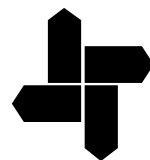
Consists of:

Section 1	Invitation for Bids
Section 2	Bidding Data
Section 3	Contract Data
Section 4	Specifications
Section 5	Form of Bid
Section 6	Bills of Quantities
Section 7	Schedules
Section 8	Standard Forms (Bid)
Section 9	Drawings

SECTION 1
INVITATION FOR BIDS



GOVERNMENT OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF TRANSPORT, HIGHWAYS, PORTS AND CIVIL AVIATION
ROAD DEVELOPMENT AUTHORITY



INVITATION FOR BIDS

UPGRADING AND REFURBISHMENT OF THE ROAD LIGHTING SYSTEM FROM 0+585KM to 10+715KM ON THE COLOMBO KATUNAYAKA EXPRESSWAY (CKE), INCLUDING KERAWALAPITIYA INTERCHANGE

1. The Chairman, Ministry Procurement committee RDA, on behalf of Road Development Authority (RDA) invites sealed bids from eligible and qualified bidders for the projects described below.

Contract No.	Name of the Project	Engineer's Estimate (w/o conti.) Rs. Mn	Contract Duration (days)	CIDA Grading	Bid Security Rs.
RDA/RM&M/WP/RMI /2025/02	REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD	112.02	122	EM 1	1,850,000.00

2. Bidding will be conducted through the National Competitive Bidding Procedure.
3. To be eligible for award of the contract, the successful bidder shall not have been blacklisted and currently registered with the Construction Industry Development Authority (CIDA) in the grade mentioned above
4. Interested bidders may obtain further information from the following offices and inspect the bidding documents, during office hours:
- a. Deputy Director General (RM&M Division), Road Development Authority,
Tel: 0112882196, Fax: 0112882195

b. Provincial Director (Western Province), Colombo
Tel: 0112887358, Fax: 0112887623

5. A complete set of Bidding Documents in English language shall be purchased by interested bidders on submission of a written application to the Deputy **Director General, Maintenance and Management Division, Road Development Authority, 6th Floor, Road Development Authority, "Maganeguma Mahamedura", Denzil Kobbekaduwa Mawatha, Battaramulla** from **05.02.2025** until **25.02.2025** during **09:00 hrs to 15:00 hrs** upon payment of a non-refundable fee of **LKR 20,000.00+ (Gov. Taxes)**. The method of payment will be in cash. **As per the Public Contracts Act no. 03 of 1987, the Agent and successful winners of the tender shall be registered in the Department of Registrar of Companies.**
6. Bids shall be delivered **in duplicate** to the Chairman, RDA Procurement Committee, C/o. Director General, Road Development Authority, 1st floor, 'Maganeguma Mahamedura', Battaramulla, on or before **14.00hrs on 26.02.2025**. Late bids will be rejected. Bids will be opened soon after the closing, in the presence of the bidders' representatives who choose to attend.
7. Bids shall be valid **upto 28.05.2025**.
8. Bid shall accompany a Bid-Security **of Rs 1,850,000.00 Bid security shall be valid upto 25.06.2025**.
9. A Pre-Bid meeting will be held at **10.30 hrs on 17.02.2025** at the conference hall, Deputy Director General's office (Maintenance and Management Division), Road Development Authority, 6th Floor, Road Development Authority, "Maganeguma Mahamedura", Denzil Kobbekaduwa Mawatha, Battaramulla. Site visit will be carried out prior to the meeting.

The Address Referred to above is,

The Chairman

RDA Procurement Committee

216, 1stFloor, "Maganeguma Mahamedura", Battaramulla.

SECTION - 2

BIDDING DATA

This Section shall be read in conjunction with Section 1- 'Instruction to Bidders', and is intended to provide specific information in relation to corresponding clauses in Section 1. Wherever there is a discrepancy, the provisions of Section-2-. Bidding Data shall supersede those provided in the Section 1 – Instructions to Bidders.

The Clause numbers given in this Section correspond to the Clauses with the same numbers in the Section 1 – 'Instruction to Bidders'.

Whenever a Clause number appears in this Section, it means the information in the corresponding Clause in Section 1 is supplemented and/or modified according to the information in the Clause in Section 2.

If a Clause number does not appear in this Section, it means the Clause with the corresponding number in Section 1, remains unchanged.

BIDDING DATA

Instructions to Bidders Clause Reference

1.1

Employer's Name and Address

Employer is Chairman, Road Development Authority established by the Road Development Authority Act No. 73 of 1981 as amended by Act No:05 of 1988 and No:37 of 2009.

Address of the Employer is

"Maganeguma Mahamedura",
Road Development Authority
1st Floor, "Maganeguma Mahamedura", Battaramulla

"REFURBISHMENT OF ROAD LIGHTING SYSTEM OF ROAD FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO"

Project Contract No: RDA/RM&M/WP/RMI/2025/02

The work consists of refurbishment of Road Lighting System of from 0+600km to 4+670km of Marine drive road, Colombo.

1.2

Time for Completion

The Time for Completion of the whole of the Works shall be **122 calendar days** from the Commencement Date.

2.1

Source of funds

The source of funds is Government of Sri Lanka (GOSL)

3

Add a new sub-Clause 3.3

Clause 3.3

A misrepresentation or omission of facts in order to influence the procurement process shall make the Bid non-responsive and if detected after the award the bidder could be subjected to legal prosecution.

4.1

Qualification Information

The following information shall be provided in Section – 9 – Schedules;

- CIDA registration
Registration number
Grade
Specialty
Expiry date
- If not, VAT registered, self-declaration on VAT registration
- VAT registration number
- If a Joint Venture, the agreement
- Construction Programme with critical path and cash flow forecast.
- Legal status of the bidder (sole proprietor, Partnership, Company etc.)
- Authentication signatory (written Power of Attorney)
- Total monetary value of construction work performed for each of the last five years.

- Experience in works of a similar nature in outdoor lighting works and size for each of the last five years.
- Availability of Construction equipment.
- Availability of Staff
- Work plan and methods
- Information on current work in hand
- Clearance from the relevant authority to import and use necessary equipment and accessories for the project.
- Manufactures authorization letters **for LED Luminaires/Light fittings, Light poles, Electrical Cables, Batteries and other major accessories** used in the project especially taken for this project.

4.2(a) The bidders shall have a valid registration in Grade **EM 1**, in both **Electrical Installation [(Low Voltage – (EI -LV)) Specialty]**, on the date of closing of bids.

4.2(b) **Average annual volume of construction work** performed during last five years shall be at least **Rs. 185 Mn.**

4.2(c) The Bidder should have completed at least one similar outdoor lighting project, the value of which should be at least **Rs. 86 Mn** during the last five years.

4.2(d) Essential equipment

Proposals for the timely acquisition (own, lease, hire, etc.) of the following essential equipment shall be deployed.

<u>Machinery</u>	<u>Capacity</u>
1. Arial Platform	13m height
2. Mini Excavator	
3. Truck with Tipper	3 Ton

4.2(f) Liquid assets and / or credit facilities required

The minimum amount of liquid assets available shall be Rupees **92 Mn.**

The minimum amount of liquid assets available is calculated as follows.

$$X = (A - L) - 0.1 W + C$$

Where,

X = Minimum amount of liquid assets available,

A = Current assets as given in the latest audited financial statements,

L = Current liabilities as given in the latest audited financial statements,

W = Outstanding contractual commitments as supported by an affidavit as per Form No. 07,

C = Project specific revolving line of credit given by a bank as per Form No. 08

10.1 Clarification of Bidding Documents

Employer's address for clarification of bidding documents is.

Deputy Director General (RM&M Division), RDA, 6th Floor, "Maganeguma Mahamedura", Denzil Kobbekaduwa Mawatha, Battaramulla.

Phone: 0112882196

Fax: 0112882195

14.4 Adjustment for change in cost

The Contract is **not** subjected to price adjustments.

16.1 Period of Bid validity:

The Bid shall be valid for **91 days** from the closing date of the Bid.

17.1 Amount of Bid security:

The amount of Bid Security is Sri Lanka Rupees **1,850,000.00**

17.2 Validity of Bid Security

The Bid Security shall be valid up to 28 calendar days beyond the validity of the Bid (i. e up to **25.06.2025**). The form of Bid Security shall be strictly in the format given in the Bidding Document.

Any bond or security issued by ABC Insurance Company Limited is not acceptable.

18. Alternative Proposals by Bidders

Delete entire Clause and substitute with the following: -
"Bidders are not allowed to submit alternate proposals"

19.1 Pre – Bid meeting

The pre-bid meeting will be held at office of the Provincial Director (Western) Mahamedura", Denzil Kobbekaduwa Mawatha, Battaramulla on 17.02.2025 at 10:30 hrs.

20.4 Add new Sub Clause 20.4

All pages of the Bidding documents shall be signed by the bidder and his seal affixed.

21.2 Submission of Bid

21.2(a) Employer's address for the purpose of bid submission is;

**Chairman, Road Development Authority Procurement Committee,
216, Denzil Kobbekaduwa Mawatha, 1st Floor, Mageneguma Maha Medura,
Battaramulla.**

21.2(b) Name and Identification number of Contract

The name of the Contract is **"REFURBISHMENT OF ROAD LIGHTING SYSTEM | FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO"**

Contract Number is **RDA/ RM&M/WP/RMI/2025/02**

22.1 Deadline for submission of Bids

The deadline for submission of bids is **14:00 hrs on 26.02.2025**

Any bid received after the deadline for submission of bid will be returned unopened to the bidder.

25.1 Bid Opening

The Bids shall be opened immediately after the deadline for submission of Bids, mentioned in sub-clause 22.1

32.2 Award

After evaluation of Bids in accordance with the procedures described under Clauses 28, 29, 30 and 31, the Employer will inform to all the bidders in writing the selection of the successful bidder and the intention of contract award to such bidder. The unsuccessful bidders if they so wish, within one week of such notice may make representation to the Procurement Appeal Board at the address given below. Such representation shall be self-contained to enable the Appeal Board to arrive at a conclusion and a cash deposit to an amount given below shall be made. The Appeal Board may request the bidder who had made representation to submit further evidence during investigations. The cash deposit will be forfeited unless the Employer has changed the original contract award decision in favour of the bidder who has made such representation.

Address: Chairman, Ministry Procurement Committee,
216, Denzil Kobbekaduwa Mawatha, 1st Floor, Mageneguma Maha
Medura, Battaramulla.

Cash Deposit: Rupees 25,000/=

35.1 Amount of Performance Security

The format of the security shall be strictly in accordance with the Form No. 02 given in Section 5.

The amount of Performance Security is 5% of the Initial Contract Price.

The Performance Security shall be valid until 28 days beyond the expiry of the Defects Notification Period.

Any unconditional bank guarantee issued by registered bank security from the ABC Insurance Company is not acceptable.

2.5% of the final Contract value shall be submitted as a Performance Security against the warranty at the end of Defects Liability Period, valid for four (04) year period, i.e. until the completion of the warranty period of luminaries.

37. Adjudicator

Replace "Construction Industry Development Authority (CIDA)" in the second paragraph of sub-clause 37.1 with "Institution of Engineers, Sri Lanka (IESL)"

SECTION - 3

CONTRACT DATA

This Section shall be read in conjunction with Section 3- 'Conditions of Contract', and is intended to provide specific information in relation to corresponding clauses in Section 3. Wherever there is a discrepancy the provisions of Section 4 – Contract Data shall supersede those provided in the Section 3 – Conditions of Contract.

The Clause numbers given in this Section correspond to the Clauses with the same numbers in the Section 2 – 'Conditions of Contract'.

Whenever a Clause number appears in this Section, it means the information in the corresponding Clause in Section 3 is supplemented and/or modified according to the information in the Clause in Section 4.

If a Clause number does not appear in this Section, it means the Clause with the corresponding number in Section 3, remains unchanged.

CONTRACT DATA

COC Clause Number/s

- 1.1.2.2** Employer's Name: Chairman, Road Development Authority
Employer's Address: 1st Floor, "Mageneguma Mahamedura", Battaramulla
- 1.1.2.4** The Engineer is: Director General, Road Development Authority.
- 1.1.2.9** Replace "Construction Industry Development Authority (CIDA)" with "Institution of Engineers, Sri Lanka (IESL)", in the text.
- 1.1.3.3** Time for Completion is **122 calendar days**.
- 1.1.3.7** Defects Notification Period is **365 calendar days**.
- 1.3 (b)** Employer's Address

Road Development Authority, 1st Floor, Maganeguma Mahamedura, Battaramulla.

Engineer's Address

Director General, Road Development Authority, 1st Floor, Maganeguma Mahamedura, Battaramulla.
- 3.1** The Engineer shall obtain the specific approval of the Employer before taking action under the following Sub - Clauses of these Conditions.
- I. Clause 13. 3 - Variation Procedure
Ordering any variation, if the value of such variation is likely to exceed 1% of the sum named in the Letter of Acceptance or Rs. 1.0 million (One million rupees), whichever is less.
 - II. Clause 4.4 - Subcontractors
 - III. Clause 5.0 - Nominated Subcontractors
 - IV. Clause 8.4 - Extension of Time for Completion
 - V. Clause 8.8 - Suspension of Work
 - VI. Clause 8.11 - Prolonged Suspension
 - VII. Clause 10 - Employer's Taking Over
 - VIII. Clause 11.3 - Extension of Defects Notification Period
 - IX. Clause 11.8 - Performance Certificate
 - X. Clause 13.6 - Adjustments in Changes in Legislation
 - XI. Clause 16.4 - Payment on Termination

Notwithstanding any obligations set out elsewhere in this Contract to obtain approval from the Employer, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties or responsibilities under the Contract, instruct the Contractor to execute all such work or to do such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.

4.2 Performance Security

Amount of Performance Security is 5% of the Initial Contract Price. The acceptable format of the Performance Security is given in this Bidding Document.

Add new sub clause 5.0

Another Performance Security of 2.5% of the final Contract value shall be submitted against the warranty at the end of Defects Liability Period, valid for four (04) year period, i.e. until the completion of the warranty period of major items.

Any unconditional Bank Garentee issued by registered bank in the central bank of sri lanka or CGF is acceptable.

8.7 Liquidated Damages

The Liquidated Damages for the whole of the works shall be Rs. **61,612.00** per Day.

The maximum amount of Liquidated Damages for the whole of the works shall be 10% (ten percent) of the Initial Contract Price.

12.2(b) The method of Measurement shall be as per the Contract

13.3

Variation Procedure

Add the following

Variation Exceeding 25 percent

If on the issue of the Taking Over Certificate for the whole of the Works it is found that there is a reduction or increase of more than 25% in the Quantity of any unit priced items in the priced Bill of Quantities for which the total cost based on the original rate is more than 5% of the "Effective Contract Price" (which for the purpose of this sub clause shall mean the Contract Price, excluding Provisional Sums and allowance for Day works, if any, and adjustment of price under 13.6) then an adjustment based on original rate shown in the priced Bill of Quantities shall be made as described below.

- (a) the actual quantity of work completed in excess of 150% of the original bid quantity shall be paid at a rate equal to 83% of the Contract unit price.
- (b) the actual quantity of work in excess of 125% but not more than 150% of the original bid quantity shall be paid for at rate equal to 90% of the contract unit price.
- (c) the actual quantity of work completed in excess of 75% but not more than 125% of the original bid quantity shall be paid for at the contract unit price.
- (d) If the actual quantity of work completed is 75% or less of the original bid quantity the work shall be paid for the actual unit price. In addition, a payment of 17% of the difference between 75% of the estimated total cost of the work for the specific item as shown in the contract and the final cost of the work for the specific item shall be made to the contract.

The provision of this sub clause shall not apply to fixed sums, provisional sums, and provisional items and allowance for Day works and nor to items omitted entirely from the works. It shall also not apply where the difference in quantities is the result of variations specifically ordered by the Engineer.

3.4(b)

14.2

Percentage for adjustment of Provisional Sums is 10%

Advance Payment

A total Advance Payment of 20% of the Initial Contract Price net of Contingencies and Provisional Sums would be made in two equal instalments on submission of an advance payment guarantee. The second instalment would be paid only after establishing that the first instalment of the advance payment has been used exclusively for mobilization of this project and submission and approval of detailed construction programme with network analysis and resource scheduling. The advance payment guarantee shall only be from a Bank acceptable to the Employer or from the Construction Guarantee Fund. First part of the advance payment would only be paid after signing of a formal contract agreement.

14.3(c)	Percentage of retention	10%
	Limit of Retention Money	5% of the initial contract price
	Add new clause 14.3	Performance guarantee for the warranty period for the luminaries. The 5% retention will be released after one defect liability period, subjected to submit another performance guarantee of 2.5% of the final contract price as the warranty period for the luminaries, for 4 year period.
14.5	Minimum amount of Interim Payment Certificates	Twenty-Five Million Rupees. (Rupees 25 million).
18.2	Third Party Insurance	This amount of third-party insurance per occurrence is Rupees 5,000,000.00
19.2	Procedure for Adjudication	Replace 'Construction Industry Development Authority (CIDA)' in the second paragraph with 'Institution of Engineers, Sri Lanka (IESL)'
19.4	Replacement of Adjudicator	Replace 'Construction Industry Development Authority (CIDA)' with 'Institution of Engineers, Sri Lanka (IESL)'

SECTION - 4
SPECIFICATIONS

SPECIFICATION

Standard Specifications

The 'Standard Specifications for Electrical & Mechanical Works' issued under the authority of the Director General of the Road Development Authority and published by the Institute of Construction Training and Development under publication number CIDA/SCA/8 second Edition published in January 2007.

Bidders who are not in possession of this publication can purchase it from the CIDA.

COPY

PARTICULAR SPECIFICATIONS

PREAMBLE

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These Particular Specifications should be read in conjunction with the Standard Specifications for Electrical & Mechanical Works, ICTAD Publication No SCA/8 second Edition published in January 2007, which are applicable in all cases not covered herein.

The Particular Specifications for some sections of the works are comprehensive and cover the full extent of the works in these sections. In other sections they apply in conjunction with the Standard Specifications. Finally, in some sections not covered in the Particular Specifications, the Standard Specifications shall apply in full.

Where there is an ambiguity or discrepancy between the Particular Specifications and the Standard Specifications, the Particular Specifications shall prevail.

COPY

PARTICULAR SPECIFICATION

CONTRACT: REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO

CONTRACT NO: RDA/ RM&M/WP/RMI/2025/02

GENERAL

The scope of work includes the refurbishment of the conventional road lighting system from the 0+600 km to 2+470 km section and the solar-based individual pole lighting system from the 2+470 km to 4+670 km section along Marine Drive, Colombo. This work shall be carried out in accordance with the technical specifications and the terms and conditions outlined in the contract.

The specifications for each section are detailed under Section 01 and Section 02, and all work shall align with the descriptions and specifications provided in the Bill of Quantities (BoQ) as well.

WARRANTY/ GUARANTEE & COMPREHENSIVE MAINTENANCE

Following Warranty/ Guarantee & Comprehensive Maintenance for the total work shall be provided by the Contractor.

- a) The contractor will be responsible for satisfactory performance and operation of all LED luminaries including solar powered luminaries, batteries, solar panels for a period of five (5) years from the date of commissioning.
- b) For the Power distribution boards, three-year (03) comprehensive warranty period shall be provided.
- c) Ten (10) years warranty period shall be provided for lighting pole.
- d) Rectification of all the defects developed in the LED luminaires and all other installations during defect liability period shall have to be done by the contractor promptly, at the most within two (02) days from the date of receipt of complaint.
- e) After the defect liability period, during the five-year warranty period applicable to LED luminaries including solar powered luminaries, panel boards, batteries, solar panels, lighting poles the contractor shall, upon receiving a complaint, conduct an inspection with the RDA within two days. A new replacement item for all defective items shall be provided to the RDA, and the RDA will carry out the replacement. Additionally, the contractor shall be responsible for maintaining an adequate quantity of spare accessories to ensure timely warranty replacements.
- f) For the total installation work except LED luminaries including solar powered luminaries, panel boards, batteries, solar panels, panel boards, lighting pole one year of comprehensive warranty period shall be provided.
- g) The contractor will be responsible for satisfactory performance and operation of the total system in the **defect liability period** for a period of one year from the date of commissioning. All the necessary arrangements required in this regard during one-year comprehensive warranty shall be made by the

contractor. It shall include Free of Cost rectification /replacement of all the defective and consumable components/items.

- h) All the non-functional parts/ materials/ items replaced during the warranty period shall be the property of the contractor.
- i) Replacement of any component broken or lost due to theft or natural calamity shall not be the responsibility of the contractor. Any damaged or broken component due to negligence or fault of beneficiary or natural calamity shall be replaced at the user's cost.
- j) A retention amount of 5% will be held until the one-year defect liability period is over. After the defect liability period, the retention will be released upon receipt of a performance security against warranty equal to 2.5% of the final contract sum, which will be retained until the warranty period for panel board and the luminaires has expired.**
- k) In the event of inadequate performance or failure to fulfil contractual obligations, the Employer reserves the right to invoke and claim the performance bond as per the contract terms.**

SUBMISSION WITH THE BID OPENING

The bidder shall be responsible for submitting the followings with the bid submission.

- a) A sample luminaire fitting.
- b) Lighting design simulation report.
- c) All requested test certificates as per the bidding document.
- d) Catalogues and datasheets required for all major items for bid evaluation.

The submission of forged, falsified, or misleading documents shall result in the immediate rejection of the bid. Furthermore, all submitted documents must be authentic, accurate, and verifiable upon request. The Employer reserves the right to verify any document with the issuing authority or relevant source. Non-compliance with verification requests or the discovery of fraudulent documentation may lead to disqualification, blacklisting, or legal action as per the applicable laws and contract terms.

SUBMISSION DURING THE INSTALLATION WORK

The contractor shall be responsible for submitting the following documents during the installation works:

- e) Weekly progress report.
- f) Shop drawings as specified for prior approval.
- g) Lighting design simulation.
- h) Product approval documents before placing the purchase order and proceeding with the site installation.

SUBMISSION AT THE COMPLETION OF WORK

The contractor shall furnish the following documents after completion of work.

- a) Warranty certificate for LED luminaire, Lighting pole, Panels boards including switch gears, Electrical cables.

- b) Printed Pamphlets/Catalogues- Two Copies
- c) As built drawings – Two copies
- d) Quantities of spare accessories specified in the BoQ.

REFERENCES

In addition to the above, you must adhere to and comply with the following standards.

Certification bodies	Standard	Details refer to the standards	Comment
EN	LVD standards		
	EN 60598-1	Luminaires. General requirements and tests in accordance with this standard	In particular, thermal endurance tests in accordance with this standard
	EN 60598-2-3	Luminaires. Particular requirements.	Standards of road and street lighting
	EN 60598-2-5	Luminaires. Particular requirements.	Standards of floodlights
	EN 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts.	Mechanical impact tests – IK code
	EN 60529	Degrees of protection provided by enclosures	Ingress protection – IP code
	EN 60068	Environmental testing. Tests. Test Fc. Vibration(sinusoidal).	
	EN 60068-2-27	Environmental testing. Tests. Test Ea and guidance: Shock	
	EN 62321	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances	
	EMC standards		
	EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	EMC Emissions
	EN 61547	Equipment for general lighting purposes. EMC immunity requirements.	EMC Immunity
	EN 61000-3-2	Electromagnetic compatibility (EMC). Limits. Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	EMC Limits for harmonic current emissions
	EN 61000-3-3	Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection	EMC Limits for voltage fluctuations and flicker
	Standards associated with LED drivers		
	EN 61347-1	Lamp control gear. General and safety requirements	
	EN 61347-2-13	Lamp control gear. Particular requirements for DC or AC supplied electronic control gear for LED modules	

	EN 62493	Assessment of lighting equipment related to human exposure to electromagnetic field	Electro Magnetic Fields Safety – Lighting Equipment
	EN 62384	DC or AC supplied electronic control gear for LED modules. Performance requirements	0-10V,1-10V or Dali
	EN 62031	LED modules for general lighting. Safety specifications	
IEC	IEC 62722-1:2014	Luminaire performance – Part 1: General requirements	
	IEC 62722-2-1	Luminaire performance – Part 2-1: Particular requirements for LED luminaires	
	IEC/EN 62471	Photobiological safety of lamps and lamp systems	
	IEC TR 62778	Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires	
EN(Road lighting design)	EN 13201-1	Road lighting. Guidelines on selection of lighting classes	
	EN 13201-2	Road lighting. Performance requirements	
	EN 13201-3	Road lighting. Calculation of performance	
	EN 13201-4	Road lighting. Methods of measuring lighting performance	
	EN 13201-5	Road lighting. Energy performance indicators	
EN and IESNA	EN 13032-1	Light and lighting. Measurement and presentation of photometric data of lamps and luminaires. Measurement and file format.	
	IES-LM-80	Measuring Lumen Maintenance of LED Light Sources	LM-80
	IES-TM-21	Projecting Long Term Lumen Maintenance of LED Light Sources	TM-21
ANSI	ANSI C136.31	Luminaire Vibration	Vibration
	ANSI C136.41	Electrical and mechanical standards for Dimming Receptacles	5 pin or 7 pin NEMA socket
	ANSI C136.10	Physical and Electrical standards for Locking-Type Photocontrol Devices and Mating Receptacles	3 pin NEMA socket
UL	UL 1598 Luminaires	Safety standards for luminaires	Certificate for luminaires
	UL 8750	Light Emitting Diode (LED) Equipment for Use in Lighting Products	Certificate for LED chips
IESNA	LM-79-08	Electrical & Photometric Measurement of LED light	
	LM-82-12	Characterizations of LED Light Engines and LED Lamps for Electrical and Photometric Properties as a Function of Temperature	LM-80
	LM-84-14	Measuring Luminous Flux and Color Maintenance of. LED Lamps, Light Engines, and Luminaires	TM-21
	IESNA LM-80-08	Measuring Lumen and color Maintenance of LED light sources and	TM-21
IESNA	Book 13 Zhaga	Zhaga standards for LED driver	D4i LED driver
	Book 18 Zhaga	Zhaga standards for Zhaga socket	Zhaga socket
	Book 20 Zhaga	Zhaga standards for sensor	

ISO	ISO9001	Quality management system of factory	
	ISO14001	Environmental management system of factory	
	ISO45001	Occupational health and safety management system of factory	
	ISO50001	Energy management system of factory	
	ISO9227	Corrosion tests in artificial atmospheres – Salt spray tests	
BS	BS 5467:1997	Specification for XLPE insulated Armoured Cables	
	BS 5649-5:1982, EN40-5:1982-	Lighting columns Specification for base compartments and cableways	
	BS 7671:2008 + A3:205	Requirements for Electrical Installations, IET Wiring Regulations	
	BSEN605209:1992/ IEC60529:	Degree of Protection provided by enclosures (IP code for ingress protection and IK code for Mechanical strength)	
BS/ISO/ Galvanization	BS EN ISO 1461:2022	Hot dip galvanized coatings on fabricated iron and steel articles	Specifications and test methods
	and ISO 14713-1:2017	Zinc coatings — Guidelines and recommendations for the protection against corrosion of iron and steel in structures	Corrosivity category -C4 (Page no.07))

SECTION 01

CONVENTIONAL ROAD LIGHTING SYSTEM FROM THE 0+600 KM TO 2+470 KM SECTION

1. REPLACING OF PANEL BOARDS AND OTHER ALL DAMAGE AND DECREPIT ITEMS

1.1 ELECTRICAL LIGHTING CIRCUITS DESIGN

- a. The contractor shall provide the electrical circuit design for both the lighting system and the power distribution board. Lighting poles shall be installed at 35m intervals, utilizing 10m height poles as per the specifications. Existing locations with available power supply may be used for panel installation. Provided typical drawing for the panel board could be used as a reference and shop drawing shall be submitted for approval from RDA before fabrication.
- b. At the LDB, a digital time switch is required to switch no/off of the lighting circuit during the period of darkness.

1.2 CONSTRUCTION OF PANEL BOARDS

- a. MDBs and LDBs shall be free standing and of weatherproof and vermin proof construction. The front in the panel must have a smooth well finished surface.
- b. It is the contractor's responsibility to take the required dimensions from the site and propose appropriately sized components in accordance with the design.
- c. The enclosure shall be constructed using FRP (Fiber Reinforced Plastic) or GRP (Glass Reinforced Plastic) materials, designed for outdoor use, ensuring durability and resistance to environmental factors. The enclosure shall be finished to a high standard, suitable for outdoor installation. It will be fixed inside the existing concrete cubical, using heavy-duty galvanized, marine treated as item no.2.3 for secure attachment. This item includes the preparation of site for new panel boards and the appearance must be finished in **RAL7035** colour for added protection and a uniform appearance.
- d. **Galvanization shall be carried out according to the BS EN ISO 1461:2022 (Hot dip galvanized coatings on fabricated iron and steel articles - specifications and test methods) and ISO 14713-1:2017 (Zinc coatings — Guidelines and recommendations for the protection against corrosion of iron and steel in structures-Corrosivity category -C4 (Page no.07)). In addition, three (03) coats of marine-grade paint shall be applied to protect the pole from sea breeze exposure (product approval for the marine paint must be obtained prior to application). All nuts, bolts, hinges, mounting brackets, mounting channels and other all associated materials shall be made of stainless steel (SS316).**
- e. All **doors** of the panels should be equipped with provisions to accommodate **padlocks** for enhanced security.

- f. Both should be suitably rated for a prospective short circuit breaking capacity of not less than 25kA at 415V. Both shall be capable of carrying continuously rated currents without exceeding the maximum temperature given in the appropriate IEC standards.
- g. The metal cable gland plate shall be provided with knock out or other approved cable entries for accommodation of the cables and cable glands. Regarding the number and size of such knock outs, breakers can be used in any combination of single phase and three phase circuits.
- h. Earth metal of MDBs and LDBs shall be bonded together and earthed to the transformer earthing system. Earthing connections within the panel shall be carried out in bare copper strip with cross sectional area of 150mm².
- i. All shall have an ingress protection rating of IP54 minimum to BSEN 605209/IEC 60529.
- a. In addition to the items, the following shall be provided and installed at each supply pillar.
 - i. A multi-ground terminal block shall be provided for the connection/bonding of all non-current-carrying metallic parts, common grounding conductor, and grounding electrode conductor. The size of the common grounding conductor shall be 16.0 sq. mm insulated stranded copper.
 - ii. A circuit identification chart and circuit wiring diagram sealed within a clear plastic envelope and fixed to the inside of the door.
 - iii. Lighting and convenience outlet.
 - iv. Panel boards be provided with spare power plugs, usable small LED lamp, voltmeter, and ammeter, ELR. The circuiting procedure shall be as approved by RDA.

1.3 IMPROVEMENT AND INSTALLATION OF POWER DISTRIBUTION BOARDS/ PANEL BOARDS

- a. The power distribution boards including the CEB meter enclosure need to be fixed inside the existing concrete cubicle.
- b. Existing all Electrical accessories and other all accessories that are removed with the new installation shall be handed over to the RDA in a proper manner.
- c. A steel door, constructed from heavy-duty box bars or heavy metal bars, galvanized, and marine-painted, shall be fixed. The door shall be designed and finished to ensure it cannot be easily removed by external parties. Additionally, it shall be equipped with two heavy-duty padlocks. Galvanization and painting shall be carried out as specified in section 1.2 (C). A shop drawing for the construction shall be submitted for approval prior to fabrication.

1.4. INSTALLATION OF LIGHT POLES

- a. The lighting column shall be 10.0 m nominal height flanged-type, hot-dip galvanized, tapered octagonal road lighting column with a single arm, 3.5mm metal thickness, complete with all necessary bolts, nuts, and accessories according to the specification.
- b. LED lighting column with Single arm must comply with typical drawing attached.

- c. This includes the construction of a concrete foundation with G20 Concrete as per the provided typical drawing, along with excavation and reinstatement.
- d. The lighting column shall be of the frangible slip base octagonal flange mounted type complying with BS 5649, constructed out of material complying with BS 4360 and shall be of longitudinally seam welded steel to BS 5135 and the pole and the all-associated metal parts shall be hot dip galvanized and painted.
- e. **Galvanization and painting shall be carried out according to the BS EN ISO 1461:2022 (Hot dip galvanized coatings on fabricated iron and steel articles - specifications and test methods) and ISO 14713-1:2017 (Zinc coatings — Guidelines and recommendations for the protection against corrosion of iron and steel in structures-Corrosivity category -C4 (Page no.07)). In addition, three (03) coats of marine-grade paint shall be applied to protect the pole from sea breeze exposure (product approval for the marine paint must be obtained prior to application).**
- f. The vertical column of the lighting pole and its detachable bracket(s) shall be made of ground single length (without joint) steel with yield point not less than 25kg/mm² and ultimate tensile strength of not less than 41kg/mm². The bracket is to be provided with spigot to suit the manufacturer's lantern. The outreach of the bracket shall be 2.5 mtrs. Each column shall be provided with a base plate for mounting the column onto a suitable foundation by means of anchor bolts or 'J' bolts. The column, arms, lanterns together with other accessories shall be designed to withstand a distributed wind load corresponding to the wind speed 35m/s or wind pressure of 150 kg/m². Each column shall be provided with weatherproof service door of minimum dimension 120mm x 400 mm and drain holes at column toe.
- g. Power to the street lighting column shall be supplied from a junction box enclosure that houses a 10A miniature circuit breaker enclosed in a weather proof box dedicated to protect the luminaire and mounted inside the lighting column behind the compartment door. Power cable from the junction box enclosure to the luminaire shall incorporate a plug and socket unit, custom made specifically for the purpose, for safe opening of the circuit in event of the slip base pole dislodging from its mounted position due to a vehicle striking the pole during a road accident. The plug and socket unit shall maintain the earth continuity from the junction box enclosure to the luminaire by the use of cable glands at the plug and socket entries.
- h. Individual lamp feeders shall be XLPE insulated armoured cables with a minimum conductor cross sectional area of 1.5mm². Cables in and out of the junction box shall be through cable glands to BSEN 50262:1999. A non-hygroscopic mounting board composed of electrically insulating material shall be fixed in an easily accessible position behind the service door inside the column and shall be of suitable size to accommodate an enclosure with all necessary electrical equipment such as terminal strip, connectors, miniature circuit breaker etc. Adjacent to this mounting board, there shall be provided on the inside of the column a grounding bus bar complete with two stainless steel bolts, lock nuts and washers, for use as grounding points. **Since the power cable is made of aluminium, special**

bimetallic lugs or any other suitable approved method shall be used for the termination of this cable to prevent corrosion.

- i. All the columns shall be erected in a truly vertical position with the arms at right angle to the traffic flow. In the case of parapet mounted columns, the column doors shall all face in the same direction along the highway. The doors of the column erected at the sides of the road shall be positioned away from the approaching traffic. In each run of columns of five or more, every fifth column shall be checked for verticality by means of a theodolite. The columns between each checked column must be in line along the road and parallel to the checked columns. Shim washers may be used to achieve vertically where necessary. Each column must be grounded.
- j. Lighting pole shall be marked with a numbering system that can identify the source of power supply from pillars by means of white luminous paint.

2. SELECTION OF LED LUMINARIES

LED Luminaires with the specifications outlined below shall be installed, in accordance with the lighting design performed to meet the specified criteria. **A sample complete road light luminaire shall be submitted with the bid submission.** As the luminaire is one of the major items of this contract, any non-compliance with the specifications will be a valid reason for the rejection of the bid.

The submission of forged, falsified, or misleading documents shall result in the immediate rejection of the bid. Furthermore, all submitted documents must be authentic, accurate, and verifiable upon request. The Employer reserves the right to verify any document with the issuing authority or relevant source. Non-compliance with verification requests or the discovery of fraudulent documentation may lead to disqualification, blacklisting, or legal action as per the applicable laws and contract terms.

The following visual observations will be made by the technical evaluation committee during the sample review.

- a. **Ease of Opening & Closing for Maintenance:** The sample will be evaluated based on how easily it can be opened and closed for maintenance purposes, ensuring smooth functionality during routine servicing.
- b. **Exposure of Screws/Nuts & Bolts to the Environment:** The committee will check whether any screws, nuts, or bolts are exposed to external environmental conditions, which could lead to corrosion or degradation over time.
- c. **Gasket/Rubber Beading for Compartment Sealing:** The gasket or rubber beading used for sealing compartments will be evaluated to ensure that it is securely fixed and remains intact when the compartment is opened. It must be made from a material that does not deform or degrade due to heat exposure, ensuring its long-term functionality. A certificate from a recognized material laboratory confirming the quality and durability of the gasket or rubber beading material must be submitted for verification.

- d. **Heat Dissipation Mechanism:** The mechanism for heat dissipation will be examined to ensure that it is effective and capable of maintaining the system's operational temperature without overheating, thus ensuring reliability and longevity.

If the technical evaluation committee determines that the light fitting does not meet the required standards or does not align with the previous experience regarding LED lighting, it will be rejected. This decision will be based on an assessment of its performance, durability, and compliance with specified standards, ensuring that the lighting solution is fit for purpose and reliable for long-term use.

In addition, the following certificates shall be submitted in respect to the LED luminaire to confirm its suitability for a sea breeze environment:

- a. **Corrosion Resistance Certificate:** A certificate from a recognized laboratory confirming that the luminaire is resistant to corrosion, especially from salty sea air, and meets the required standards for outdoor or seaside conditions.
- b. **Ingress Protection (IP) Rating Certificate:** A certificate confirming the luminaire's IP rating (preferably IP65 or higher) to ensure it is protected against dust and water ingress, which is crucial for the seaside environment.
- c. **Salt Spray Test Report:** A report from an accredited laboratory confirming that the materials used in the luminaire have been tested for salt spray resistance and meet the industry standards for coastal environments.
- d. **Material Certification:** A certificate detailing the materials used in the construction of the luminaire (e.g., housing, wiring, and components), ensuring they are resistant to the damaging effects of sea breeze, including corrosion and degradation.
- e. **UV Resistance Certificate:** A certificate verifying that the luminaire's materials and coatings are resistant to UV radiation, as exposure to sunlight in coastal areas can accelerate material degradation.
- f. **Thermal Performance Certificate:** A certificate confirming that the luminaire can operate efficiently in high humidity and temperature fluctuations typical of seaside environments without compromising performance.
- g. **Mechanical Strength and Vibration Test Report:** A certificate or report confirming that the luminaire can withstand strong winds, vibrations, and physical impacts commonly experienced in coastal areas.

2.1. CRITERIAS FOR SELECTION OF ROAD LIGHT LED LUMINAIRE

The bidder must perform a lighting simulation using recognized lighting design software such as Dialux Evo, Agi32, Relux, or proprietary software provided by the manufacturer. The simulation should incorporate relevant Illuminating Engineering Society (IES) files to design an appropriate lighting layout. These simulations will ensure that the design adheres to the specified road lighting parameters in accordance with the relevant British (BS) Standards & European Norms (EN) Standards, focusing on essential aspects such as useful lumen output and compliance with performance standards.

The bidder is required to submit the following along with their bid:

- a. Digital copies of IES file for the proposed road light luminaire.
- b. Simulation Report generated by one of above-mentioned software - A photometric evaluation shall be conducted using the specified tools for a typical M3-category road lighting design, following BS 5489-1:2013 and EN 13201:2015 standards. The evaluation should correspond to the expressway's standard road section details, with particular attention to the existing pole span of 45m and the 12m height of the poles. This analysis aims to ensure compliance with established lighting parameters, delivering effective and uniform illumination appropriate for the road's designated category.

The IES files must either be downloadable from the manufacturer's official website or accompanied by written confirmation from the manufacturer attesting to their authenticity. Failure to submit genuine IES files and/or a corresponding lighting design will result in the bid being disqualified.

Luminaries and lamps must meet the following Photometric Parameters:

#	Parameter	Value
1	Minimum Maintained Average Luminance (L)	1.0 cd/m ²
2	Minimum Overall Uniformity Ratio (Uo)	0.4
3	Minimum Longitudinal Uniformity Ratio (UL)	0.6
4	Maximum Threshold Increment (TI)	15.0%
5	Minimum Surround Ratio (SR)	0.3

These standards ensure that the road lighting system delivers optimal performance, enhancing safety and visibility in compliance with recognized road lighting norms.

2.2. ELECTRICAL/TECHNICAL SPECIFICATIONS FOR LED ROAD LIGHT LUMINAIRE

Supply of LED road light luminaries complete with high-pressure die-cast aluminium housing and adhering to the following specifications and lighting design requirements will be as per the actual application:

- a. For the Light fitting that is proposed, prior approval shall be taken before making the purchase order to the manufacturer.
- b. Fixtures shall not be of the integrated type. However, it shall be capable of replacing each component separately such as the driver, LED module, or SPD in the event of burnout.
- c. The driver card shall cut off at 260 V and shall resume normal working when nominal voltage is applied again. This is to ensure the protection of luminaries from neutral faults and errors in connection at sites.
- d. Efficiency of driver electronics shall be more than 90%
- e. The LEDs shall be driven at a suitable current (700mA) and within the permissible limits specified by the LED luminaire manufacturer.
- f. LED Driving current shall be less than or equal to the test current in the LM80 report.
- g. The fixture shall be designed to have lumen maintenance of at least 80% at the end of 70,000 hours (L80 @ 70,000hrs).

- h. The luminaries shall be operable with auto-adjustable 120-275V supply Voltage using the same driver.
- i. The Power Factor of the electronic driver shall be at least > 0.95 with THD <10%.
- j. Correlated Colour Temperature (CCT) must be 3000±10 K.

2.3. ELECTRICAL/ ELECTRONIC COMPONENTS

The electronic components used shall be as follows:

- a. IC (Integrated Circuit) shall be of industrial grade.
- b. The resistors shall be preferably made of a metal film of adequate rating.
- c. The conformal coating used on PCBs shall be cleared and transparent and shall not affect the colour code of electronic components or the product code of the company.
- d. The heavy components shall be properly fixed. The solder connection shall be with a good finish.

2.4. CONSTRUCTION OF LUMINAIRE

- a. High-pressure diecast aluminium alloy (sand/gravity casting not to be considered). Aluminium grade LM 6063-T5 or ADC 12 as applicable or above high conductivity heat sink material. A heat sink must be made of pressure die-cast only.
- b. All light fittings shall be provided with extra clear tempered/toughened glass of sufficient strength under the LED chamber to protect the LED and luminaries.
- c. All luminaires shall be new, totally enclosed, and protected against contact with live or moving parts inside the enclosure. The Ingress Protection Index (IP) of LED luminaire shall be a minimum of IP66. (Full details of the IP system can be referred to in IEC 60529).
- d. There shall be separate compartments for electronic control gear and light module and both shall be mounted at the same canopy housing which easily be dismantled.
- e. In the open position, the top canopy housing shall be easily detachable for easy and upgrading maintenance without damaging or interrupting any part of the luminaire body, the bracket, or the column.
- f. Attachment of the luminaire to its bracket arm shall be using clamps or jam bolts and designed to accommodate the spigot size of the luminaires. A minimum of two (2) locking bolts/jam screws shall be provided with an Anti-Drop system.
- g. The minimum penetration depth of the bracket arm is 100mm. The spigot mounting shall be flexible and adjustable for side and top entry. The mounting arrangement and attachment of the luminaire shall be such as to withstand a wind speed of 42 m/s on the projected surface of the assembly without due deflection.
- h. The connecting wires used inside the luminaries shall be low smoke halogen free, fire retardant-beam / PTFE cable and fuse protection shall be provided in the input side.
- i. To enhance the driver life span and prolong, an external SPD shall be installed in the driver compartment after the incoming termination for safety, protection, and ease of maintenance. The

external SPD shall be rated not less than 10KA. The SPD shall be Full Mode (L-N, L-E, N-E) protection with a working voltage of 275Vac series connection.

- j. The whole luminaire housing shall be designed with a thermal management system to effectively dissipate heat generated from LED, electronic devices, and components. **Multiple modular types of heat sink interchangeably are not acceptable.**
- k. The luminaries shall be such that the glare from individual LEDs is restricted and shall not cause inconvenience to the public.
- l. All the material used in the (Luminaries) shall be halogen-free, fire retardant, and recyclable.
- m. All parts which carry the weight of the luminaire and internal accessories shall be provided with suitable locking devices to prevent the dislodgement of any part of the luminaire by vibration either in service or during maintenance with protection against external impact mechanical impact of IK 08.
- n. All parts shall operate well within the ratings with due consideration for the local conditions (high humidity of (60-90) % RH, hot (live) ambient temperature, Ta- 45°C) with fully sealed condition (Please attach manufacturer data sheets).

2.5. CHARACTERISTIC OF LED CHIPS AND MODULES

- a) LED Chips from a well-reputed make shall be used for the purpose Make Cree, /OSRUM/Niche/Lumi LED...or equivalent. No low-quality make shall be accepted.
- b) The light source for LED luminaires shall be of a high-powered LED (single LED package) type with a Ceramic Base substrate. Multi-chip LED packages such as COB Type (Chip on Board), mid & low power LED and Plastic Base substrate/package type are not acceptable (**LED Chip manufacturer must provide product lifetime metric data (IEC 62717) or LM 80 report as supporting document**) The LED light module shall not be driven more than the rated LED drive current.
- c) The lumen output of LED luminaires (system efficacy) shall be a minimum 140 lm/W. The usable lifetime of LED (lumen maintenance) at 70,000 hours shall not be less than 80% (L80 @ 70,000 hours). The system efficiency shall take into consideration the LED efficacy, driver efficiency, optical efficiency, and thermal efficiency and shall not be less than 80%.
- d) The Correlated Colour Temperature (CCT) for LED luminaire shall be 3000K $\pm$ 10K and the colour rendering index (CRI) shall be more than 70.
- e) Photobiological safety of LED modules or LED luminaires shall not be more than Risk Group-1 (as per IEC 62471).
- f) LED Junction temperature shall not cross more than 90 °C for the longevity of luminaries.
- g) Solder point temp shall not cross 75 °C.
- h) The working life of the lamp at a junction temperature of 80 °C for 700 mA currents shall be more than 100,000 hours of accumulative operation and shall be supported with the suitable section of the LM80 report from the LED manufacturer.
- i) Variation in illumination level shall be $\pm$ 2% is allowed in input voltage range from 120VAC to 270VAC
- j) Electronic efficiency shall be more than 90%

- k) Electronic control gear (LED driver) shall be comprised of the electronic circuit board, converter, built-in power factor correction unit (≥ 0.9), internal surge protective device (SPD), and THD $< 10\%$. The driver shall be able to withstand short circuit current, overload, over-voltage, and over temperature. The driver shall have a self-cooling system. LED driver shall be placed close to LED where possible to reduce electromagnetic interference with optional adjustable dimming system ready.
- l) The input range of the driver shall function correctly at the supply voltage and shall allow for normal variation and surges (120~270V, 50-60 Hz).

4.0 SELECTION OF ELECTRICAL WIRES/CABLES, METHOD OF LAYING AND TERMINATION

4.1 WIRE AND CABLE

- a. All cables shall be reputed make. Preference: ACL, Kelani ...or equivalent.
- b. **On the outer layer of each cable used in this project, the "RDA " mark must be embossed.** This marking is essential to identify the cables as part of the project materials, ensuring traceability in the event of theft or vandalism. It also serves to guarantee quality assurance and maintain compliance with project standards. The embossing provides clear, visible identification, improving the security and accountability of the materials throughout the project lifecycle.
- c. All underground cables shall be copper, PVC/XLPE insulated, PVC sheathed, and free of joints except at terminal blocks and junction boxes., except for cables running inside the light poles from the luminaire to the baseboard.
- d. All direct burial cable enclosed in duct/conduit and direct burial cable outside the PVC sleeves shall be armoured.
- e. Wires conveying power supplies to lighting columns, over-ground junction boxes, lighting distribution boards, etc, shall terminate in suitable sockets or terminal blocks enclosed in terminal boxes, cable entry being made through cable glands, which shall be covered and protected so that no live parts are exposed. Applicable to Sri Lanka and International codes shall be used.
- f. All wires and cables shall conform to the sized and current ratings of BS 7671:2018.
- g. All non-current-carrying metallic parts shall form an electrically continuous system, which shall be grounded or separately grounded as specified in the latest IEE Regulations 18th Edition. All items below ground level shall be so designed and installed that they shall continue to operate without fault if immersed in ground water.
- h. Over ground cables shall not be exposed to direct sunlight and all cable ducts shall be adequately sealed to prevent entry by rats, insects, and similar creatures.
- i. Cables to luminaires from the junction box inside the lamp pole shall be of 3C x 1.5mm² PVC/PVC type.

4.2 UNDERGROUND CABLE INSTALLATION

Underground cable installation shall, unless otherwise specified includes all necessary clearing, excavating, disposal of spoils temporary supports, baling, pumping and the provision of bedding material, conduit laying, cable laying, protection, backfilling, marking and reinstatement of the cable route.

The contractor shall exercise due care and diligence during all excavation activities to prevent damage to existing utilities and private properties. Any damage caused to underground or overhead utilities, public infrastructure, or private properties due to the contractor's operations shall be the sole responsibility of the contractor. The contractor shall, at their own cost, rectify such damages to the satisfaction of the relevant authority or property owner. The RDA shall bear no liability for any claims, costs, or disputes arising from such damages, and the contractor shall indemnify the RDA against any legal or financial repercussions resulting from their actions or negligence.

4.2.1 EXCAVATION

The cable trench shall be a minimum of 800x400mm and you may use machinery or manual excavation. In non-soil areas, you shall follow the specifications mentioned in the BoQ. Refer to the drawing attached.

4.2.2 CABLE LAYING – SOIL AREAS

- a. Cables shall be directly buried as shown in the drawing except for non-soil areas.
- b. Cables shall be bedded in debris free sand, quarry dust with a minimum depth of bedding of 50mm below the cable and a minimum cover of sand above the cable of 150mm. The minimum depth of cable shall mean the perpendicular depth from the final finished surface level to the top of the buried cables, which shall be 750mm. Underground cable joints shall not be permitted unless absolutely unavoidable and approved by the RDA. All exposed ends of underground cables shall be capped and sealed until properly terminated to prevent the ingress of moisture. A loop or slack section of cable shall be left at each side of a road or traffic way to allow for settlement of the road without stretching the cable. Plaques shall be provided to identify the points at which buried cables enter the ground. These shall be securely fixed to the structures or external walls of buildings from which the cables enter the ground.
- c. **Where cables are routed from a depth of 750mm to the inside of the pole, the exposed cable section at the bottom level shall be encased in 50/60 mm dia. pipe and concrete (200x200x400).**

4.2.3 CABLE LAYING – NON-SOIL AREAS

- a. In asphalt areas where cables are to be laid, a cable trench with dimensions of 300mm x 400mm (Width x Depth) shall be excavated. The cables shall be enclosed in 110.0 mm diameter 600 type PVC conduits as appropriate, and the entire assembly shall be encased in concrete (300mm x 300mm) for

enhanced protection and durability, unless the process causes damage to the main carriageway in a perpendicular direction.

- b. The remaining portion of the trench shall be filled and compacted with an asphalt binding course (50mm) and wearing course (50mm) made of hot-mix asphalt, following the RDA instructions.
- c. When cables are laid between manholes under road crossings, special attention shall be given, and all works shall be carried out under the supervision of RDA with the proper traffic management. During the excavation or trench opening, appropriate metal plates shall be used to facilitate vehicle movement. Reinstatement of the surface shall be completed as soon as possible.
- d. In the preparation of the public walking path for cable laying, the following steps shall be followed for reinstatement: All interlocks in the area where the cable is to be installed shall be removed, and a 200x200mm cable trench shall be excavated. Before laying the cable, a 50mm layer of sand or quarry dust shall be filled. After laying the cable, a 150mm layer of sand shall be added and compacted. Once the installation is complete, the interlocks shall be reinstated. Additionally, a protective layer of concrete (200x200x300mm) shall be applied at 10m intervals to prevent the easy removal of the cable by thieves.
- e. At specific locations where the cable path transitions from the ground to the walking path and extends along the walking path for a certain length, the work shall be executed as per RDA instructions

4.2.4 BACKFILLING IN SOIL AREAS

- a. Directly buried cables laid in the soil areas shall be protected by approved cover slabs placed directly on the sand bedding layer. Following the placement of the cover slabs, 200mm of debris-free, good-quality soil shall be filled and compacted. Cable warning tapes must then be placed on top of the compacted soil layer during backfilling, extending along the entire buried length of the cables.
- b. The remaining portion of the trench shall be backfilled with ABC (Aggregate Base Course) metal to create a protective layer at least 400mm thick beneath the final finished surface level. This protective ABC layer is designed to safeguard underground cables by making their removal more challenging and time-consuming, thereby reducing the risk of theft.
- c. Backfilling must be completed immediately after the cables are laid to secure them. Delaying the backfilling process exposes the cables, increasing their vulnerability to theft or damage by unauthorized parties. Timely backfilling ensures the safety and integrity of the cable installation

4.3 GROUNDING

All exposed non-current-carrying metallic parts of electrical equipment shall be grounded except where specifically indicated. Ground rods shall be driven so that the tops are approximately 0.3m below the finished grade, and the earth conductor shall only be grounded at its origin or the service entrance. Electrodes shall be hard-drawn copper rods driven vertically to a minimum depth of 3.0m. Ground rods shall be at least 3.0m long unless otherwise specified, and shall have diameters sufficient to permit driving to the necessary depth without being damaged, but in no case shall they be less than 16mm in diameter. In the maximum resistance

cannot be obtained by one rod a sufficient number of additional rods shall be installed not closer than 3m on the centre and bonded to the main system.

The grounding system for all lighting columns on the structure shall be accomplished by the use of cable Armor bonded to grounding terminals and grounding rods at lighting columns and supply pillars. Earth resistance of each earth electrode shall not exceed 10Ω .

Each LDB shall be properly earthed using the above method under the supervision by RDA including earth pit. **In addition, each lighting circuit must be grounded at two points and maintain an earth resistance of less than 10 ohms.**

4.4 TESTING AND COMMISSIONING OF THE LIGHTING SYSTEM

- a. An illuminance report must be prepared after conducting joint observations with RDA officers at various locations along the road. Separate reports should be submitted for each observation, ensuring that all data and results comply with the specific road lighting parameters outlined in BS 5489-1:2013 and EN 13201:2015 standards.
- b. A functional test shall be made on completion of the work to demonstrate that every part of the equipment and installation functions as intended and specified. The test shall consist of not less than five nights of continuous and satisfactory operation. If any defects or unsatisfactory operation is revealed, this condition shall be corrected and the test repeated until the required five successive nights of satisfactory operation have been achieved. The illumination level is measured using a calibrated lux meter.
- c. Before the functional test, the following tests must be done with calibrated testing equipment and calibration reports must be checked.
 - Insulation resistance test for all Power cables
 - Each circuit shall be tested for continuity and polarity
 - Each circuit shall be tested for ground continuity and ground resistance
 - Earth loop impedance test
 - Voltage drops in each circuit
 - Power factor for each circuit
 - Earth fault tripping test

SECTION 02

SOLAR INDIVIDUAL ROAD LIGHTING SYSTEM FROM 2+470KM TO 4+670KM

The existing individual solar lighting system shall be refurbished in accordance with the provided specifications and instructions. This includes the replacement of a few new light fittings, all batteries, a few solar charge controllers...etc., with identical or the most suitable alternatives, subject to RDA's approval. Existing structures, such as lighting poles and brackets, shall be cleaned without damaging the paint, and any damaged brackets shall be repainted. Additionally, all corroded parts shall be repainted using marine-grade paint approved by the RDA, following the given specifications. The pricing shall include all necessary machinery, labour, and the cost of accessories required for the refurbishment work. All work shall be carried out as per the given specifications and subject to approval by the RDA.

2.1 Replacement of Luminaire

The same type of luminaire or a similar type shall be installed, subject to RDA's approval. The luminaire must be suitable for the seaside environment and resistant to sea breeze conditions. A salt mist test report for the luminaire, obtained from an accredited laboratory, must also be submitted for verification.

#	Description	Specification
1	Current Model	Sun Master/SLD12-60W
2	Lumen Output	10,200 Lm
3	Voltage Output	12V
4	Current Output	DC-5.0A
5	Power Factor	>0.95
6	CRI	>70
7	CCT	3000-3500K
8	Driver efficiency	>90%
9	Ingres Protection	IP67
10	IK Ratings	IK10
11	Lifetime	100000 hours - L70, @25°C/
12	Heat Radiator	Anodized Aluminum
13	Lens	Poly Carbonate
14	Fixture Dimension	477x273x86mm.
15	These reports shall be submitted	IEC/ CE/ RoHS/ LM79/ LM80/ IP/ IK / Salt mist test report (1000Hrs)
16	Warranty	5 Years

2.2 Replacement of Deep cycle Valve regulated Rechargeable Gel Type battery

Replace all batteries with new ones of the same type or an improved version with advanced technology or enhanced qualities, subject to RDA's approval. This task includes removing the existing batteries, making the necessary connections, and restoring the ground if any damage occurs to the walking path or surrounding areas during the removal process.

Prior approval is required for the replacement of batteries. Furthermore, any damaged components within the underground battery compartment, such as brackets, terminals, or other accessories, must also be replaced with new ones. The selected battery must be compatible with and fit appropriately within the existing compartment.

The warranty period shall be valid for five years from the date of contract completion.

It is your responsibility to collect the defective batteries and dispose of them through a legally acceptable method. The rates for the new batteries shall also be determined after taking into account the residual value of the existing batteries.

#	Description	Specification
1	Type of the battery	Deep cycle Valve regulated Rechargeable Gel Type battery
2	Nominal Voltage	12V
3	Nominal Capacity	180Ah(10hr,1.80V/cell,25°C)
4	Approximate Weight	40.2 kg
5	Internal Resistance	5 mΩ (Lead terminal)
6	Terminal	Lead
7	Wire used	(6.0mm ² ×1.8m)
8	Maximum Charge Current	45.0 A
9	Ambient Temperature	-35~55 °C
10	Dimension	Approx.483x170x240mm (LxWxH)
11	Min.2,500 deep cycles,	At 25% DOD
12	Min.2,000 deep cycles	At 40% DOD
13	Min.1,000 deep cycles	At 80% DOD
14	Self-discharge	less than 1% monthly.
15	Warranty	5 Years

2.3 Replacement of Solar Charge Controllers

The same type of solar charge controller or a similar type shall be installed, subject to RDA's approval. The controller must be suitable for the seaside environment and resistant to sea breeze conditions. Test reports must also be submitted for verification.

#	Description	Specification
1	Model	SunMaster - MPC2415
2	Type	MPPT Charge controller
3	Battery voltage	12V
4	Max. Solar input power	200W
5	Max. Solar input voltage	(17V-60V)
6	Max. Voc of solar panel	< 75V
7	Max. Charging current	15A
8	Max. LED power	80W
9	The no. of LED in series	5-18
10	LED output voltage	15V-60V
11	Ingress Protection	IP69
12	This protection shall be available	over charge/over discharge/reverse connection/ reverse charging/ over load/over current/ short circuit /open circuit/ over temperature/ TVS lighting
13	Certificates shall be submitted	CE / RoHS/IP
14	Warranty	5 Years

2.4 Replacement of Solar Panels

The same type of solar panel, or a similar panel with an equal or higher capacity, shall be installed, customized to fit the existing brackets.

If new brackets are required, they must be GI and marine-treated. The installation is subject to RDA's approval. The solar panel and all associated accessories must be suitable for the seaside environment and resistant to sea breeze conditions. Test reports must be submitted for verification.

#	Description	Specification
1	Model	SunMaster Solar panel SM180P
2	Nominal power watt Pmax (W)	180W
3	Power output tolerance Pmax (%)	(0-3) %
4	Maximum power Voltage Vamp(V)	18V
5	Maximum power Current Imp(A)/	10.0A
6	Open circuit Voltage Voc(V)	22.7V
7	Short circuit current Ioc(A)	
8	Module efficiency (%)	> 19.13%
9	Warranty	5 Years

2.5 Cleaning all lighting poles, applying marine-grade paint, and refurbishing all lighting poles.

All lighting poles including luminaries shall be thoroughly cleaned without causing any damage to their existing structure.

- a) Corroded areas shall be fully cleaned and coated with marine-grade paint following an approved methodology (prior approval for the methodology must be obtained as per 2.3 Item of the same BoQ). Corroded nuts, bolts, and brackets must be replaced with new parts.
- b) All nuts, bolts, and hinges shall be replaced with SS316-grade stainless steel materials, while other brackets shall be replaced with GI brackets coated with marine-grade paint.
- c) Damaged wiring shall be repaired, and all exposed cables must be enclosed in GI rubber-insulated tubes to protect them from interference by birds that may perch on or damage the system.
- d) Connections for all lights shall be re-established using new wiring where necessary, or approved IP-rated connectors shall be utilized, ensuring compliance and proper functionality under the supervision of the RDA.
- e) RVV/Flexible PVC Insulated Cable shall be used from same sizes.

CHECK LIST FOR MAJOR ITEMS

Bidder shall dully fill this check list and submit along with the bid. Bidder's responses below shall be proven through the necessary supporting documents and these documents shall be attached with referring to the item numbers clearly.

CHECH LIST NO. 01 - SPECIFICATION & CHECK LIST FOR LED LUMINAIRE

#	DESCRIPTION	RDA'S REQUIREMENT	BIDDER'S RESPONSE
	Type	LED Street Luminaire	
	PRODUCT DETAILS		
	Brand	Pls specify	
	Model Number	Pls specify	
	Country of Origin	Pls specify	
	Manufacturer	Pls specify	
	Manufacturer Quality Certification	ISO, CE shall be attached	
	Manufacturer Company Profile	Shall be attached	
	Manufactures Authorization certificate	Must be submitted	
1	TECHNICAL REQUIREMENTS		
1.1	SYSTEM PARAMETERS AND SERVICE CONDITIONS		
i. a	Nominal System Voltage	400V/230V	
ii. b	System Voltage (high)	415V/240V	
ii. c	System Frequency	50Hz	
iv. d	Average Ambient Temperature	35°C	
v. e	Maximum Relative Humidity	90%	
1.2	LUMINAIRE		
1.2.1	BASIC REQUIREMENTS		
i.	Minimum Useful Output	Pls specify as per the design	
ii.	CCT	3000±10 K	
iii.	Efficacy	>140 lumens/W	
iv.	Input Power	Pls specify	
v.	CRI	>70	
vi.	Test Certification	LM79, IEC 60598, EN 62493, RoHS conformity shall be attached	
1.2.2	LUMINAIRE HOUSING AND REFRACTOR		
i.	Heat sink	Shall be made by Die-cast Aluminium. Please give references to manufacturer's specifications.	
ii.	Support Housing		
iii.	Reflector (clear front cover)		

#	DESCRIPTION	RDA'S REQUIREMENT	BIDDER'S RESPONSE
iv.	Colour of the body	Grey	
v.	Spigot Entry	40mm – 60mm	
vi.	Ingress Protection	IP66	
vii.	Impact Protection shall be	IK08 or higher	
viii.	Photobiological-safety of LED modules or LED luminaires	Risk Group 1	
	*Equivalent on all above items mentioned and the photometrics, specifications, distribution, credibility of bidder and the supplier on product, test certificates and conformity to standards.		
1.2.3	LEDs		
i.	Average minimum life time	>70,000hrs	
ii.	Rated lumen-maintenance life	L80 @ 70,000 hours	
iii.	Working life of the lamp at junction temperature of 80°C for 700mA currents	>70,000hrs	
iv.	Test Certification	LM 80, IEC 62471 other relevant	
1.2.4	LAMP CONTROL GEAR		
i.	Power Factor	0.95 or improved	
ii.	THD	<10%.	
iii.	SPD, driver and lighting modules	Shall be able to Independently replaceable without damaging luminaire. Please give page reference.	
1.2.5	LED DRIVERS		
i.	Basic requirement		
ii.	Cut off Voltage	270V	
iii.	Efficiency	>90%	
iv.	LED driven current	700mA	
v.	Supply Voltage	120-275V	
vi.	Self-cooling system	Shall be available	
vii.	Protection	IP66 or higher	
viii.	Test Certification	Safety, EMC, Surge protection, High-pot test, Insulation impedance, Leakage current shall be tested and attach the copies	
1.2.6	SURGE PROTECTION		
i.	Installation	External	
ii.	Category	Class III	
iii.	I _{max} Rating	>10kA	
iv.	Test current waveform	(8/20µs) impulse	
v.	I _n	3 kA (Line to Neutral Current)	

#	DESCRIPTION	RDA'S REQUIREMENT	BIDDER'S RESPONSE
vi.	V _c (L-N continuous operating voltage)	320V	
vii.	V _p (Protective voltage)	≤ 0.8 kV	
2	OTHER REQUIREMENTS		
2.1	LUMINAIRE CONTROLLER		
i	NEMA Socket and Controller	Shall be provided	
2.2	LIGHTING DESIGN		
i.	Availability of IES files	Shall be downloadable/confirmed authentic files	
2.3	LOCAL AGENT		
i.	Local agent for the proposed LED luminaire brand in Sri Lanka	Authorization letter from the manufacturer is required	
ii.	Workshop facilities	Shall be available. Bidder shall prove.	
iii.	Spare parts supply for next ten (10) years	Shall be available. Bidder shall provide a guarantee certificate.	
iv.	Evidence that the bidder has supplied LED street lighting fittings in the past ten (10) years in Sri Lanka.	Shall be attached	
v.	Well-trained technical staff	Shall be available. Bidder shall prove.	
2.4	REQUIRED WARRANTIES FOR THE PROPOSED PRODUCT		
i.	For the complete luminaire and components	5-year comprehensive warranty	
ii.	Guaranty ensuring replacement of any or all parts of the proposed luminaires beyond the manufacturer's warranty period.	Shall be given in writing	

Notes.

- All kind of certification & Test Reports should be submitted along with the bid.
- Product Catalogues shall be submitted along with the bid.
- A sample of the quoted product should be submitted to the Bid Evaluation Committee.

.....
Signature of the Supplier
Rubber stamp

.....
Signature of the Manufacturer
Rubber stamp

CHECH LIST NO. 02 - SPECIFICATION & CHECK LIST FOR LIGHTING POLE

No:	Description	RDA Requirement	Bidder's Specification
1	Height of the pole	10m – Single arm	
2	Shape of the pole	Octagonal tapered	
3	Type of the Pole	Flanged Type	
4	The outreach	2.5 Mtrs	
5	Metal Thickness	≥ 3.5 mm	
6	Galvanized Thickness	Refer spec. & specify your spec.	
7	Painting	Refer spec. & specify your spec.	
8	Steel strength	Yield point ≥ 25kg/mm ² Tensile strength ≥ 41kg/mm ² .	
9	Withstand a distributed wind load	Wind speed 35m/s or wind pressure of 150 kg/m ² .	
10	Weatherproof service door	Min. 120mm x 400 mm and drain holes at the column toe	
11	Each column shall have a base plate, anchor bolts, or 'J' bolts for mounting the column onto a suitable foundation.		

Notes.

- All kind of certification & Test Reports should be submitted along with the bid.
- Product Catalogues shall be submitted along with the bid.
- A sample of the quoted product should be submitted to the Bid Evaluation Committee.

.....
Signature of the Supplier
Rubber stamp

.....
Signature of the Manufacture
Rubber stamp

GENERAL

1.01 LAND AVAILABLE

The land available to the Contractor free of charge shall be the land occupied by the permanent works or the existing road right of way, whichever is greater in width.

1.02 DAMAGE TO LAND AND CROPS

Where land is made available to the Contractor free of charge, the Contractor shall under no circumstances interfere with this land whether for Permanent or Temporary works until the evaluation of all compensation has taken place and permission to proceed has been received from the Engineer.

Care shall be taken during the Works to ensure that no unnecessary damage is caused to the land or crops and that all reasonable precautions are taken to prevent soil erosion and mosquito breeding. On completion of the work, the land shall be left in a tidy condition as directed by the Engineer.

1.03 GRAVES, TOMBS, RELIGIOUS OR TRADITIONAL MONUMENTS

Areas which contain graves, tombs and religious or traditional monuments within the Site shall be cleared by the Contractor in accordance with the written instructions of the Engineer.

1.04 CONTRACTOR'S HOUSING, STORES AND WORKSHOP AREAS

The location and layout of housing, stores and workshop areas together with their use and detailed dimensions shall be approved by the Engineer. The Contractor shall not erect any structures on the Site without the approval of the Engineer.

On the commencement of the Contract the Contractor shall fence off all areas designated for housing, plant-yard, workshops, offices and the like. By the end of the Period of Defects Notification Period or at such earlier time as the Engineer may instruct or approve, the Contractor shall clear all structures, plant and rubble from these areas and leave them in a condition acceptable to the Engineer.

1.05 FIRST AID FACILITIES

The first aid, welfare and safety standards to be provided and observed shall be at least equal to those laid down by the Ministry of Health/Labour for Industrial sites of similar size and remoteness and approved by the Engineer.

The Contractor shall, within 24 hours of the occurrence of any accident at or about the Site or in connection with the execution of the Works, report such accident to the Engineer and to the Competent Authority where required by Law. At least one person permanently on the Site shall have been trained in first aid and the person so designated shall have been made known to the Engineer in writing and to all employees by the posting of his name and designation in a prominent position on the Site.

1.06 SECURITY SERVICES FOR ENGINEER

The Contractor shall be responsible for all matters of security concerning the vehicles and housing, offices for the Engineer. The costs in connection with this clause shall be deemed to be included in the Contractor's tendered rates.

1.07 WATER SUPPLY

The Contractor shall make his own arrangements and at his own costs for the provision from approved sources of adequate clear water for use in construction of the Works or otherwise. Quantities of water withdrawn from the approved sources shall be such that the requirements of the local population in respect of water for irrigation, drinking purposes, etc., are not interfered with. The Contractor shall have obtained permission from the appropriate Authorities in each case for the abstraction of water from any natural source, before the Engineer approves the use of such source.

1.08 SERVICES

The Contractor shall make his own arrangements for the supply of electricity for power and light and of any other services required in order to carry out the Works and he shall make his own arrangements, subject to the approval of the Engineer, for the disposal of sewage and all waste materials during the execution of the Works. All such services shall be at the Contractor's own expense.

1.09 PROTECTION OF MAINS AND SERVICES

The Contractor shall protect and support at his own costs during the construction of the Works, all pipes, mains, cables, overhead lines and other apparatus, which might be endangered by his operations.

In the event of any pipes, mains or cables being exposed at any time, the Contractor shall immediately notify the Authority or proprietor concerned and shall not cover the exposed pipe, main or cable until it has been examined and approved by the appropriate Authority or proprietor.

Before commencing any section of the Works, the Contractor shall at his own expense obtain full information with regard to the position and depth of all pipes, mains and cables.

The Contractor is responsible for making arrangements with the Public Authorities and other duly constituted bodies for the phasing into his programme of works, of all the work which needs to be done by them or their contractors concurrently with the Works. If in the execution of the Works, any damage to any service or apparatus or any interruption of or delay to the provision of any service is caused, the Contractor shall bear and pay the cost reasonably incurred by the Authority or body concerned in making good such damage and shall make full compensation to the Authority or other body for any loss sustained by reason of such interruption or delay.

In the case of damage caused to water mains, pipes or fittings less than 2 inches in diameter the Contractor shall repair the damage himself at his own expense without delay. The Contractor shall be responsible for any damage caused to the permanent works or to adjacent property by water flooding due to damage caused by him to water mains, pipes or fittings.

1.10 QUARRIES AND BORROW PITS

The Contractor shall be responsible for opening up any quarry or borrow pit and shall organize his methods of operation so that only material of a type and quality approved by the Engineer shall be selected for use in the Works. The Contractor shall provide, erect, operate and maintain all plant necessary for their proper operation, together with any access roads, temporary bridges or the like necessary for the supply to the Works of the aforementioned and pay all charges incurred, including the rights for entering the land and extracting the material, or for any other compensation.

No claim shall be allowed for delays or for any other reason in this respect.

1.11 OTHER WORKS

During the course of the Contract the Employer may cause other works such as the installation or removal or resetting of services to be carried out, on through or adjacent to the Site.

The Contractor shall at all times comply with the requirements of the relevant Clauses of the Conditions of Contract in respect of these and any other Works not included in the Contract and shall allow reasonable access as approved by the Engineer on and through the Site of the Works to any other contractor or workmen who may be working on or near the Site for this reason at no extra cost.

1.12 POSSESSION OF THE SITE

Possession of the site will be in accordance with the General Conditions of Contract. Possession will be granted in accordance with the Contractor's Programme referred to in the Conditions of Contract and the Specifications and approved by the Engineer.

1.13 WEATHER CONDITIONS

The Contractor shall not be entitled to extra payment by reason of the occurrence or effect of high winds, excessive rainfall, temperature, humidity or any other meteorological phenomena.

1.14 PROGRAMME

In addition to the requirements of the Conditions of Contract the Contractor shall furnish to the Engineer within one calendar month from the commencement date a detailed programme of the order in which he proposes to carry out the Works. The programme shall include time and progress charts so that actual progress on each operation can be shown against anticipated progress. Due allowance should be made for the seasonal rains and also in accordance with the relevant clauses in this specification.

The Contractor shall keep the progress of the Works under continuous review. When necessary, the programme shall be updated at regular intervals as required by the Engineer.

1.15 CONTRACT DOCUMENTS AND DRAWINGS

The Contractor shall be issued with two copies of all Contract Documents and Drawings. When necessary, the Contractor shall also be supplied with two copies of any further drawings, which may be issued in accordance with the Contract.

1.16 PRESERVATION OF SURVEY MARKERS

The Contractor shall locate and where possible preserve or else relocate all survey markers established for the execution of the Works. Where such survey markers will be disturbed, the Contractor shall accurately reference these to permanent concrete markers before such work is commenced.

Where it is likely that any survey marker which is the property of the Survey Department will be disturbed, the Contractor shall inform the appropriate Survey Authorities at least 14 days before the marker is endangered and ensure that the Survey Authorities take appropriate action.

1.17 DIMENSIONS AND LEVELS

The Contractor on the Site shall verify all Dimensions and levels shown on the Drawings or mentioned in documents forming part of or issued under the Contract and he shall immediately inform the Engineer of any apparent errors or discrepancies in such dimensions or levels.

1.18 NIGHT WORKING

The Contractor may be permitted to carry out work during the night and shall submit full details of the methods of working and lighting, control of traffic and any other information, which the Engineer may request. No night working shall be carried out without the Engineer's approval, and the Engineer has the right to withhold or withdraw approval if, in his opinion, such work presents undue hazard or disturbance to the public, or is in any other way unsatisfactory.

The Contractor's intentions on night working shall be made known to the Employer on the programme of Works supplied with his tender.

1.19 AMENITY AND ACCESS

The Contractor shall ensure that, in carrying out the Works, he causes no damage by plant, workmen, flooding, subsidence or otherwise to any property. He shall take all precautions to the satisfaction of the Engineer to ensure that such hazards are avoided and public amenity maintained, and he shall be responsible for any damage that may occur.

The Contractor shall be responsible for providing and maintaining access to and along the Site for his own purposes, including any temporary river or swamp crossings he may require.

1.20 WORKS DURING DEFECTS NOTIFICATION PERIOD

After the Commencement of the Defects Notification Period, which shall normally be 365 days, the Contractor shall do nothing which might endanger the safety of the public and he shall complete any outstanding works and undertake the correction of all defects as instructed by the Engineer or any other duly authorized person or Authority.

Throughout the Defects Notification Period the Contractor shall notify the Engineer of the work or operations he intends to carry out and he shall obey any instructions which the Engineer may give as to the times and manner of working so that any inconvenience to the public is kept to a minimum.

1.21 CLEARING AND TRIMMING OF SITE ON COMPLETION

On completion of the Works the Contractor shall leave the Site in a tidy condition to the satisfaction of the Engineer. Particular attention shall be paid to the final levelling, grading, making good of erosion gulleys and routings, landscaping and drainage of the Site, the borrow areas and any other places adjacent to the Site interfered with by the Contractor during the Construction or the Defects Notification Period.

1.22 SPILLAGES

The Contractor shall be responsible throughout the Contract and Defects Notification Period for any spillage of fuels, bitumen, hydraulics, oils, and other lubricants or materials caused by his activities on the Works and any such spillage shall be removed and any damage repaired to the satisfaction of the Engineer at the Contractor's expense.

1.23 APPROVAL OF SUPPLIERS OF MATERIALS AND GOODS

Before entering into any agreement for the supply of any materials or goods, the Contractor shall obtain the Engineer's approval in writing of the supplier from whom he proposes to obtain such materials or goods. Should the Engineer at any time be dissatisfied with such materials or goods or with the method or operations carried out by such sub-contractor's work or place of business, the Engineer shall be empowered to cancel his previously given approval of such sub-contractor/supplier. The Contractor shall then obtain such said materials or goods from other supplier as may be approved by the Engineer and shall bear any additional cost thereof.

1.24 COPIES OF ORDERS

The Contractor and sub-contractors shall provide the Engineer with copies of all orders, which they may place for the supply of materials or goods required in connection with the Works.

1.25 SAMPLES

In addition to any special provisions herein for the sampling and testing of materials, the Contractor shall submit to the Engineer as he may require, samples of all materials and goods, which he proposes to use or employ in or for the Works. Such samples, if approved, will be retained by the Engineer, and no materials or goods of which samples have been submitted shall be used on the Permanent Works unless and until such samples have been approved in writing by the Engineer. Notwithstanding the Engineer's approval as provided for herein the Contractor shall be solely responsible for the quality of all materials and goods supplied.

The cost of supplying all such samples and of conveying the same to such place of inspection or testing as the Engineer may designate within the country of origin and of complying with the requirements of this clause shall be deemed to be included in the rates and prices in the Contract.

1.26 TEST CERTIFICATES

Should the Engineer so require, the Contractor shall obtain Certificates of Tests from the suppliers of any Goods and shall send such Certificates to the Engineer. Such Certificates shall certify that the Goods concerned have been tested in accordance with the requirements of the Specification and shall give the results of all the tests carried out. The Contractor shall provide adequate means of identifying the Goods delivered to the Site with the corresponding Certificates.

The test certificates shall not release the Contractor of any of his obligations under the Contract in connection with the specifications of the relevant Goods when incorporated to the Permanent Works, nor of the necessity for further testing as required in the Specifications or directed by the Engineer.

1.27 WORKS TO BE IN THE DRY

Unless otherwise specified all the works are to be carried out in the dry and they shall be kept free from water coming from whatsoever source to the satisfaction of the Engineer.

1.28 PAYMENT FOR COMPLYING WITH ITEMS 1.01 TO 1.28

There will be no separate payment for complying with the Items 1.01 to 1.28 of this section, and the cost of complying with all the requirements stated herein shall be deemed to be included in the Contractor's rates in the remainder Bills of the Bills of Quantities.

1.29 MOBILIZATION AND DEMOBILIZATION

The Contractor shall mobilise and demobilise appropriate resources to the Site at the appropriate time. The Contractor shall submit to the Engineer within 14 days from the date of Letter of Acceptance his mobilization and demobilization plan for equipment, plant and machinery required for the Project. Plan shall include the location of plant, machinery and equipment and mode of transport. The Engineer, if satisfied with the above plan shall decide on the proportion of the Lump Sum indicated in the Contract, which shall be paid to the Contractor on the various stages of his mobilisation and mobilisation.

Payment

The Lump Sum shall be the full compensation for the submission of the mobilisation and demobilisation plan and mobilisation of the resources according to the plan.

Item No.	Description	Pay Unit
P (001)	Mobilization & Demobilization	L.S

Such staff shall be approved by the Engineer and shall be responsible to him, although they will be in the employ of the Contractor.

Payment

Payment shall be made at the unit price as contained in the BOQ

Item No.	Description	Pay Unit
P(006)	Engineer's Staff	Mth

Payment

Payment shall be made from the pay item in the Bill of Quantities.

P007. Project Sign Board

The Contractor shall provide two project signboards at each end of the road as directed by the Engineer. Project signboard shall be made up of 1.25 m wide, 1.8 m high with text in Sinhala, Tamil & English languages. The board may be galvanized steel or 25 mm thick marine plywood. The Engineer shall issue to the contractor text (in black letters on yellow background), letter sizes, and construction details.

IN SINHALA	
IN TAMIL	
MINISTRY OF TRANSPORT, HIGHWAYS, PORTS AND CIVIL AVIATION	
ROAD DEVELOPMENT AUTHORITY	
PROJECT NAME: FUNDED BY EOM&M DIVISION	
WE REGRET ANY INCONVENIENCE CAUSED TO THE PUBLIC AND ARE TRYING OUR BEST TO KEEP IT TO A MINIMUM	
CONTRACTOR -----	ENGINEER -----
COST OF CONSTRUCTION:	
START DATE:.....	DUE COMPLETION DATE:

SECTION - 5

FORM OF BID

FORM OF BID

Name of Contract: **REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO**

Under Contract No: **RDA/ RM&M/WP/RMI/2025/02**

To: **Director General, Road Development Authority**

Gentlemen:

1. Having examined the Standard Bidding Document – Procurement of Works – Major Contracts (Standard Bidding Document – Major contracts – CIDA/SBD/02 – Major contracts – [2nd Edition (Revised) January 2007] Specifications, Drawings, Bills of Quantities and Addenda for the execution of the above – named Works, we, the undersigned, offer to execute and complete such Works and remedy any defect therein in conformity with the aforesaid Conditions of Contract, Specifications, Drawings, Bills of Quantities and Addenda for the sum of Sri Lankan rupees *..... (Rs.....) or such other sums as may be ascertained in accordance with the above documents.
2. We acknowledge that the Contract Data forms part of our Bid.
3. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Contract data.
4. We agree to abide by this Bid until the date specified in ITB Clause 16..... and it shall remain bidding upon us and may be accepted at any time before that date.
5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding Contract between us.#
6. We understand that you are not bound to accept the lowest or any bid you may receive.
7. We certify / confirm that we comply with the eligibility requirements as per ITB Clause 3 of the bidding documents.

Dated thisday of 2025 in the capacity of
..... Duly authorized to sign bids for and on behalf of
.....

Signature

Address

Witness : 1 Name..... Signature

2 Name Signature

*** The amount inserted here should not include the VAT component**

For the joint venture bid, add following to item 5.0:

if this bid is a joint venture bid we undertake the responsibility to enter into a joint venture agreement among the joint venture partners. We are also well aware that in the event we fail to enter into a joint venture agreement the contract formed between us is null and void and our bid bond will be forfeited by you.

SECTION - 6

BILL OF QUANTITIES

BILL OF QUANTITIES

PREAMBLE

1. The Bill of Quantities shall be read in conjunction with all other sections of the bidding documents.
2. General directions and descriptions of work or materials given elsewhere in the bidding Documents are not necessarily repeated in the Bills of Quantities. For the full meaning of each Item, reference should be made to the applicable passages in the bidding documents.
3. The prices and rates entered by the contractor in the Bill of Quantities shall be deemed to cover the complete and finished works in the final position as required in the bidding documents, including, inter alia, all costs and expenses which may be required in and for the construction and maintenance of the works, together with all risks, liabilities, contingencies, insurance, sampling, testing, providing all necessary assistance to the Engineer and in general all obligations imposed or implied by the contract.
4. Without affecting the generality of the foregoing provisions, the prices and rates entered by the contractor in the Bills of Quantities shall also include, inter alia, all costs and expenses involved with or arising from the following:
 - i. The provision, storage, transport, handling, use, distribution and maintenance of all materials, plant, equipment, machinery and tools, including all costs, charges, dues demurrage or other outlays involved in carriage and importation.
 - ii. The provision and maintenance of all staff and labour and their payment, accommodation, transport, fares and other requirements.
 - iii. Setting out, including the location, construction and preservation of survey markers, measurement and supervision.
 - iv. The provision, storage, transport, use, handling, distribution and maintenance of all consumable stores fuel, water and electricity including the requirements of the Engineer's Representative and his staff.
 - v. The location, test proving, opening, operation, reinstatement of all quarries and borrow pits, as well as compensation and mining royalties' costs associated with quarries and borrow pits or any other land the contractor may require additional to that provided free for the execution of the permanent works.
 - vi. Sampling, the transport of samples, testing, the carrying out of trial sections of earthworks, or payment and the checking of all information given by the Engineer.
 - vii. Injury caused to the Works under Construction, Plant, Materials and consumable stores by weather.
 - viii. Repairs to the Works either prior to or during the Period of maintenance.
 - ix. Maintenance work as detailed in the Specifications and the Conditions of Contract and the maintenance of public amenities.
 - x. Co-ordination with other Contractors or Authorities carrying out work either in connection with or adjacent to the Works.
 - xi. The supply of manufactures test certificates

- xii. The protection of mains and services, and cost of repairs in case of damage caused by the Contractor.
 - xiii. Pumping and de-watering; the protection of excavation faces.
 - xiv. The provision and maintenance of temporary divisions in order that through traffic flow shall remain unobstructed through the contract period and in general the provision of all temporary works required in connection with the works.
 - xv. Insurance, custom duties, taxes (without VAT), levies, first aid, welfare and safety requirements and all other overheads and costs, protection of existing bridge in case of stage construction and profit.
5. A price or rate shall be entered against each Item in the Bills of Quantities whether quantities are stated or not. Item against which no price or rate is entered shall be deemed to be covered by the other prices or rates entered by the Contractor in the Bills of Quantities. The unit price or rate entered against any Item shall take precedence over any miscalculation in the total sum against that Item. Where separate items have not been provided in the Bills of Quantities for work shall be deemed to have been included in the other prices and rates.
 6. The Quantities given in the Bills of quantities are estimated only and are given to provide a basis for the tender. No guarantee is given for their accuracy and payments to Contractor will be based on the prices and rates quoted in the bills applied to measured quantities for work done.
 7. The items in the Bills of Quantities are the general application to the whole of the works at any location on site or any part of the works as indicated in the bid documents or instructed by the Engineer's representative.
 8. Tenders which group several items together in the Bill of Quantities under one price will not be accepted.
 9. Item mentioned "Provisional" in the Bill of Quantities are not to be executed unless ordered by the Engineer. They may be expended wholly or in part or not at all as directed by the Engineer.
 10. The Units of measurement described in the Bills of Quantities are Metric Units. Abbreviations in the Bill of Quantities are as follows:

hrs	-	Hours	cu.deci.m	-	Cubic Decimeter
km	-	Kilometre	km-mth	-	KilometreMonths
m	-	Linear Metre	mnth	-	Month
m ² or sqm	-	Square Metre	ltr	-	Litre
m ³ or cum	-	Cubic Metre	kg	-	Kilograms
Nos./Nr.	-	Numbers	MT	-	Metric Tonne
L.S.	-	Lump Sum	Veh-wk	-	Vehicle Week
P.S.	-	Provisional Sum			

DAY WORKS

1. The rates entered in the Schedule for Bill of Quantities shall form day works items for pricing extra work ordered to be done in accordance with the Contract.
2. The rates shall include all overheads and profit and all other costs of whatever nature necessary for and incidental to the performance of extra work whenever ordered and these rates required anywhere on the Site for the operation of plant the provision of labour or the provision of materials and shall be deemed to include inter alia:

Plant	Operation, maintenance, repairs, fuel, oils grease, hydraulic fluids, taxes, duties operator's wages and overtime, travelling time, transport supervision, administration costs related to the use of such plant.
-------	---

Labour	Wages, overtime, bonuses, travelling time, hand tools, accommodation, fringe benefits, transport and supervision.
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Materials	Provision, transport, handling, wastage and storage.
-----------	--

In the case of Plant and labour, only time spent working shall be paid for.

For Day works required outside the Site area (which for these purposes shall mean all areas shown on the plans for permanent works and all areas of temporary works such as Contractor's and Engineer's camps, quarry, borrow pits and their access roads, diversion roads etc.), the following should be chargeable:

Plant	: Self travels: Actual travel time of and to place of stationing on the day of the work.
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Transport	: Travelling time of the places of transport (lorry, low loader etc.)
-----------	---

Labour	: Travel time for the means of transport used.
--------	--

Materials	: Travelling time for the means of transport used.
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The rates shall apply only to such work, as the Engineer shall instruct in writing to be carried out as day works. All items should be priced.

Summary of Bill of Quantity

REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO

UNDER CONTRACT NO: RDA/ RM&M/WP/RMI/2025/02

ITEM	DESCRIPTION	TOTAL AMOUNT WITHOUT VAT (Rs.)
1.0	Preliminaries & General	
2.0	Conventional Road Lighting System from 0+600Km to 2+470Km	
3.0	Solar Individual Road Lighting System from 2+470Km to 4+670Km	
Total amount		
Physical Contingencies - 10%		
Total with Contingencies		
VAT amount - 18%		
Grand Total with VAT		

Amount in words: _____

Name of Authorized Officer: _____

Signature: _____ Name: _____ Date: _____

Witness 1. _____

Witness 2. _____

VAT Registration No. _____

Note: Except VAT, all other Taxes payable including SSCL by the Bidder shall be included in the rates.

Bill of Quantities

“REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO”

CONTRACT NO: RDA/ RM&M/WP/RMI/2025/02

	BoQ Item	Unit	Qty	Rate (Rs.) Without VAT	Total amount (Rs.) Without VAT
1.0	Preliminaries & General				
1.1	Allow for Mobilization	LS	Allow		
1.2	Allow for safety (Barricading, Lighting, Traffic diversion)	LS	Allow		
1.3	Reconnecting the CEB power supply	PS	Allow	200,000.00	200,000.00
1.4	Investigate the existing underground cabling and provide a comprehensive report, including sizes, insulation resistance test values and the lengths of healthy cables, etc. within three days.	LS	Allow		
Sub Total -01					
2.0	Conventional Road Lighting System from 0+600Km to 2+470Km				
2.1	Supply and installation of Lighting Distribution boards	Nr.	01		
	Supply & Installation of lighting distribution board for three phase supply with all necessary control devices, Phase failure relay, breakers, contactors, timers, photo cells and other accessories, testing & commissioning including all necessary civil works. Shop drawings shall be submitted for prior approval.				
	The enclosure shall be constructed using FRP (Fiber Reinforced Plastic) or GRP (Glass Reinforced Plastic) materials, designed for outdoor use, ensuring durability and resistance to environmental factors. The enclosure shall be finished to a high standard, suitable for outdoor installation. It will be fixed inside the existing concrete cubical, using heavy-duty galvanized, marine treated as item no.2.3 for secure attachment. This item includes the preparation of site.				
2.2	Supply and installation of an enclosure for the installation of the CEB meter	Nr.	01		
	The enclosure shall be constructed using FRP (Fiber Reinforced Plastic) or GRP (Glass Reinforced Plastic) materials, designed for outdoor use.				

2.3	Supply and installation of Road lighting poles including the foundation	Nr.	110		
	Excavation & laying of foundation with G20 Concrete, supply and erection of 10.0 m nominal mounting height, flanged type, hot dipped galvanized, tapered octagonal road lighting column with 2.5 m Single arm having 3.5 mm or above metal thickness.				
	Galvanization shall be carried out according to the BS EN ISO 1461:2022 (Hot dip galvanized coatings on fabricated iron and steel articles - specifications and test methods) and ISO 14713-1:2017 (Zinc coatings — Guidelines and recommendations for the protection against corrosion of iron and steel in structures-Corrosivity category -C4 (Page no.07)). In addition, three (03) coats of marine-grade paint shall be applied to protect the pole from sea breeze exposure (product approval for the marine paint must be obtained prior to application). All nuts, bolts, hinges, and other associated materials shall be made of stainless steel (SS316).				
2.4	Supply and installation of Terminal Junction box (Outdoor type) and termination of Underground cable inside the pole.	Nr.	110		
	This includes the supply and installation of a timber plate, a 10A/2P/MCB with box, four single terminal connectors, colour caps, and other necessary accessories. Additionally, it involves the termination of armoured cables using bimetallic lugs. Prior approval for the arrangement must be obtained from the RDA before installation.				
2.5	Supply and installation of LED Road lighting Luminaire	Nr.	110		
	LED Road lightening Luminaire having 16,500 minimum lumen output minimum, CRI > 70, CCT 3000 ± 10 K, minimum 70,000 hr @ L80 life of the luminary and IP66 or above, with all necessary internal cabling wiring using 3C x 1.5 sq.mm cable and termination. Pls refer specification attached for more details.				
	Salt mist/spray test report (1000hr duration) shall be submitted according to the ASTM B117 and ISO 9227 standards, obtained from accredited laboratory. Failure to provide a valid report that meets these criteria will result in rejection of the bid or product.				

2.6	Supply of Spare materials according to the above same specification				
2.6.1	Supply of Road lighting luminaires	Nr.	10		
2.6.2	Supply of LED Drivers	Nr.	30		
2.6.3	Supply of SPDs	Nr.	15		
2.7	Removal of existing lighting poles and foundations	Nr.	110		
	You are required to remove all existing lighting poles and their associated foundations with minimal damage to the walking path/ pavement. The removed items must be transported and handed over to the designated location.				
2.8	Supply & laying of 4C-25.0 sq.mm Al/XLPE/PVC/SWA/PVC cable	Meter	4620		
	Supply & laying of 4C-25.0 sq.mm Al/XLPE/PVC/SWA/PVC cable through concrete encased duct PVC duct and terminating at the road lightening pole and feeder pillar with necessary lugs, colour caps.... Etc.				
2.9	Excavation of cable trench and reinstatement in soil areas for cable laying	Meter	2100		
	Excavation of the 350 x 800mm cable trench and backfilling with 200mm sand layer, 200mm compacted good quality soil and placing the cable tiles and warning tapes on the top of the soil. The remaining portion of the trench shall be filled with ABC metal up to the ground level to provide stability and long-term protection including all necessary labour, tools, and materials to ensure proper installation and restoration to the original condition.				
2.10	Preparation of concrete duct bank in asphalt areas for cable laying	Meter	2000		
	Excavation of the 300 x 400 mm (WxD) cable trench asphalt areas including cutting Asphalt, supplying and laying 110.0 mm dia. 600 type PVC conduit, Concreting duct bank (300X300) (WxD) reinstate the surface by using 100mm asphalt layer (binding and wearing course) as per the instruction by RDA including all necessary labour, tools, and materials to ensure proper installation and restoration to the original condition. At specific locations where the cable path transitions from the ground to the walking path and extends along the walking path for a certain length, the work shall be executed as per RDA instructions. The transition work shall be executed using similar rates of 2.10 or 2.11 items.				

2.11	Preparation of the public walking path for cable laying and reinstatement of the walking path under the supervision of RDA.	Meter	300		
	Removing the interlocks along the walking path, preparing a 200x200mm cable trench, and covering the cable with a layer of quarry duct/sand. After installation, the interlocks shall be reinstated. Additionally, a protective layer of concrete 200x200x300mm shall be applied at 10m intervals to prevent easy removal of the cable by thieves.				
2.12	Supply and Installation of Utility Hand hole	Nos.	02		
	Supply and Installation of Utility Hand hole (600x600x1000) (WxDxL) with concrete cover slab with GI frame as per the standards. A Drawing shall be submitted to the RDA for prior approval.				
2.13	Testing and Commissioning	LS	Allow		
	An illuminance report must be prepared after conducting joint observations with RDA officers at few locations along the road. Separate reports should be submitted for each observation, ensuring that all data and results comply with the specific road lighting parameters for M3 lighting class, outlined in BS 5489-1:2013 and EN 13201:2015 standards.				
	In addition, all electrical test shall be carried out such as insulation resistance test for all Power cables, each circuit shall be tested for continuity and polarity, each circuit shall be tested for ground continuity and ground resistance, earth loop impedance test, voltage drops in each circuit, earth fault tripping test.... etc.				
Sub Total - 02					
3.0	Solar Individual Road Lighting System from 2+470Km to 4+670Km				
3.1	Replacement of Luminaire	Nr.	25		
	The same type of luminaire or a similar type shall be installed, subject to RDA's approval. The luminaire must be suitable for the seaside environment and resistant to sea breeze conditions. A salt mist test report for the luminaire, obtained from an accredited laboratory, must also be submitted for verification.				

	Current Model Sunmaster/SLD12-60W (10200 Lumens output/12V DC/5.0A/(PF) >0.95/CRI>70/CCT-3000-3500K/ Driver efficiency >90%/IP-67/IK-10/Lifetime 100000 hours - L70, @25°C/Heat Radiator Anodized Aluminium/Lens PC/Fixture Dimension 477x273x86mm. For LED street light IEC/ CE/ RoHS/ LM79/ LM80/ IP/ IK & Salt mist test report (1000Hrs) reports shall be submitted.				
3.2	Replacement of Deep cycle Valve regulated Rechargeable Gel Type battery	Nr.	143		
	Replace all batteries with new ones of the same type or an improved version with advanced technology or enhanced qualities, subject to RDA's approval. This task includes removing the existing batteries, making the necessary connections, and restoring the ground if any damage occurs to the walking path or surrounding areas during the removal process. Prior approval must be obtained for the replacement batteries. Additionally, if the existing brackets, terminals, or any other items inside the underground battery compartment are damaged, they shall be replaced with new accessories.				
	It is your responsibility to collect the defective batteries and dispose of them through a legally acceptable method. The rates for the new batteries shall also be determined after taking into account the residual value of the existing batteries.				
	Current battery specification- Deep cycle Valve regulated Rechargeable Gel Type battery / Nominal Voltage 12V/ Nominal Capacity 180Ah(10hr,1.80V/cell,25°C)/ Approximate Weight 40.2 kg/ Internal Resistance 5 mΩ (Lead terminal) /Terminal Lead wire- (6.0mm ² ×1.8m)/Maximum Charge Current 45.0 A/ Ambient Temperature -35~55 °C/ Dimension- Approx.483x170x240mm (LxWxH)/ Min.2,500 at 25%DOD, Min.2,000 at 40% DOD/ Min.1,000 at 80% DOD/ Self-discharge less than 1% monthly.				
3.3	Replacement of Solar Charge Controllers	Nr.	60		
	The same type of solar charge controller or a similar type shall be installed, subject to RDA's approval. The controller must be suitable for the seaside environment and resistant to sea breeze conditions. A test reports must also be submitted for verification.				

	Model-MPC2415/ MPPT Charge controller/ Battery voltage-12V/ Max. Solar input power-200W/ Max. Solar input voltage-(17V-60V)/ Max. Voc of Solar panel-<75V/ Max. charging current-15A/ Max. LED power-80W/ The No. Of LED in series-5-18/ LED output voltage-15V-60V/IP69/ In addition, over charge/over discharge/reverse connection/ reverse charging/ over load/over current/ short circuit /open circuit/ over temperature/ TVS lighting protection shall be available. For the Controller CE / RoHS/IP certificates shall be submitted.				
3.4	Replacement of Solar Panels	Nr.	25		
	The same type of solar panel, or a similar panel with an equal or higher capacity, shall be installed, customized to fit the existing brackets. If new brackets are required, they must be GI and marine-treated. The installation is subject to RDA's approval. The solar panel and all associated accessories must be suitable for the seaside environment and resistant to sea breeze conditions. Test reports must be submitted for verification.				
	Sunmaster Solar panel Model-SM180P/Nominal power watt Pmax (W)-180W/Power output tolerance Pmax(%)-(0-3)%/ Maximum power Voltage Vmp(V)-18V/ Maximum power Current Imp(A)/-10.0A/ Open circuit Voltage Voc(V)-22.7V/ Short circuit current Ioc(A)/ Module efficiency (%) -19.13%				
3.5	Cleaning all lighting poles, applying marine-grade paint, and refurbishing all lighting poles.	PS	Allow	3,000,000.00	3,000,000.00
	All lighting poles shall be thoroughly cleaned without causing any damage to their existing structure. Corroded areas shall be fully cleaned and coated with marine-grade paint following an approved methodology (prior approval for the methodology must be obtained as per 2.3 Item of the same BoQ). Corroded nuts, bolts, and brackets must be replaced with new parts. All nuts, bolts, and hinges shall be replaced with SS316-grade stainless steel materials, while other brackets shall be replaced with GI brackets coated with marine-grade paint.				

	Damaged wiring shall be repaired, and all exposed cables must be enclosed in GI rubber-insulated tubes to protect them from interference by birds that may perch on or damage the system. Connections for all lights shall be re-established using new wiring where necessary, or approved IP-rated connectors shall be utilized, ensuring compliance and proper functionality under the supervision of the RDA. RVV/Flexible PVC Insulated Cable shall be used from same sizes.				
Sub Total - 03					
Total amount without VAT (1+2+3)					
4.0	Rate only – This shall not be included to the total				
4.1	Removing existing pole and refurbishment as per the given guide line	Nr.	01		
	Remove the existing pole and transport it to the workshop. Strip the outer paint without damaging the galvanized coating, then apply three coats of approved marine paint. Reinstall the pole at its original location. If the galvanized coating is damaged, it shall be rectified using a standard method under the supervision of the RDA to the given specification. The service door shall be replaced with a fiber door or any other corrosion-resistant door of similar dimensions.				
4.2	Remove the existing the existing pole foundation and construct a new foundation including all nut & bolts, reinforcement. Etc, according to the given drawing.	Nr.	01		
4.3	Underground cable joint of two armoured cable, sized 25 sq.mm - Al/XLPE/PVC/SWA/PVC and 25 sq.mm Cu/XLPE/PVC/SWA/PVC using approved resin joint kit.	Nr.	01		
	This shall include all excavation work and reinstatement to its original condition and necessary materials for the work.				
4.4	Refurbishment of base board of existing poles using outdoor type terminal junction box, MCB and other accessories.	Nr.	01		

SECTION - 7

SCHEDULES

Schedule 1- General Information

For Joint Venture partners, each partner shall furnish information separately

ITB Clause Reference	Description	Information To be filled by Bidder	Remarks
3.1	CIDA Registration		Provide certified copies and label as attachment to Clause 3.1
	Registration Number		
	Grade		
	Specialty		
	Expiry Date		
	Number		
	Expiry Date		
4.1(a)	Legal Status		Provide certified copies of registration
	Written power of attorney to the signatory to the bid	Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 4.1(a)	
	If a Joint Venture, names and addresses of Joint Venture partners	1..... 2..... 3.....	Provide draft copy of Joint Venture agreement
	If a Joint Venture, name of the Lead Partner		
	For Joint Ventures, each JV partner shall furnish legal status separately		
	Name (lead partner)		Provide certified copies and label as attachment to Clause 4.1(a)
	Legal status		
	Place of registration		
	Principal place of business		
	Written power of attorney of the signatory to the Bid	Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 5.1	

	VAT Registration No.		
	Name (Partner 2)		Provide certified copies and label as attachment to Clause 4.1(a)
	Legal status		
	Place of registration		
	Principal place of business		
	Written power of attorney of the signatory to the Bid	Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 5.1	
	VAT Registration No.		
	Name (Partner 3)		Provide certified copies and label as attachment to Clause 4.1(a)
	Legal status		
	Place of registration		
	Principal place of business		
	Written power of attorney of the signatory to the Bid	Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 5.1	
	VAT Registration No.		

Schedule 2 – Annual Turnover Information For Joint Ventures each partner shall submit the information separately		
Year	Turnover	Remarks
1		Attach audited reports and label as attachment to Clause 4.2
2		
3		
4		
5		

Schedule 3 – Adequacy of Working Capital		
Source of Credit Line	Amount	Remarks
		Provide documentary evidence and label as attachment to Clause 4.2
Total		

Schedule 4 - Financial Data (As per Latest Audited Financial Statement)		2024/2025 or latest
1	Current Assets	
2	Current Liabilities	
3	Working Capital (1-2)	
4	Works in hand	
5	Line of credit**	
6	Available Liquid Asset {3-(0.1) x4+5} *	

* This amount shall be not less than the amount given in clause 4.2 of ITB.

** Line of credit if provided shall strictly be as per Form No. 07 provided.

Schedule 5 – Construction Experience in last five years For JVs each JV partner shall furnish information separately				
Year	Employer	Description of Works	Amount	Contractors Responsibility (%)

Schedule 6 – Major Items of Construction Equipment Proposed		
Type	Capacity	Own, Lease or hire
Arial orm Truck		
Mini rubber trach Excavator		
Tipper truck 3/5 tons		

Schedule 7 – Construction Management Staff (Note: One Chartered Electrical Engineer, and Electrical Engineer with 10 yrs experience in Road Lighting/Outdoor Lighting speciality is a must)		
A: Key Professional		
Name	Position	Task
B: Support Staff		
Name	Position	Task

Schedule 8 – Time Schedule for Key Staff

[illegible]

Full Time:- _____

Part Time:.....

[illegible]

SECTION – 8

STANDARD FORMS (BID)

FORM NO. 06: Form of Bid Security

FORM NO. 07: Form for the Affidavit for the Current Contractual Commitments

FORM NO. 08: For Letter from the Bank for Granting of A Revolving Line of Credit

FORM OF BID SECURITY

*[this Guarantee form shall be filled in accordance with the instructions indicated in brackets]
..... *[insert issuing agency's name, and address
of issuing branch or office]**

Beneficiary: Road Development Authority, "Sethsiripaya", Battaramulla, Sri Lanka.

Date: *[insert (by issuing agency) date]*

BID GUARANTEE No.: *[insert (by issuing agency) number]*

We have been informed that *insert (by issuing agency) name of the Bidder]* (hereinafter called "the Bidder") has submitted to you its bid dated *[insert (by issuing agency) date]* (hereinafter called "the Bid") for the execution of **"REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO"** under Contract No: **RDA/RM&M/WP/RMI/2025/02**

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we *[insert name of issuing agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures]* *[insert amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- i. has withdrawn its Bid during the period of bid validity specified; or
- ii. does not accept the correction of errors in accordance with the Instruction to Bidders (hereinafter "the ITB") of the IFB or
- iii. having been notified of the acceptance of its Bid by the Employer during the period of bid validity,
 - (i) fails or refuses to execute the Contract Form, if required, or
 - (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This Guarantee shall expire:

- (a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the Bidder and of the Performance Security issued to you by the Bidder; or
- (b) if the Bidder is not successful bidder, upon the earlier of the successful bidder furnishing the performance security, otherwise it will remain in force up to *(insert date)*

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

Signature and the Seal of the Guarantor:

Name of the Organization

Date:

Witness:

FORM NO. 06: FORM FOR THE AFFIDAVIT FOR THE CURRENT CONTRACTUAL COMMITMENTS

Director General,
Road Development Authority

In accordance with the Clause 4.2 of the Instructions to Bidders, I (We) declare that the outstanding Contract Commitments of (Name of the Bidder (s)) is as follows. I (We) further declare that all the outstanding contract commitments are listed below.

Specialty	Name of the Contract	Name of the Client	Initial Contract Amount (Rs.)	Outstanding Work (Rs.)
Highways*				
Bridges*				
Buildings*				
Irrigation*				
Electrical & Mechanical Works*				
Total				

.....
Signature of the Bidder

The foregoing Affidavit having been duly read over and explained by me to the Affirmant and he having understood the contents of same, signed before me at [Place], on this 2010 [date]

.....
Justice of The Peace

* Add additional rows to include all the current projects if needed

Add additional speciality to include all the current projects

Note – if does not provide all contract commitment shall be treated as non-responsive according to the clause 3.3 of ITB

**FORM NO. 07: FOR LETTER FROM THE BANK FOR GRANTING
OF A REVOLVING LINE OF CREDIT**

FROM:

.....

.....

.....

TO : Director General,
Road Development Authority (RDA)
"Maganeguma Mahamedura"
Battaramulla
Sri Lanka

SUB : Letter from the Bank for providing a line of credit in favour
of **(1)** in case of award to them of works for the
Contract of **"REFURBISHMENT OF ROAD LIGHTING SYSTEM OF FROM
0+600KM TO 4+670KM OF MARINE DRIVE ROAD, COLOMBO"** Under
contract No: RDA/RM&M/WP/RMI/2025/02

Dear Sir,

**We (2)bankers of (3)hereby agree to grant
revolving line of credit for an amount of Sri Lanka Rupees for the purpose
of the execution of the Civil Work Contracts under the Contract of REFURBISHMENT OF
ROAD LIGHTING SYSTEM OF FROM 0+600KM TO 4+670KM OF MARINE DRIVE ROAD,
COLOMBO Contract No: RDA/ RM&M/WP/RMI/2025/02**

**This revolving line of credit will be maintained until the works are taken over by the
RDA.**

Signature and the Seal of the Guarantor:

Name of the Organization

Date:

Witness:

Notes

(1) Name of Beneficiary / Bidder

(2) Name of Bank

(3) Name of Beneficiary / Bidder

SECTION – 9

DRAWINGS

Refer the attached drawings as follows.

- 1.0 Typical drawing of the Lighting Pole – Drawing No. - 01
- 2.0 Typical Drawing of the foundation – Drawing No. - 02
- 3.0 Typical drawing of the Power Distribution Board – Drawing No. - 03
- 4.0 Cable Trench Details – Drawing No. - 04