

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF MAHAWELI DEVELOPMENT AND ENVIRONMENT



MARINE ENVIRONMENTAL PROTECTION AUTHORITY

BIDDING DOCUMENT

For

**DESIGNING AND INSTALLING OF LIGHTNING PROTECTION SYSTEM FOR
THE BUILDINGS OF MARINE ENVIRONMENTAL PROTECTION AUTHORITY
AT DADALLA, GALLE**

CONTRACT NO: 03/MEPA/Tender/2019/Major (34)

Name of the Bidder:

August 2019

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SECTION – 01

INSTRUCTIONS TO BIDDERS

Instructions to bidders applicable for this Contract are that given in section – 01 of the standard Bidding Document for Procurement of Works, ICTAD Publication No. ICTAD/SBD/01, second Edition, January 2007, published by the Institute for Construction Training and development (ICTAD).

This publication will not be issued with the Documents and the Bidder is advised to procure it from CIDA (former ICTAD).

Instructions to Bidders shall be read in conjunction with Bidding Data provided under Section – 05 of the Bidding Document.

Instructions to Bidders will not be a part of the Contract.

SECTION 2

STANDARD FORMS

- **Agreement**
- **Performance Security**
- **Advance Payment Security**
- **Retention Money Guarantee**

STANDARD FORM: FORM OF AGREEMENT

This Agreement, made the[day] of[month] 2017 between Chairman, Marine Environment Protection Authority of Sri Lanka incorporated under the provisions of the Ministry of Mahaweli Development and Environment of Sri Lanka Act. No. 35 of 2008 having its Head Office at No. 177, Nawala Road, Narahenpita, Colombo 05 (hereinafter called the Employer) of one part and.....

(Hereinafter called the Contractor) of the other part.

WHEREAS the Employer is desires that Contractor execute “Designing and Installing of Lightning Protection System for the Buildings of Marine Environmental Protection Authority at Dadalla, Galle”, Contract No: and has accepted a Bid by the Contractor for the execution, completion and maintenance of such works.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS: -

- (1) In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereafter referred to.
- (2) The following documents shall be deemed to form and be read and construed as part of this agreement, viz.
 - (a) The Letter of Acceptance dated
 - (b) The Letter of Acknowledgement of the letter in (a) above by the Contractor dated
 - (c) The said Bid dated
 - (d) Addenda Nos.....
 - (e) Contract Data
 - (f) Conditions of Contract
 - (g) Specifications by

ICTAD publication No. SCA/4/I – Specification for Building Works- Volume 1” is applicable as the general specifications for the civil works of this contract.
ICTAD publication No. SCA/4/II – Specification for Building Works- Volume 2” is applicable as the general specifications for the civil works of this contract.
 - (h) Drawings
 - (i) Priced Bill of Quantities
 - (j) Any other relevant Correspondence (Specify)
- (3) In Consideration of the payments to be made by the Employer to the contractor as hereafter mentioned the Contractor hereby convents with the Employer to execute, complete and remedy any defects therein in conformity in all respect with the provisions of the Contract.
- (4) The Employer hereby convents to pay the contractor in consideration of the execution, completion and remedying any defects wherein the Contract Price at the time and in the manner prescribed by the Contract.

In witness whereof the employer has set his hand and the Contractor has set his hand/has caused his common seal to be hereunto affixed on the day, month and year afore written at the beginning hereof

Signature/Common Seal of Employer
.....

was hereunto affixed in the presence of

Witness:

- 1)
- 2)

Signature/Common Seal of
.....

was hereunto affixed in the presence of

Witness:

- 1).....
- 2)

**STANDARD FORM: PERFORMANCE GUARANTEE
(Unconditional)**

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

**Beneficiary: Chairman, Marine Environment Protection Authority of Sri Lanka, No. 177, Nawala Road,
Narahenpita, Colombo 05** [Name and Address of Employer]

Date

PERFORMANCE GUARANTEE No. :

We have been informed that [Name of Contractor]
(Herein after called “the contractor”) has entered in to **Contract No:** dated
.....with you for the **“Designing and Installing of Lightning Protection System for the
Buildings of Marine Environmental Protection Authority at Dadalla, Galle”,** [herein after called
“the Contract”]

Furthermore, we understand that, according to the conditions of contract, a performance guarantee is required.

At the request of the contractor, we [Name of the 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 theDay of20.....[insert date, 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(s)]

FORM OF ADVANCE PAYMENT GUARANTEE

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

Beneficiary: Chairman, Marine Environment Protection Authority of Sri Lanka, No. 177, Nawala Road, Narahenpita, Colombo 05 [Name and Address of Employer]

Date

ADVANCE PAYMENT GUARANTEE No. :

We have been informed that [Name of Contractor] (Herein after called “the contractor”) has entered in to **CONTRACT NO: MA/TS/RAMBA/B/13** datedwith you for the **“Designing and Installing of Lightning Protection System for the Buildings of Marine Environmental Protection Authority at Dadalla, Galle”** [herein after called “the Contract”]

Furthermore, we understand that, according to the conditions of 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 the 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.

This guarantee shall expire on..... [Insert the date, 28 days beyond the intended completion Date] Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

.....
[Signature(s)]

FORM OF RETENTION MONEY GUARANTEE

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

Beneficiary: **Chairman, Marine Environment Protection Authority of Sri Lanka, No. 177, Nawala Road, Narahenpita, Colombo 05** [Name and Address of Employer]

Date

RETENTION MONEY GUARANTEE No. :

We have been informed that[name of Contractor] (herein after called “ the contractor”) has entered in to **Contract No: MA/TS/RAMBA/B/13** dated.....with you “**Designing and Installing of Lightning Protection System for the Buildings of Marine Environmental Protection Authority at Dadalla, Galle**”, [Herein after 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 against a Retention Money guarantee.

At the request of the contractor, we [Name of the 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..

This guarantee shall expire, at latest [Insert 28 days after the end of the Defects Liability Period]
Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

.....
[Signature(s)]

SECTION – 3

CONDITIONS OF CONTRACT

Conditions of Contract that will be applied for this Contract is that given in Section – 3 of the Standard Bidding Document for Procurement of Works, ICTAD Publication No. ICTAD/SBD/01, Second Edition January 2007 published by the Institute for Construction Training and Development (ICTAD).

This publication will not be issued with the Bid documents and the Bidder is advised to procure it from CIDA (former ICTAD).

Conditions of Contract shall be read in conjunction with Contract Data provided under Section – 5 of the Contract Documents.

Volume 2

Invitation for Bids

Section 4 – Form of Bid & Qualification Information

Section 5 – Schedule

Section 6 – Specifications

Section 7 – Bill of Quantities

Section 8 – Drawings

Section 9 – Standard Form (Bid)

- ❖ **Form of Bid Security**
- ❖ **Method Statement**

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SECTION 4

FORM OF BID & QUALIFICATION INFORMATION

Form of Bid

Name of Contract: Designing and Installing of Lightning Protection System for the Buildings of Marine Environmental Protection Authority at Dadalla, Galle

CONTRACT NO: 03/MEPA/Tender/2019/Major (34)

To: Chairman, Marine Environment Protection Authority of Sri Lanka, No. 177, Nawala Road, Narahenpita, Colombo 05

Gentleman.

1. Having examined the Conditions of Contract given in the Standard Bidding Document – Procurement of Works [ICTAD/SBD/01 – Second Edition , January 2007], Specifications, Drawings and Bill 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 said Conditions of Contract, Specifications, Drawings, Bill of Quantities and Addenda for the sum of Sri Lankan Rupees.....
.....
.....
.....
+VAT. (Rs..... + VAT) or such other sums as may be ascertained in accordance with the said Conditions.
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 stipulated in the Contract Data, and 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 for the period of **Forty Nine (49) days** from the date fixed for receiving or any extended period and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
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.

Dated thisday of 20... in the capacity of
.....duly authorized to sign Bids for and on behalf
of.....

(IN BLOCK CAPITALS)

Signature

Address:

Witness.....

Occupation.....

Address.....

Qualification Information

(To be completed by the Bidder and submitted with the Bid)

ICTAD Registration	(attach certified copies, as annex)
Registration number	
Grade	
Speciality	
Expiry Date	
VAT Registration No.	
Income Tax File Ref. No.	
Construction Program	(attach as annex)
Method Statement	(attach as annex)
Legal Status (Sole proprietor, Partnership, Company etc.)	(attach certified copies, as annex)
Authentication of Signatory	(attach certified copy of Power of Attorney, as annex)
Value of construction works performed in last 5 years	(attach certified copies of Certificate of Completion etc., as annex)
Value of similar works completed in last 10 years (indicate only the three largest projects and attach certified copies of Certificate of Completion)	(Annex – 02)
Key Personnel	
Qualification and Experience of key personnel (for minimum requirements see Sub-Clause 9.1 of Contract Data)	(Annex - 01)
List of Resources	
List of resources intended to be deployed	(attach as annex)
Proof for liquid assets and/or credit facilities.	
Relevant documents as letters issued from banks- Proof for at least Rupees One Million & Two Hundred Thousand (1.2Million) of liquid assets and/or credit facilities , net of other contractual commitments and exclusive of any advance payments which may be made under the contract	(attach as annex)

Work in hand and Affidavit	(Annex – 03a & Annex – 03b)
Performance Security	
Name and address of the proposed surety for the Performance Bond or Bank Guarantee referred to in Clause 52 of the Conditions of Contract.	
Bid Security	
Bid Bond in the given format for the amount stated in the Bidding Data	(attach)

Signature of Bidder

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SECTION 5

BIDDING DATA & CONTRACT DATA

G. Bidding Data

Instructions to Bidders

Clause Reference

(1.1) The Employer is

Name: **Chairman, Marine Environment Protection Authority of Sri Lanka**
Address: **No. 177,
Nawala Road,
Narahenpita,
Colombo 05**

Authorized Representative

Name: **Deputy Manager (Southern)**
Address: **Marine Environment Protection Authority,
Southern Provincial Office Complex,
No: 426B, Colombo Road,
Dadalla, Galle**

The Works consists of:

Designing and Installing of Lightning Protection System for the Buildings of Marine Environmental Protection Authority at Dadalla, Galle

(1.2) Intended Completion Date is **105 days** from the Start Date.

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

(4.2) The registration required
Specialty: **Building Construction**
Grade : **ICTAD/CIDA- EM 4 or above**

(4.3) The following information shall be provided in Section 4

- ICTAD Registration
Registration number
Grade
Specialty
Expiry Date
- VAT Registration number
- Construction Programme
- Method Statement
- Legal Status (Sole proprietor, Partnership, Company etc.)
- Total monetary value of construction works performed in the last five years.
- Experience in works of similar nature and size for last ten years
- Major items of construction equipment proposed to carry out the contract
- Qualifications and experience of key site management and technical personnel proposed for the Contract(Annex-1)
- Proof for at least Rupees **One Million & Two Hundred Thousand (1.2 Million).**
- of liquid assets and/or credit facilities , net of other contractual commitments and exclusive of any advance payments which may be made under the contract
- Works in hand Annex-2a

(4.4)

- Average of the annual volume of construction work performed in the last five years shall be at least **Rs. 3.0 million** (Rupees Six Million)
- Experience in the construction of at least one contract of the nature and complexity equivalent to the works over the last 10 years(to comply with this requirement, works cited should be at least 70 percent completed);

- Proposal for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed in the Bidding Data clause 4.3;
- Following technical and managerial Staff:

Grade of staff	Minimum qualifications	Minimum no of positions
Construction Manager (to provide construction Management services)	B.Sc. Eng.(Electrical) or equivalent with 05 years experience out of which 03 years in relevant field	1
Site Agent cum Supervisors	Minimum 03 years experience as site agent in similar works or NDT with minimum 3 years in similar works	2

- The minimum amount of liquid assets and/or credit facilities , net of other contractual commitments and exclusive of any advance payments which may be made under the contract shall not be less than Rupees **One Million & Two Hundred Thousand (1.2 Million)**.

(9.1) Employer' address for the purpose of clarification is;

Name: Chairman

Address: No:177, Nawala Road, Narahenpita, Colombo 05.

Fax: 0112556505

(11.1) the language of the bidding document shall be in English

(13.3) (a) Value Added Tax

VAT component shall not be included in the rates. The amount written in the Form of Bid shall be without VAT. However, VAT component shall be shown separately at the end of the BOQ. If bidder is registered for the purpose of VAT, the bidder shall indicate the amount of VAT claimed separately at the end of the Bill of Quantities, in addition to the net value of the bid, along with VAT registration number. The amount written on the Form of bid shall be without VAT. Any bidder who does not declare his VAT registration number will be liable for rejection of his bid.

If any bidder is not registered for VAT, bidder shall obtain a letter from the Commissioner of Inland Revenue Department, certifying the Company has not been registered for VAT and shall be attached to the bid. Any bidder who does not comply with this requirement will be liable for rejection of his bid.

(13.4) The Contract is not subjected to price adjustment in accordance with Clause 47 of the Conditions of Contract.

(15.1) The Bid shall be valid up to **12 December 2019**

(16.1) Bid shall include a Bid Security using the form included in section 9.

(16.2) The Bid Security shall be:

- For an amount **Rs. 28,000.00**
- Valid until **10th January 2020**

Issued by agency acceptable to Employer using the form for bid security (unconditional guarantee) included in section 9, standard form.

Bid security shall be furnished from a reputed bank registered under Central bank of Sri Lanka, or Construction Guarantee fund. The from acceptable is unconditional.

(17.0) Pre Bid Meeting will be held at
Venue : **Marine Environment Protection Authority,
Southern Provincial Office Complex,
No: 426B, Colombo Road,
Dadalla, Galle**

Date: 18th October 2019
Time: 10.00 a.m

(19.2) a The address for delivery of the Bids is:
**Chairman,
Marine Environment Protection Authority of Sri Lanka,
No. 177, Nawala Road,
Narahenpita,
Colombo 05.**

Contract Name:
**Designing and Installing of Lightning Protection System for the Buildings of
Marine Environmental Protection Authority at Dadalla, Galle**

CONTRACT NO: 03/MEPA/Tender/2019/Major (34)

(20.1) The deadline for submission of Bids shall be 11.00 hrs on 22nd October 2019.

(23.1) Bids will be opened immediately after closing of Bids at 11.00 hrs on 22nd October **2019**.
at the Chairman (MEPA)'s Office, MEPA, No.177, Nawala Road, Narahenpita, Colombo 05.

(34.0) Amount of Performance Security required is 5% of the Initial Contract sum.

Contract Data

(Please note that the Clause nos. given hereunder is that of Conditions of Contract. The information given under Contract Data will supersede Conditions of Contract)

(1.1) The Employer is:
Name: **Chairman, Marine Environment Protection Authority of Sri Lanka**
Address: **No. 177,
Nawala Road,
Narahenpita,
Colombo 05**

Employer's Authorized Representative is:
Name: **Deputy Manager (Southern)**
Address: **Marine Environment Protection Authority
Southern Provincial Office Complex,
No: 426B, Colombo Road,
Dadalla, Galle**

The Engineer is:
Name:
Address:

Name of Engineer's Representative: To be nominated by the Engineer

The Works consists of:

**Designing and Installing of Lightning Protection System for the Buildings of
Marine Environmental Protection Authority at Dadalla, Galle**

CONTRACT NO: 03/MEPA/Tender/2019/Major (34)

The Start Date shall be 14 Days from the Date of the Letter of Acceptance.

The Intended Completion Date for the whole of Works shall be **105** days from the Start Date.

(7.2) add the following as new Sub-Clause 7.2:
To subcontract a part of value exceeding 5% of the Initial Contract Price, the Employer's approval is required.

(8.1) Schedule of other Contractors: None

(9.1) Schedule of Key Personnel

The Contractor must employ the minimum number of key personnel indicated in the schedule below for the proper execution of the Works.

Grade of staff	Minimum qualifications	Minimum no of positions
Construction Manager (to provide construction Management services)	B.Sc. Eng.(Electrical) or equivalent with 05 years experience out of which 03 years in relevant field	1
Site Agent Cum Supervisors	Minimum 03 years experience as site agent in similar works or NDT with minimum 03 years in similar works	02

The above schedule defines the minimum requirements and the Contractor must employ sufficient numbers to suit the requirements.

(13.1) the minimum insurance covers shall be:

- (a) The maximum deductible for insurance of the Works and of Plant and Materials is 5% of the Initial Contract Price
 - The minimum cover for insurance of the Works and of Plant and Materials is 110% of the Initial Contract Price
- (b) • The maximum deductible for insurance of Equipment is 2% of the Initial Contract Price
 - The minimum cover for loss or damage to Equipment is 5% of the Initial Contract Price
- (c) • The maximum deductible for insurance of other property is Nil
 - The minimum cover for insurance of other property is Rs. 500,000/- per event.
- (d) • The minimum cover for personal injury or death,
 - For third party and employees of the Employer and other persons engaged by the Employer Rs. One million per person per event.

(13.2) the minimum cover for personal injury or death

- For the Contractor's workmen is Rs. One million per person per event.
- For Contractor's employees other than workmen is Rs. One million per person per event.

(14.1) Site investigation report: None

(17.1) The Intended Completion Date for the whole of Works shall be **105 days** from the Start Date.

(21.1) The **Site Possession Date** shall be 7 Days from the Date of Letter of Acceptance.

(26.2) Delete the sub clause insert the following.

The composition of the arbitral tribunal is three Arbitrators, one of each to be nominated by the Employer and the Contractor, and the third to be appointed by the two Arbitrators who shall act as the Chairman.

(27.1) The Contractor shall submit a revised Program for the Works within 14 Days of Date of the Letter of

Acceptance.

- (27.3) The Period between Program update is 28 Days
- (27.4) The amount to be withheld for late submission of an updated Program is 2% of the Initial Contract Price
- (35.1) The Defects Liability Period is 365 days
- (39.2) Engineer may order variations up to 5% of the contract sum. If the variation exceeds 5 %, Employer's approval shall be obtained prior to commencement.
- (47.1) The Contract Price is not subjected to price adjustment
- (48.1) The retention from each payment shall be 10 percent of the certified work done.
The limit of retention shall be 5 percent of the Initial Contract Price.
- (49.1) The liquidate damages for the Works shall be **0.05% of the Initial Contract Price** per Day.

The maximum amount of liquidated damages for the whole of the Works shall be 10% of the initial contract price.
- (50.1) Advance Payment shall be thirty percent (30%) of the contract sum (less any provisional sums and contingencies)
Upon the payment of the advance payment in full the Employer shall return the original of the advance payment guarantee to the Contractor.
Advance payment guarantee shall be a Guarantee from Reputed Bank Registered under Central bank of Sri Lanka or Construction Guarantee fund.
- (52.1) Amount of Performance Security required is 5% of the initial contract price and Security shall be a Guarantee from Reputed Bank Registered under Central bank of Sri Lanka, or Construction Guarantee fund.
- (58) Delete the entire texts of Sub-Clauses 58.1 and 58.2.
- (60.1) the percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is 25%

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SECTION 6

SPECIFICATIONS

TECHNICAL SPECIFICATIONS

BACKGROUND

Marine Environment Protection Authority, Southern Provincial office complex situated at No.426B, Colombo Road, Dadalla, Galle. It consist three buildings with two stories, namely office building, laboratory building and circuit bungalow. Office complex situated at land side, faced to the Galle Colombo main road. This office complex directly faced to the sea and first building is about 40m away from the sea (Drawing No. 1,2,3). Laboratory has lot of valuable instruments. There is no any tall building close to this building complex and surrounded by bare lands and one story houses. Dadalla cemetery is 100m away from office complex and its chimney has a lightning protection system. Hotel Amari is the tallest building near to this office complex which is 300m away from the office complex.

GENERAL

Comply with the General Conditions, Supplementary Conditions and the requirements in various Sections of the Electrical Specification. In addition, read and conform to all Electrical Sections of these specifications. The installation shall comprise air networks connected to roof and down conductors and finally terminated in earth electrodes, with suitable test points in accordance with the details included on the Specification.

Provide all labour, materials, products, equipment and services to supply and install the lightning protection systems as specified in these specifications.

STANDARDS

Provide a lightning protection system in accordance with BS 6651 and IEC 61024 to protect the building structure and personnel from the risk of a lightning strike.

All electrical installations shall be carried out in accordance with the best International Standards and Codes of Practice specifically with the current issue of the IEE Regulations (BS 7671) and the condition of ICTAD publication for electrical installations.

The entire installation shall be installed and tested in accordance with the relevant British and International Standards and Ceylon Electricity Board requirement.

SCOPE OF WORK

1. Design, installation, testing and commissioning of the lightning protection system. The contractor responsible overall system.
2. All metallic projections, ducts, vent pipes, gutters, radio and television aerials on or above the main surface of the roof structure shall be bonded to and form part of the air termination network.
3. No joints in either the down conductor or roof conductors shall be allowed other than at air terminal, earth electrodes and terminal or test block positions.
4. Where it is found that the resistance to earth at any test point is in excess of 10 ohms, the length and number of earth electrodes shall be increased in order to comply with the requirements of the British Standard. The resistance of each metallic conducting path, including all joints, shall not exceed 6% of the calculated resistance of the copper tape itself. In addition, the resistance from the earth electrode to the nearest test clamp shall not exceed 0.2 ohms.
5. The Contractor shall include ensure that at the completion of the installation to resistance to earth from each testing point does not exceed 10 ohms, the tests being carried out in accordance with BS

7430. The Contract shall include for the performance of these tests and submitting the results to the Client

6. Connections to the earth electrodes shall not be covered over with top soil without the permission of the Client.
7. Upon completion of the works, submit a certificate of installation approved by a Chartered Electrical Engineer, registered at Ceylon Electricity Board to the Client.
8. The operating and Maintenance manuals shall be complete with system records to BS 6651 that includes the following items as a minimum:
 1. As built drawings
 2. Earth resistivity measurement.
 3. Earth electrode resistance.
 4. Details of earth electrode types and locations. Include a copy of the certificate in the O&M manuals.

LIGHTNING PROTECTION SYSTEM

The Contract shall include for the supply and installation of all necessary components to provide a complete lightning protective system to the buildings as detailed in the following Specification Sections in order that the building(s) may be protected against the effects of a lightning discharge in accordance with British Standard BS.6651.

The installation shall comprise air networks connected to roof and down conductors and finally terminated in earth electrodes, with suitable test points in accordance with the following Specifications

Each component shall be suitable for application and as specifically detailed in the following Specification

Conductor tape saddles shall be fixed to the walls by Round-head 37.5mm x No. 8 brass wood screws and rawl plugs, the saddles being spaced at not less than 600mm intervals. As an alternative the Contractor may cast pockets into the structural wall and secure studs via vast resin adhesive once the form-work is removed.

AIR TERMINATION

Multiple point air terminal (Finial) 16 mm diameter, 1200mm long copper rods on terminal base including all necessary accessories as required to make complete air termination.

ROOF CONDUCTORS

Provide a network using 25mm x 3mm copper tape around the roof area of the building. This shall be used to connect all down conductors, window cleaning track, cladding, spire, structural reinforcing and all other exposed conductive metal parts to a common potential.

The roof conductors shall be fixed to the roof surface by means suitable saddles, positioned at intervals not exceeding 600mm by suitable means, care shall be taken to ensure that any holes formed in the cladding, are effectively sealed to prevent ingress of water. This shall be confirmed by the Contractor.

DOWN CONDUCTORS

25mm x 3mm copper tape run along wall of the building which shall be supported / connected by tape clips /clamps with brass nut, bolts & spaced not more than 600mm. Finally copper tape should be connected to earth.

LIGHTNING PROTECTION TEST POINTS

Provide a joint for test purposes at approximately 1.5m from finished floor level in an accessible location, unless otherwise detailed, on every down conductor. The test link shall be of cast gun-metal and be proprietary manufactured to enable the electrode to be removed from the lightning protection system.

EARTH ELECTRODE

Individual down conductors shall be effectively bonded to suitable 3.60m long by 16mm diameter earth rods manufactured from hard drawn copper rod in the form of 1.20m sections. Each section shall be complete with internal screws and socket. The earth reference electrode shall be installed not more than 1.00m away from the building with the earth reference electrode head located not less than 500mm below the ground level. Final connection of the down conductor to the earth electrode shall be made by means of a pressure type connector clamp.

EARTH INSPECTION PITS

A concrete earth inspection pit shall be provided for each earth termination. Heavy duty covers suitable to withstand vehicular traffic shall be provided for pits located in the roadway areas. The lid of each pit shall be removable and jam free construction and supplied with the appropriate removable tool.

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SECTION 7

(Bill of Quantities)

Designing and Installing of Lightning Protection System for the Buildings of Marine Environmental Protection Authority at Dadalla, Galle

CONTRACT NO: 03/MEPA/Tender/2019/Major (34)

PREAMBLE TO THE BILL OF QUANTITIES

1. RATES AND PRICES

The bill of quantities (BOQ) and this preamble shall be read in conjunction with all the other documents forming the contract, for details of all conditions, obligations, liabilities and instructions which shall be complied with by the Contractor. The cost of complying with all such conditions, obligations, liabilities and instructions including all charges for overheads and profits shall be deemed to be spread over and included in the rates or sums inserted by the Contractor in the BOQ where they are not themselves covered by specific bill items.

All items of the work shall comply exactly with the contract unless otherwise approved by the Engineer and the rates and the sum inserted in the BOQ shall be deemed to apply to the work as specified. If, for his own convenience or reasons of availability, the Contractor proposes and the Engineer approves the use or provision of alternative items, materials or methods of working of equivalent or superior quality to those specified in the Contract, the rates and sums inserted in the BOQ shall not in any case be increased as a result.

2. QUANTITIES

The quantities of work and other items set forth in the BOQ are estimate only and are not to be considered as limiting or extending the amount of work to be done and other items to be provided by the Contractor. But any considerable variation of quantities with the BOQ must be informed to the Engineer for approval prior to its execution. The works as completed in accordance with the contract shall be measured and paid in accordance with the provision of the contract.

Where, for his own purpose or due to his default, the Contractor carries out the works in such a manner that the quantity of any item of work in a particular component to be measured for payment purposes differs from that shown on the drawings or directed by the Engineer, then payment shall be made according to the lesser of the actual quantity and that so shown or directed. An excess quantity in one part of the component shall not however be allowed to offset a deficit elsewhere in the same component for measurement purposes. Where the determination for payment purposes of the quantity of any items of the work depends upon the measurement of existing features or ground level and the like, then prior to carrying out any operations which might affect such measurement, the contractor shall first take such levels and measurements as the Engineer may direct and, after the Engineer has had the opportunity to check the same, they shall be certified as agreed by both Engineer and the Contractor. In the event that the Contractor fails to observe the above procedure, the Engineer shall determine the quantity to be assumed for payment purposes using the best information available to him, and his decision in the matter shall be final.

Item in the BOQ marked “PROVISIONAL QUANTITY “ or “ PROVISIONAL ITEM “ shall only be executed if they are the subjects of a written instruction from the Engineer. The Contractor is expected to substantiate his claims under these items, where applicable, with appropriate invoices, receipts etc. The rates set out for such items shall be used for the payment of the work so ordered by the Engineer, whether the quantities shown are used wholly or in part or not at all. The indicated provisional sum is the upper ceiling for the payment of the particular item.

3. UNITS

Metric units are used throughout the BOQ for measurement purposes unless otherwise indicated. Abbreviations used in the Contract are as follows:

mm	Millimetre	sq.m.	Square meter
cm	Centimetre	Ha	Hectare
m	Linear metre	cu.m	Cubic meter
km	Kilometre	No.	Numbers
g	Gram	cumec	Cubic metre per second
kg	Kilogram	Rs	Sri Lankan Rupee
l	Litre	Cts	Cents
MT	Tonne (Metric Ton.)	MHr	Machine hours

4. GUIDE TO BOQ

Schedule 01
Preliminary Items

Schedule 02
Construction Items.

MEASUREMENT NOTES

1). Provisional Sum Items in Schedule 1 of the Bill of Quantities

For items under Schedule 1 - Preliminaries, the provisional sums provided shall be the maximum amount payable under the item. Any cost over and above these sums, which the Contractor expects to spend, is deemed to be distributed by him in the unit rates for other items in the BOQ. The Contractor is expected to substantiate his claims under these items, where applicable, with appropriate invoices, receipts etc.

2). Lump Sum item in schedule 1 Bill of Quantities for obtaining Construction Management Services.

The details of the construction manager should have been provided by the Contractor in Annex-01 of this document with a firm commitment letter from him indicating that he provides his service to this particular construction work undertaken by the Contractor.

The amount quoted by the Contractor for this item is the maximum amount paid by the Employer for obtaining the said service by the Contractor throughout the construction period including any extension to the same. The Contractor should substantiate his claims under this item with the proofs regarding the assistance, guidance and services obtained from the construction manager with his acknowledgements for receiving the payments. The Engineer may consider the payments under this item only if construction manager effectively provided his service.

In accomplishment of all the above requirements, as the claim made by the Contractor, the payment will be made in Contractor's progress claims proportionate to the work completed in the contract to the total contract price.

3). Dealing with water

If an item carrying a Provisional Sum is included in the Schedule 2 of the Bill of Quantities for dealing with water, this item shall include for all works required for dealing with water from each and every source arising, where or not specifically referred to in the specification or shown on the drawing to enable all works to be carried out. Such works shall include, but shall not be limited to protection works, temporary diversions, cofferdams, channels, pipes, flumes, drains, ditches, stop boards and sumps and making good all damages caused by water.

MINIMUM REQUIREMENT OF CONCTACTOR'S SITE STAFF

The list of staff, above the supervisory grade, indicated in the schedule below is considered to be the minimum staff required at site for the execution of the Works under this Contract. However, the Bidder may revise the schedule to suit his requirements.

Cost of this staff is deemed to be covered under the unit rates for construction items by the Bidder.

Grade of Staff (1)	Required Qualifications (2)	Minimum No. of positions (3)	Bidder's Proposal	
			Qualification (4)	No. of positions (6)
Site Agent Cum Supervisors	Minimum 3 years experience as site agent in similar works or NDT with minimum 3 years in similar works	2		

VALUE ADDED TAX (VAT)

Value Added Tax (VAT) shall not be included in the unit rates for items in the Bill of Quantities and in the tender sum. **For evaluation purposes, it will be presumed that the Tender Sum does not include VAT.**

1. The **VAT** liability on the service rendered under the Contract shall be considered as a separate expenditure borne by the Employer, and not as a part of the Contract Price.
2. Those who intend to claim the **VAT** liability from the Employer shall be registered for **VAT** with the Department of Inland Revenue and should fill in the information required below:
 - a). Name of Contract:
 - b). Contract No:
 - c). Name & address of Bidder:
 - d). **VAT** Registration No.:
 - e). Bid Sum:
 - f). **VAT** sum at % due on the Bid Sum:
 - g). Signature of the Tenderer:

[A copy of the Certificate of **VAT** Registration should be attached]

Summary

Contract No – 03/MEPA/Tender/2019/Major (34)

Bill No.	Description	Amount (LKR)
1	Preliminaries	
2	Work	
SUB TOTAL 01 (Sum of Bill No 01 and 02)		
Deduction – Discount.... %(if any)		
SUB TOTAL 02		
GRAND TOTAL EXCLUDING VAT (To be transferred to Form of Bid)		
Total Bid Price (Amount in Words)		
Add - Value Added Tax (VAT 15%)		
GRAND TOTAL INCLUDING VAT		
VAT Registration No		

Signed:

Signature of Bidder

For and behalf of

.....

(Place the Common Seal)

Date:

Note: Bidders who are registered with Department of Inland Revenue for payment of VAT should be fill and annex a copy of certificate of Registration Issued by the Department. Bidder who is not registered for VAT Should Submit a letter from Department of Inland Revenue stating that they have not registered for VAT.

Bill of Quantities

BILL NO. 1: PRELIMINARIES

Item	Description	Unit	Qty	Rate LKR	Amount LKR	Amount in words
1.1	Allow Provisional sum for providing Security bonds and guarantees etc.	Provisional sum			9,000.00	Nine Thousand
1.2	Allow Provisional sum for providing a Performance Bond	Provisional sum			7,500.00	Seven Thousand Five Hundred
1.3	Allow Provisional sum for Insurance of property, materials and works at site	Provisional sum			4,500.00	Four Thousand Five Hundred
1.4	Allow Provisional sum for Third party insurance.	Provisional sum			4,500.00	Four Thousand Five Hundred
1.5	Allow Provisional sum for Insurance against accidents and injury to workmen.	Provisional sum			4,500.00	Four Thousand Five Hundred
1.6	Allow Lump sum for employment of following persons for construction management services.	Lump Sum				
1.7	Allow Provisional sum for Protecting & safeguarding the works, materials and plants against damage, trespass or theft.	Provisional sum			2,500.00	Two Thousand Five Hundred
	TOTAL FOR PRELIMINARIES CARRIED TO MAIN SUMMARY: BILL 01					

BILL NO. 02: WORK

Item	Description	Unit	Qty	Rate LKR	Amount LKR	Rate in words
	<p><i>Supply and installation of the following items for the complete lightning protection system of the building as per the Specifications and Drawings</i></p> <p><i>Rate include for all required exo-thermic weld joints, clamps, bonds, and fixing accessories.</i></p>					
1	Air Termination Network					
1.1	Multiple point air terminal (Finial) 16 mm diameter, 1200mm long copper rods on terminal base including all necessary accessories as required to make complete air termination.	Item	Allow			
1.2	<p>Provide a roof network using 25mm x 3mm copper tape around the roof area of the building. This shall be used to connect all down conductors, cladding, spire, structural reinforcing and all other exposed conductive metal parts to a common potential as specified</p> <p>Air termination roof network comprising bare copper tape 25mm x 3mm on roof. (Rate shall include all required joints, connections, clamps & fixing accessories).</p> <p>Bonding of all exposed metal work to the lightning protection system using 2.5mm² copper cable.</p>	Item	Allow			
1.3	25mm x 3mm copper tape (Down conductor) run along wall of the building which shall be supported / connected by tape clips /clamps with brass nut, bolts & spaced not more than 600mm. Finally copper tape should be connected to earth.	Item	Allow			

Item	Description	Unit	Qty	Rate LKR	Amount LKR	Rate in words
2	<u>Earthing System</u>					
2.1	<p>Down conductors shall be effectively bonded to suitable 3.60m long by 16mm diameter earth rods manufactured from hard drawn copper rod in the form of 1.20m sections. Each section shall be complete with internal screws and socket. The earth reference electrode shall be installed not more than 1.00m away from the building with the earth reference electrode head located not less than 500mm below the ground level. Final connection of the down conductor to the earth electrode shall be made by means of a pressure type connector clamp.</p> <p>Rate shall include for concrete earth pit and removable cover, all complete as per specifications</p>	Item	Allow			
3	Testing and Commissioning					
3.1	Testing and commissioning of the complete Lightning Protection System and issuing a certificate by a Chartered Electrical Engineer, registered at Ceylon Electricity Board.	Item	Allow			
4	Operating and Maintenance manual					
4.1	Providing three sets of operating and maintenance manuals	Item	Allow			
	TOTAL FOR WORK CARRIED TO MAIN SUMMARY: BILL 02					

VOLUME 2

SECTION 8

DRAWINGS

List of Drawings

No	Drawing Title	Drawing No.
1	OFFICE BUILDINDING	DRAWING NO 01
2	LABORATORY BUILDIND & REST ROOM	DRAWING NO 02
3	LOCATION MAP OF BUILDINS	DRAWING NO 03

SECTION 9

STANDARD FORMS [BID]

- **Bid Security**
- **Method Statement**

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: Chairman, Marine Environment Protection Authority of Sri Lanka, No: 177, Nawala Road, Narahenpita, Colombo 05.

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; if a joint venture, list complete legal names of partners] (Hereinafter called "the Bidder") has submitted to you its bid dated [Insert (by issuing agency) date] (Hereinafter called "the Bid") for the **"Designing and Installing of Lightning Protection System for the Buildings of Marine Environment Protection Authority at Dadalla, Galle"** under invitation for **Bids No.:** ("the IFB")

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 the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB") of the ITB; or
- (c) 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 the successful bidder, upon the earlier of (i) the successful bidder furnishing the performance security,, otherwise it will remain in force up to**2019**.

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

[Signature of authorized representative(s)]

Method Statements

The Bidder shall provide a method statement describing the methodology proposed to be adopted in the execution of the contract.

Annex - 01

Details to be furnished regarding Item No. 1.6 of BOQ - Contract Management Services

Furnish the names, qualifications and experience of the recommended personnel under item 1.6 of the Bill of Quantities in the Format given below. Include whether they are in-house or on contract, and if on contract, a firm commitment from the individual or the firm should be annexed.

No.	Category (Construction Manager as requested in cl.4.4 of bidding data)	Proposed man months (Full contract period)	Name	*Qualification/ Experience(CV to be attached)	In-house or Contract	Remuneration per man month

***Minimum Qualification:-**

B.Sc. Eng.(Electrical) or equivalent with 05 years experience out of which 3 years in relevant field and with charter qualifications obtained from a recognized Professional Institution of Engineers

Other details to be furnished under Bidding data - cl.4.3, regarding the key personnel to be employed for proper execution of works.

No.	Grade of staff)	Name	*Qualification/ Experience(CV to be attached)
	Site Agent cum Supervisor		

Annex – 02

Previous experience in similar works of the Bidder in the last 10 years.
(Attach certified copies of Certificate of Completion)

Client	Description of work, location, date of completion.	Time period	Value of work/ Contract

Annex – 03a

Works in Hand

Contract	Name of the Employer	Description of work (attach a copy of letter of award)	Date of award of contract	Value of contract	Contract period	Whether extension of time has been granted	Percentage completion as at present

Annex – 03b

AFFIDAVIT

I..... (Name of the bidder) of
.....
.....(addressed of the bidder), being a Buddhist/Christian/ Muslim/.....(religion) do
hereby solemnly, sincerely and truly declare and affirm as follows;

1. I am the Affirmant/sworn above named.
- 2 My National Identity Card No. is.....
- 3 I hereby declare and affirm that all information furnished in our tender including details submitted in Annex-2a as Work in Hand are true and correct.

.....

Signature

The above contents were read by the
affirmant who having understood the
same, affirmed/swore to and placed his
signature in my presence at
on this day of

}

Before me

.....
Justice of the Peace

Annex – 04**Check List for Bidders**

Bidders are advised to fill the following table:

ITEM	YES (tick)	REFERENCE
Form of Bid		
Addressed to the Employer ?		
Completed?		
Signed?		
Bid Security		
Submitted in the given format issued by an agency acceptable to employer. (ref. cl. 16.2 – Bidding Data		
Qualification Information		
All relevant information completed?		
Signed?		
Method Statement		
Bidder shall provide method Statement describing the methodology proposed to be adopted in the execution of work		
Addendum		
Contents of the addendum (if any) taken into account?		
Other		
Bidder's specifications for fittings?		
Affidavit completed as Annex-3b?		
Proof for liquid assets and/or credit facilities		
Construction programme?		
CV of personnel to be engaged in construction management services?		
List of Resources intent to be deployed for this tender?		
Schedule of Basic Labour Rates?		
Schedule of Prices of Materials for Day-Work?		
Schedule of Rates of Plants for Day-Work?		
Bidder's proposal on Contractor's Site Staff?		
BID package		
All the documents given in ITB Clause 12 enclosed in the original and copy?		
ITB Clause 19 followed before Sealing the Bid Package?		