



**COCHIN PORT AUTHORITY
COCHIN-682009, KERALA, INDIA**

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**TENDER DOCUMENT FOR REPAIR WORKS OF NTRO BUILDINGS UNDER
OPERATION & MAINTENANCE**

TECHNICAL BID (e-Tendering Mode)

Website:www.tenderwizard.com/CPT

**CHIEF ENGINEER'S OFFICE
COCHIN PORT AUTHORITY
COCHIN-682009**

TENDER No.T6/T-1982/2023-C

Rs.840/- (Rs.750 + 12% GST)

COCHIN PORT AUTHORITY

**TENDER FOR ‘REPAIR WORKS OF NTRO BUILDINGS UNDER OPERATION
& MAINTENANCE’.
(Tender No.T6/T-1982/2023-C)**

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SIGNATURE OF TENDERER

COCHIN PORT AUTHORITY



Chief Engineer's Office
Cochin Port Authority
W/Island , Cochin – 682009, KERALA
Tele: 91-0484-2666414/0484-258-2400
website: www.cochinport.gov.in

Tender No. T6/T-1982/2023-C

Date :27/02/2023

NOTICE INVITING TENDER

Electronic Tenders (**e-tenders**) on percentage basis are invited by Cochin Port Authority on behalf of GoI from reputed contractors in Single Stage Two Cover bidding procedure [Technical Bid and Financial Bid], meeting the Minimum Eligibility Criteria specified below for the work of “**Repair works of NTRO Buildings under Operation & Maintenance**”.

1. *Minimum Eligibility Criteria:*

a) **Experience**

The tenderers should have experience of having successfully completed during the last 7 (seven) years ending **31st January, 2023**, at least either:

i) Three Similar Works each costing not less than **Rs.2.46 lakhs**
(OR)

ii) Two Similar Works each costing not less than **Rs.3.07lakhs**
(OR)

iii) One Similar Work costing not less than **Rs.4.91 lakhs**

b) **Financial Turnover**

Average Financial Turnover of the tenderer over the last three financial years ending 31st March 2022 [2019-'20, 2020-'21 & 2021-'22] shall not be less than **Rs.1.84 lakhs**.

Explanatory Notes to a) & b) :

i. Similar work(s) means “**Civil Construction work / Civil Repair Works/ Civil Maintenance Works**”. The experience certificate of works executed

in private sectors/ organisations shall be considered for qualification, only on submission of TDS certificate along with work order and completion certificate.

- ii. Copy of completion certificates of each work issued by the owner/ responsible officer of the owner under whom he has executed such contract shall be attached. The certificate shall contain details of work involved specifying the nature of work, the completion cost of the work, date of commencement & date of completion of the work.
- iii. The works reckoned for the above purpose are those executed by the tenderers as prime Contractor or proportionately as member of joint venture or Sub Contractor. The Sub-Contractor shall be an authorized and approved Sub-Contractor by the Employer of the work(s) against which the tenderer has claimed his experience. The tenderer shall attach attested copy(s) of approval issued by the Employer(s) authorizing as a Sub-Contractor; in proof of the claim of the tenderer as a sub-Contractor. The tenderer is also obliged to produce the original of the certified copy(s) on request by the department.
- iv. Following enhancement factors will be used for the costs of works executed for bringing the financial figures to a common base value in respect of the works completed in the past years.

Table 1

Year before	Multiplying factor
One year	1.07
Two years	1.14
Three years	1.21
Four years	1.28
Five years	1.35
Six years	1.42

- v. **Financial Turnover:**
In proof of Financial Turnover Audited Annual Accounts Statements or IT returns duly acknowledged by the Income Tax department along with Computation Statement signed by the Auditor/ Chartered Accountant, for the last three years shall be produced by the tenderer..

2. Other Eligibility Considerations

2.1 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- i) made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or

ii) record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures, black listing/ debarring by Govt. departments etc.

2.2 The bidders having EPF/ ESI registration certificates only shall be considered for qualification in the tenderers, if applicable, as per EPF /ESI Acts. In case, the Tenderer does not have the required number of employees which makes such registration mandatory, an Undertaking as per Annexure I to the effect shall be furnished.

3. Pertinent information to the tender is given in the following Tables:

i) Schedule of different activities till submission of the bid are detailed as under:

Table 2

Sl. No.	Particulars	Date and Time
1	Tender e- publication date	27-02-2023
2	Download period of Bid Documents	27-02-2023 to 20-03-2023
3	Date of Pre-Bid meeting	Not Applicable
4	Last date for seeking clarification	20-03-2023
5	Last date and time of submission of Bid	20-03-2023 up to 14.30 hrs
6	Date and time of opening the Bid	20-03-2023 after 15.00 hrs

ii) Bid information :

Table 3

i)	Estimated Amount put to Tender	Rs.6,13,850/-
ii)	Earnest Money Deposit	Rs.6,140/- furnished through Demand Draft or Banker's Cheque drawn in favour of Financial Adviser & Chief Accounts Officer, CoPA from any Nationalised Bank/ Scheduled Bank in India.
iii)	Cost of Bid document	Rs.840/- (Rs.750/-+12% GST) (Non refundable) furnished either through Demand Draft/ Banker's Cheque drawn in favour of the Financial Adviser & Chief Accounts Officer, CoPA from any Nationalized Bank/ Scheduled Bank in India, being the cost of single copy of the tender document
iv)	Validity period of Tender	120 days from the Last Date of Submission of Bid.

v)	Time for Completion	2 Months
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4. This work essentially comprises of the following:
 - i. Painting with Acrylic Emulsion, Synthetic Enamel paint, tile guard paint, anticorrosive bitumastic paint, .
 - ii. Cleaning the underground sump.
 - iii. Providing and fixing pillar cocks, bib cocks, soap dish holder, mortice latch & lock etc.
 - iv. Taking out old concrete paver blocks, laying retrieved paver blocks etc.
 - v. Masonry with cement concrete blocks.
5. Tender documents can be downloaded from the e-Tendering portal www.tenderwizard.com/CPT on the dates specified in Table 2 given above by making online requisition. Bid document will also be available in Cochin Port website (www.cochinport.gov.in) as well as Govt. tender website, www.eprocure.gov.in, which can be downloaded for submission. The cost of bid document shall be furnished in the form of Demand Draft/ Banker's Cheque drawn in favour of FA & CAO, CoPA. The bidder shall submit the Originals of (i) DD / Bankers Cheque towards the cost of tender and EMD and (ii) Power of Attorney in favour of signatory(s) to the tender, with letter of submission in a sealed cover to the **Suptdg. Engineer(CM), Cochin Port Authority, W/Island, Cochin-682009, Kerala**, within 3 (Three) working days from the date of opening. **Non submission of original financial documents towards cost of tender document and EMD within 3 (Three) working days from the date of opening, will make the tender liable for rejection.**
6. The bidders need to obtain the one time User ID & password for log-in to in e-**Tendering** system from the service provider **KEONICS** by paying registration amount of **Rs.1124/-** by online Payment using Credit/Debit Card/Net banking or DD in favour of "KSEDCL, Bangalore".
7. The intending bidder must have valid Class-II or III digital signature certificate to submit the bid. For further details and to obtain the digital signature, please contact e-Tender Help Desk No.080-40482000 / 9746118529 / 9605557738.
8. Tenders shall be submitted "**online**" strictly in accordance with the Instructions to Tenderers and Terms & Conditions given in the tender document.
9. The bidder is responsible to download Addenda/ Amendments/ Errata/ Replies to the queries of the bidders etc., if any, issued by the Employer, from the website before submission of the bid. **Any shortfall in uploading the said Addenda/ Amendments/ Errata/ Replies to the queries of Tenderer etc. duly signed along with the downloaded documents while uploading the Tender will render the Tender incomplete and incomplete Tender Documents may be rejected.**
10. All Bids are to be submitted **online only** on the website www.tenderwizard.com/COPT. No Bids shall be accepted off-line (Hard copy).
11. Original DD / Bankers Cheque towards the cost of tender and EMD, shall be

submitted in a sealed cover to the **Suptdg. Engineer (CM), COCHIN PORT AUTHORITY, W/Island, Cochin-682009, KERALA**, and these original documents shall be reached to the employer within 3 (THREE) working days from the Bid Due date. Non submission of original financial instruments towards the cost of tender document, EMD, within the above period leads to **disqualification of Bids.**

12. The intending bidder must have valid Class-II or III digital signature certificate to submit the bid. **For further details, please contact e-Tender Help Desk No. 080-40482000/ 9746118529/9605557738.**

13. **EARNEST MONEY TO BE DEPOSITED**

13.1 Each tender should be accompanied by an Earnest Money amounting to **Rs.6,140/-**

13.2 The Earnest Money can be deposited through Demand Draft or Banker's Cheque or Pay Order from a Scheduled Bank in India, drawn in favour of Financial Adviser & Chief Accounts Officer, COCHIN PORT AUTHORITY. The original DD/ Banker's Cheque/ Pay Order shall be submitted to the SE(CM), COCHIN PORT AUTHORITY, Cochin-9, **within 3 (THREE) working days from the Bid Due date.** Scanned copy of the DD/ Banker's Cheque/ Pay Order shall be attached with the tender submitted "online". The Earnest Money deposited will not carry any interest.

13.3 EMD shall be refunded to the Contractor on acceptance of Performance Security and entering into agreement.

14. Cochin Port Authority will not be held responsible for any technical snag or net work failure during online bidding. It is the bidder's responsibility to comply with the system requirements i.e. hardware, software and internet connectivity at bidder's premises, to access the e-Tender portal. Under any circumstances, Cochin Port Authority shall not be liable to the bidders for any direct/indirect loss or damages incurred by them arising out of incorrect use of the e-Tender system or internet connectivity failures.

15. The Bidder shall submit Originals of: (i) DD / Banker's Cheque towards the cost of Tender document and EMD; and (ii) Power of Attorney along with letter of submission in a sealed cover **to the Suptdg. Engineer(CM), Cochin Port Authority, W/Island, Cochin – 682009, KERALA, , within 3 (THREE) working days from the Bid Due date. Non submission of original financial document towards cost of Tender document and EMD etc as above will be liable for rejection.**

16 Securities:

16.1 Security Deposit (SD) shall be 3% of the Contract value or value of the work done whichever is higher and it shall consist of the following:

a) **Performance Security** 3% of contract value payable on award of the work.

B) **Retention Money:** NIL

In case, where the value of work done exceeds Contract value, Additional Security Deposit @ 3% of the excess amount will be deducted from the RA Bills. While making payment, which will be released along with the

Performance Security only

The total amount thus deposited towards SD will be retained as security for the due and proper fulfillment of the Contract and will not carry any interest. Such deposit shall be forfeited on failure to perform or non-fulfillment by the Contractor of the terms and conditions of the Contract.

- 16.2 **Performance Security:** The Performance Security retained till end of Defect Liability period (1 year from the date of completion of work) shall be 3% of Contract Value or Cost of Work Done, whichever is higher. So, initially 3% of the Contract value shall be furnished as Performance Security.
In case, whether the value of work done exceeds Contract value, Additional Security Deposit @ 3% of the excess amount will be deducted from the RA Bills, while making payment, which will be released along with the Performance Security only.
- 16.3 The Security Deposit/ Performance Security @ 3% of the value of the contract awarded, shall be furnished by the Contractor to the Employer, not later than **14 days** from the date of letter of acceptance or such extension of that period as may be permitted by the Engineer in writing, and shall be furnished in one of the following forms:
- i) Banker's Cheque/Demand Draft/Pay Order of a Scheduled Bank.
 - ii) An irrevocable Bank Guarantee(BG) enforceable and encashable at Cochin, drawn from any Scheduled Bank operating in India as per the prescribed proforma.
- 16.4 The Security Deposit/ Performance Security retained till end of Defects Liability Period (**1 year from the date of completion**) shall be 3% of Contract Value or Cost of Work Done, whichever is higher. So, initially 3% of the Contract value shall be furnished as Performance Security. **The BG furnished towards the Performance Security shall be valid until a date 30 days from the day of expiry of the Defect Liability Period stipulated as per the terms of the Contract.**
- 16.5 Unless Performance Security is furnished within the period as specified above or such extension of that period as may be permitted by the Engineer in writing, tenderer will be suspended and shall not be eligible to participate in the tenders invited by COCHIN PORT AUTHORITY for a period of **Two Years from the date of such suspension order.**
- 16.6 **Retention Money:** NIL. In case, where the value of work done exceeds Contract value, Additional Security Deposit @ 3% of the excess amount will be deducted from the RA Bills. While making payment, which will be released along with the Performance Security only.
- 16.7 **The Performance Security retained till end of Defect Liability Period (1 Year from the date of completion) shall be 3% of Contract Value or Cost of Work Done, whichever is higher.**
- 16.8 If the Cost of Work done exceeds the Contract Value, the total amount retained as Security Deposit considering the Performance Security initially submitted together

- with the Additional Security Deposit recovered from the running account bills, shall amount to 3% of the Cost of Work done.
- 17 In the event of the tenderer, after the issue of the communication of acceptance of offer by the Board, failing /refusing to execute the agreement as hereinafter provided, the tenderer shall be deemed to have abandoned the Contract and such an act shall amount to and be construed as the Contractor's calculated and willful breach of the Contract, the cost and consequence of which shall be to the sole account of the tenderer and upon such an event, the Board shall have full right to claim damages therefore either together with or in addition to the forfeiture of Earnest Money Deposit.
- 19 **Signing of Agreement:**
- 19.1 The successful tenderer will be required to execute within **21 days** from the date of receipt of work order, an agreement at his expense on proper value Kerala State Stamp Paper in the prescribed departmental form, consisting of:
- a) The Tender Notice, all the documents including additional conditions/specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading there to, and
 - b) General Conditions of Contract-2016 (GCC), for the due and proper fulfillment of the Contract.
- 19.2 The Contractor shall make 10 copies of the Agreement and submit to CoPT within 7 days following the date of signing of Agreement.
- 20 Till signing of agreement the tender together with the acceptance letter shall constitute a binding Contract between the Contractor and Cochin Port.
- 1.21 Failure to comply with conditions **3ii(iv), 16 and 19** above will entail forfeiture of the Earnest Money.
16. **MSME Bidders who are registered with District Industries Centre (DIC) or Khadi and Village Industries Commission (KVIC) or Khadi and Village Industries Board (KVIB) or Coir Board or National Small Industries Corporation (NSIC) or directorate of Handicrafts and Handlooms or Udyog Aadhaar Memorandum or any other body specified by Ministry of MSME for similar nature of Works shall be eligible for issue of Bid Document free of cost and exemption from payment for issue of tender document & payment of EMD. They are required to submit documentary proof of such registration along with the offer, as detailed in Instructions to Bidders, for claiming the available exemptions and a scanned copy of Exemption Certificate duly notarized shall be uploaded in the e-Tender Portal. If the Registration Certificate does not pertain to the Category of 'Similar Works' mentioned above, the Tender will be rejected.**
17. The undersigned reserves the right to reject/cancel/postpone any one or all tenders at any stage of the tender, which shall be binding on all bidders.
- 18 Tenders which do not fulfill all or any of the above conditions or which contain any other condition of any sort including conditional rebates or are incomplete in

any respect is liable for rejection. Such tenders shall be entered in the tender opening register but their rates shall neither be read out nor entered in the register. Only remark mentioning the reason of rejection in brief shall be appended against such entry.

- 19 Canvassing in connection with tender is strictly prohibited and tenders submitted by the Contractors who resort to canvassing will be liable to rejection.
- 20 **Taxes and Duties:**
- 20.1 Deductions towards statutory taxes as per the rules, prevailing in force at the time of payment of bills shall be made while releasing the bill amount.
- 20.2. GST for the work will be paid extra by the Port. The GST applicable as per law can be billed on the Port Authority, which will be paid to the Contractor by the Board along with the bills, for which the Contractor holds valid GST Registration number and the GST is being collected. The following are also to be considered while claiming payment towards GST:
- i. Invoice in specific format should be provided by the Contractor for every payment.
 - ii. GST Registration Number of Cochin Port Authority and the Contractor is to be clearly mentioned with all the bills.
 - iii. Invoice should be attached along with the running bills.
 - iv. The Contractor shall comply all the GST regulations, viz.; timely uploading of invoices and issue of debit/ credit notes.
- 20.3. Any stipulation by a tenderer that taxes and duties deductible from these bills should be borne by the Port Authority will result in the summary rejection of his /their tender.
- 21 Cess as per Building and other Construction Workers Welfare Cess Act (Act 28 of 1996) at the rate of one percent or at the rates prevailing in force at the time of payment of bills, of the cost of construction should be borne by the Contractor and the same will be deducted from Contractor's bills while making payment or when crediting amount to Contractor's account.
- 22 This Tender Notice shall form part of the Contract.

Sd/-

Suptdg. Engineer(CM)
COCHIN PORT AUTHORITY
FOR AND ON BEHALF OF THE BOARD OF MAJOUR PORT
AUTHORITY FOR COCHIN PORT

2. TENDER FOR WORKS

To

**The Board of
Major Port Authority
for Cochin Port
Through
The Chief Engineer
Cochin Port Authority, Cochin-9**

I/We hereby tender for the execution of the work specified in the underwritten memorandum within the time specified in such memorandum at the rates specified in the schedule attached hereto and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in 'clause 16' of the General Conditions of Contract and with such materials as are provided for, by and in all other respects in accordance with such conditions so far as applicable.

MEMORANDUM

- a) General description of work : **Repair works of NTRO Buildings under Operation & Maintenance**
- b) Estimated cost : **Rs.6,13,850/-**
- c) Earnest Money : **Rs.6,140/-**
- d) Security Deposit : 3% of the value of the Contract awarded or value of the work done whichever is higher. (Performance Security @ 3%)
- e) Percentage, if any, to be deducted from the bills : In case, Where the value of work done exceeds Contract value, Additional Security Deposit @ 3% of the excess amount will be deducted from the RA Bills, while making payment, which will be released along with the Performance Security only.
- f) Time allowed for commencement of work from the date of receipt of work order : **7 days**
- g) Time allowed for the work from the date of commencement of work : **2 Months**
- h) Schedule, specifications, conditions, drawings etc. : As per "Contents" sheet attached.

Should this tender be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of Contract annexed here to so far as applicable or in default thereof forfeit and pay to the Board the sum of money mentioned in the said conditions and to execute an agreement with the Board in the prescribed form or in default thereof to forfeit the Earnest Money deposited by me/us. The sum of Rs..... has been deposited with Financial Adviser and Chief Accounts Officer of the Port Authority as Earnest Money: (a) the full value of which is to be absolutely forfeited to the Board in office without prejudice to any other rights or remedies of the said Board in office should I/We fail to commence the work specified in the Contract Data or should I/We not deposit the full amount of Performance Security specified in the Contract Data in accordance with clause 52 of the said conditions of Contract otherwise the said sum of Rs. shall be retained by the Board as on account of such security deposit as aforesaid; or (b) the full value of which shall be retained by the Board on account of the security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Contract Data and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 40.3 of the Conditions of Contract.

Dated the day of 2023

Signature of the Tenderer

Address :

Witness :

Address :

Occupation :

ACCEPTANCE

The above tender is hereby accepted by me for and on behalf of the Board.

Dated theday of2023.

Dated.....

Chief Engineer

COCHIN PORT AUTHORITY

3. CONTRACT DATA

Items marked “N/A” do not apply in this Contract.

Sl. No.	Description	Reference Clause No. in GCC																
1	<i>The following documents are also part of the Contract</i>																	
	The Schedule of other Contractors	(8.2)																
	The Schedule of Key personnel – As per Tender	(9)																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Qualification of Staff</th> <th style="text-align: center;">No.</th> <th style="text-align: center;">Min. Experience (Years)</th> <th style="text-align: center;">Rate of recovery in case of non-compliance</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Graduate Engineer</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Rs.15,000/- p.m</td> </tr> <tr> <td style="text-align: center;">or</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">Diploma Engineer</td> <td style="text-align: center;">1</td> <td style="text-align: center;">5</td> <td style="text-align: center;">Rs.15,000/- p.m</td> </tr> </tbody> </table>	Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non-compliance	Graduate Engineer	1	2	Rs.15,000/- p.m	or				Diploma Engineer	1	5	Rs.15,000/- p.m	
Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non-compliance															
Graduate Engineer	1	2	Rs.15,000/- p.m															
or																		
Diploma Engineer	1	5	Rs.15,000/- p.m															
2	The Employer is:	(1)																
	The Board of Major Port Authority for Cochin Port, Cochin Port Authority, Cochin -9.																	
	Name of Authorized Representative:																	
	Name : Dr. M. Beena, Chairperson, Cochin Port Authority, Cochin -9.																	
3	The Engineer is																	
	Name : Shri. Paritosh Bala, Chief Engineer, Cochin Port Authority, Cochin-9.																	
	Name of Nominee/Engineer-in-Charge: Name: Sri. Sathyan.A.G, Suptdg. Engineer(CM)																	

Sl. No.	Description	Reference Clause No. in GCC				
4	Name of Contract- Repair works of NTRO Buildings under Operation & Maintenance. Tender No. T6/T-1982/2023-C	(1)				
5	10 copies of Contract Agreement shall be furnished by the Contractor	(7.1)				
6	Tender document and other data are available at Cochin Port web site, Government of India CPP Portal and e – tendering portal. www.cochinport.gov.in www.eprocure.gov.in www.tenderwizard.com/CPT	(7.2)				
7	The Intended completion date for the whole of the Work is 2 Months with the following milestones:	(17,28)				
8	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="313 982 732 1104" style="text-align: center;">Physical works to be completed</td> <td data-bbox="732 982 1130 1104" style="text-align: center;">Period from the date of receipt of LoA to proceed with the work</td> </tr> <tr> <td data-bbox="313 1104 732 1226" style="text-align: center;">2 Months</td> <td data-bbox="732 1104 1130 1226" style="text-align: center;">7 days</td> </tr> </table>	Physical works to be completed	Period from the date of receipt of LoA to proceed with the work	2 Months	7 days	
Physical works to be completed	Period from the date of receipt of LoA to proceed with the work					
2 Months	7 days					
9	<p>The following shall form part of the Contract Document:</p> <ol style="list-style-type: none"> (1) Agreement (2) Letter of Acceptance (3) Bill of quantities (4) Contractor’s Bid (5) Correspondence exchanged after the opening of the Bid and before the issue of Letter of Acceptance by which the Condition of Contract are amended, varied or modified in any way by mutual consent (to be enumerated). (6) Contract Data (7) General Conditions of Contract (8) General Description and Special Conditions of Contract (9) Technical Specifications (10) Drawings if any and 	(2.3)				

Sl. No.	Description	Reference Clause No. in GCC
	(11) Any other documents listed in the Contract Data as forming part of the Contract.	
10	The Contractor shall submit a Program for the Works within 21 days of date of the Letter of Acceptance.	(27)
11	The site possession date The site will be handed over within 7 days after issue of LoA.	(21)
12	The start date shall be 7 days from the date of receipt of the Letter of Acceptance (LoA) by the Contractor.	(1)
13	The site is located in W/Island.	
14	The Defects Liability Period: One year from the date of completion of the work.	(36)
15	The minimum insurance cover for physical property, injury and death is Rs.10 lakhs (Rupees Ten lakhs) per occurrence with the number of occurrences unlimited. After each occurrence, Contractor will pay additional premium necessary to make insurance valid always. Also refer Clause 4 of Special Conditions of Contract – Section III of this tender document.	(13)
16	The following events shall also be Compensation Events: NIL	(44)
17	The period between Programme updates shall be 30 days.	(27)
18	The amount to be withheld for late submission of an updated programme shall be ----- NA	(27)
19	The language of the Contract documents is English.	(3)
20	The law, which applies to the Contract, is the law of Union of India.	(3)
21	The currency of the Contract is Indian Rupees.	(46)
22	The proportion of payments retained (Retention Money) shall be 3% from each bill subject to a maximum of 3% of the contract price. - NA	(48)
23	The maximum amount of Liquidated Damages for the whole of the works is 10% of the Contract Price.	(49)
24	The amounts of the advance payments :	(51)

Sl. No.	Description	Reference Clause No. in GCC
	The advance payments as applicable to the contract are: NA	
25	Repayment of advance payment for mobilization: NA	(51)
26	Repayment of advance payment for Construction and equipment: NA	(51)
27	Repayment of Secured Advance	(51)
28	The date by which “as-built” drawings are required is within 90 days of issue of certificate of completion of whole or section of the work, as the case may be: NA	(58)
29	The amount to be withheld for failing to supply “as built” drawings and/or operating and maintenance manuals by the date required is ----- NA	(58)
30	Schedule of Rates Applicable: CPWD DSR 2018 + 55% Cost Index x 0.8768 for deducting GST.	
31	Base Rate for materials to be considered for price variation NA	(47)
32	Permissible wastage on theoretical quantities of (a) Cement : (+) 2% (b) Steel Reinforcement and structural steel sections for each diameter, section and category : (+) 5.99 % (c) Bitumen/Bitumen emulsion : (+) 2.5%	(47)

4. INSTRUCTIONS TO TENDERERS

- 4.1 Electronic Tenders (e-tenders) on percentage basis under “Two Cover system” are invited for **“Repair works of NTRO Buildings under Operation & Maintenance”**
- 4.2 The tenderer shall submit the tender Cover-A (Hard Copy of EMD & Cost of Tender form) **within 3 (THREE) working days from the Bid Due date**. All the Technical Bid documents & Price Bid shall be submitted **“online”**.
- 4.3 The Tender Document will be available as three separate files in the e-tendering Portal:
- i. A. Technical Bid Documents (as per Sl. No 1 to 7 of the Contents sheet)
 - ii. B. Price Bid: Schedule of quantities of Work- Schedule-A and
 - iii. C. General Conditions of Contract-2016
- 4.4 The tenderer shall upload the documents indicated in 4.3 (i) & (iii) above and also the Schedule of Quantities(Percentage) [as per Cl.4.3(ii), duly filled in, **“online”**].

4.5 SUBMISSION OF TENDERS

- 4.5.1 The Cover A shall contain – hard copy of EMD & Cost of Tender form as mentioned in Table 3 of Tender Notice shall be submitted **within 3 (THREE) working days from the Bid Due date**.

4.5.2 Technical Bid (Online mode)

Technical Bid shall contain all technical and commercial details except Schedule of Quantities. It shall consist scanned/ soft copies of the following documents.

- a) A covering letter from the tenderer enlisting the enclosures/ attachments.
 - b) Original Tender Document (Technical Bid) except Schedule of Quantities.
 - c) Copy of the documents in proof of fulfillment of the Minimum Qualification Criteria.
 - d) Copy of PAN Card, ESI/EPF & GST Registration documents.
 - e) Copy of Authorisation documents of Signatory of the bid in case of Registered Partnership firm / Limited company
 - f) Partnership deed or Memorandum and Article of Association of the company and registration certificate of the company as the case may be.
 - g) Any other relevant document.
- 4.5.2.3 Scanned copies of all documents as per Clause 4.5.2, EMD and Cost of Tender Form shall be submitted as “Technical Bid”.
- 4.5.2.4 Departmental Tender Document (except Schedule of Quantities), along with scanned copies of Cost of Tender form, EMD and other documents as per Clause 4.5.2 shall be submitted **‘online’** before 14.30 hrs of opening date of the Tender.

In no case shall filled in Price Bid - Schedule of Quantities be submitted in hard copy, as it shall result in rejection of the tender.

4.5.3 Price Bid:

4.5.3.1 Price Bid shall contain only the “Schedule of Quantities”, which shall be submitted only in e-tendering mode.

4.5.3.2 **Tenderer should ensure that his tendered percentage as per ‘Price Bid’ is not mentioned anywhere in any other documents, directly or indirectly. If any such mention is made, the tender will become invalid and shall become liable for rejection.**

4.6 Minimum Eligibility Criteria:

a) Experience

The tenderers should have experience of having successfully completed during the last 7 (seven) years ending **31st January, 2023**, at least either:

iv) Three Similar Works each costing not less than **Rs.2.46 lakhs**
(OR)

v) Two Similar Works each costing not less than **Rs.3.07lakhs**
(OR)

i) One Similar Work costing not less than **Rs.4.91 lakhs**

b) Financial Turnover

Average Financial Turnover of the tenderer over the last three financial years ending 31st March 2022 [2019- '20, 2020- '21 & 2021- '22] shall not be less than **Rs.1.84 lakhs.**

Explanatory Notes to a) & b) :

i. Similar work(s) means “***Civil Construction work / Civil Repair Works/ Civil Maintenance Works***”. The experience certificate of works executed in private sectors/ organisations shall be considered for qualification, only on submission of TDS certificate along with work order and completion certificate.

ii. Copy of completion certificates of each work issued by the owner/ responsible officer of the owner under whom he has executed such contract shall be attached. The certificate shall contain details of work involved specifying the nature of work, the completion cost of the work, date of commencement & date of completion of the work.

iii. The works reckoned for the above purpose are those executed by the tenderers as prime Contractor or proportionately as member of joint venture or Sub Contractor. The Sub-Contractor shall be an authorized and approved

Sub-Contractor by the Employer of the work(s) against which the tenderer has claimed his experience. The tenderer shall attach attested copy(s) of approval issued by the Employer(s) authorizing as a Sub-Contractor; in proof of the claim of the tenderer as a sub-Contractor. The tenderer is also obliged to produce the original of the certified copy(s) on request by the department.

- iv. Following enhancement factors will be used for the costs of works executed for bringing the financial figures to a common base value in respect of the works completed in the past years.

Table 1

Year before	Multiplying factor
One year	1.07
Two years	1.14
Three years	1.21
Four years	1.28
Five years	1.35
Six years	1.42

- v. **Financial Turnover:**
In proof of Financial Turnover Audited Annual Accounts Statements or IT returns duly acknowledged by the Income Tax department along with Computation Statement signed by the Auditor/ Chartered Accountant, for the last three years shall be produced by the tenderer..

c) Other Eligibility Considerations

- i. Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:
made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures, black listing/ debaring by Govt. departments etc.

- d) **The bidders having EPF/ ESI registration certificates only shall be considered for qualification in the tenderers, if applicable, as per EPF /ESI Acts. In case, the Tenderer does not have the required number of employees which makes such registration mandatory, an Undertaking as per Annexure I to the effect shall be furnished.**

4.7. OPENING AND EVALUATION OF TENDERS

- 4.7.1 Technical Bids of the tenders received shall be opened at 15.00 hrs. on **20/03/2023**, the last date fixed for receiving the bid, in the SE’s chamber in the presence of the tenderers or their representatives as may be present.

4.7.2 After opening the Technical Bid documents, it shall be thoroughly checked for completeness with respect to the details stipulated to be submitted as Technical Bid by the tenderer. The Price Bid of those tenderers satisfying the tender requirements shall only be opened. The Price Bid of those tenderers who are found responsive and satisfactory on evaluation of Technical Bid documents, will be opened after bringing all tenderers to the same footing and giving notice to the short listed tenderers, on a date to be decided and intimated later.

4.8 GENERAL INSTRUCTIONS TO TENDERERS

4.8.1 The submission of a tender by the tenderer implies that he has read the whole tender Documents including GCC-2016.

4.8.2 The tenderer is advised to visit and examine the site of work and its Surroundings, discuss with connected agencies and collect all necessary information on his own responsibility for preparing the tender.

4.8.3 The tenderer is expected to examine the Tender Documents including all conditions, specifications, forms etc and also conditions in the G.C.C. Failure to furnish the information required in the Tender Documents/ G.C.C. or submission of a tender not conforming to the requirements in every respect, is likely to result in the rejection of the tender.

4.8.4 The tenderer shall quote for the work on percentage basis. The departmental rate for each item of work is given in the Schedule of Quantities. The tenderer shall fill the percentage above or below the Departmental rate, in the column provided for the purpose in the Schedule.

4.8.5 In case of discrepancy between the specifications and the drawings, the following order of preference shall be observed:

- a. Conditions & Specifications of tender
- b. Drawings.
- c. B.I.S Specifications.
- d. Sound Engineering Practice.

4.8.6. If there are varying or conflicting provisions made in any document forming part of the Contract, the Chief Engineer, Cochin Port Authority, Cochin-682009 shall be the deciding authority with regard to the intention of the document which will be binding on the tenderer/ Contractor.

4.8.7 Any error in description, any omissions there shall not vitiate the Contract or release the Contractor from the execution of whole or any part of the works comprised therein according to specifications or from any of his obligation under the Contract.

4.8.8 The Chief Engineer, Cochin Port Authority shall have the right to omit or Suspend certain items of work or revise or amend the Tender. Documents at any time prior to the due date of submission of the tender. Such revisions or amendments or extensions if any, shall be communicated to all the bidders who have downloaded the Tender Documents, in the form of an addendum by telefax /e- mail / writing. In order to afford the Bidders with reasonable time to take addendum into

account, or for any other reason, the Port Authority may, at its discretion, extend the due date for submission of tender.

4.8.9 All payments due to the Contractor under this Contract will be made in Indian Rupees only.

4.8.10 Tenders received after the date specified for submission shall not be opened.

4.8.11 The Bank Guarantees (BGs) to be furnished by the Contractors in connection with the tender shall be sent to by the Chief Engineer, Cochin Port Authority directly by the issuing bank under registered post with AD. The Contractor shall take the responsibility of sending BGs directly to the Port Authority by the issuing bank.

SIGNATURE OF TENDERER.

5. GENERAL DESCRIPTION AND SPECIAL CONDITIONS OF CONTRACT

1. SCOPE OF WORK

1.1 The proposed work is for “**Repair works of NTRO Buildings under Operation & Maintenance**”. The work consists of the following:

- i. Painting with Acrylic Emulsion, Synthetic Enamel paint, tile guard paint, anticorrosive bitumastic paint, .
- ii. Cleaning the underground sump.
- iii. Providing and fixing pillar cocks, bib cocks, soap dish holder, mortice latch & lock etc.
- iv. Taking out old concrete paver blocks, laying retrieved paver blocks etc.
- v. Masonry with cement concrete blocks..

1.2 The work shall be meticulously planned in consultation with the departmental supervisory staff and nearby users, so that minimum inconvenience is caused to the functions of the wharf.

2. WORK SITE

The work has to be carried out is NTRO Building at Willingdon Island near Cochin Port’s Container Freight Station. The site is accessible through road. Security rules and regulations including obtaining passes etc. for work are to be observed by the contractor. The work is to be carried out without disturbing the normal Port operations.

3. TIME SCHEDULE AND MONITORING OF PROGRESS

3.1 The tenderer shall prepare and attach with the tender a detailed work schedule indicating key activities and critical items for completing the work within the stipulated Contract period of **2 Months**. This time schedule will form the basis for monitoring the progress of work.

4. MATERIALS / FACILITIES TO BE PROVIDED BY DEPARTMENT

4.1. CONTRACTOR'S WORK AREA

Space will be made available to the Contractor free of rent for storing materials and equipments etc., adjacent to the work site for the duration of the Contract. After the work is over, Contractor shall at his cost, reinstate the area by clearing the temporary works, debris etc. as decided by the Engineer’s Nominee.

5. CONTRACTOR'S RESPONSIBILITY

- 5.1 The tenderer shall visit the area before tendering. It will be deemed that the tenderer has visited the site and studied the site conditions before submitting the tender. The tenderer should get himself acquainted with the nature and extent of the work. No claim whatsoever will be entertained on the plea of ignorance of difficulties involved in execution of work or carriage of materials etc.
- 5.2 All materials, plants and equipments, required for the work shall be provided by the Contractor at his own cost, and shall conform to relevant I.S. Specification unless otherwise specified.
- 5.3 Samples of all materials, to be incorporated in the work shall be got approved by the Engineer's Nominee before procurement.
- 5.4 The Contractor shall thoroughly study the specifications and errors / omissions/modifications if any shall be brought to the notice of the Engineer – in-Charge well in advance so that a final decision in the matter could be given in time.
- 5.5 All labour, skilled or unskilled shall be provided by the Contractor. Settling any dispute with the labour will be Contractor's responsibility. Insurance as per Indian Workmen's Compensation Act for the Contractors' workmen and Public Liability Policy shall be provided by the Contractor at his own cost.
- 5.6 The Contractor shall be solely responsible for any damage or injury to the persons or things caused or suffered during the execution of the work and shall be made good or compensated at his own cost.
- 5.7 The Contractor shall take all care and precautionary measures for avoiding any kind of damage/accidents in the work site due to any of his reasons. The Contractor shall indemnify the Port against any compensation whatsoever payable to the workmen for accident or loss arising out of and in the course of their employment under this Contract.
- 5.8 The work shall be arranged by the Contractor without causing any damage to Port structures. Any damage or accident caused by the Contractor's operation shall be compensated / made good at Contractor's risk and cost to the satisfaction of the Engineer's Nominee of the works, failing which department will do the rectification work and the cost incurred will be recovered from his bill or from security deposit.
- 5.9 The Contractor shall not construct any structure, even of temporary nature, for any purpose at site, except with the written permission of the Engineer's Nominee of the work and any construction so put up shall be removed by the Contractor whenever the Engineer's Nominee calls upon the Contractor to do so.
- 5.10 The Contractor shall remove all temporary works, clear and make good the site, at his cost to the satisfaction of the Engineer's Nominee before the site is returned to the Port Authority. All materials shall be disposed to any place as pointed out by the Engineer's Nominee of the work and site shall be cleared in every respect at no extra cost after completion of work.
- 5.11 The Contractor shall remove all materials brought to work site / stacked at the

work site or anywhere else within the Port area and clear the site at his cost to the full satisfaction of the Engineer's Nominee before the site is returned to the Port Authority. All such materials including debris, tools & plants etc. shall be disposed off to any place as pointed out by the Engineer's Nominee or be taken away from the location and shall be cleared in every respect and to reinstate to its original condition at no extra cost to the Port Authority immediately after completion of the work. In case, any such material is found left in the work site or anywhere in the Port area, rent for the storage space occupied by the Contractor, either for stacking the materials /debris or for areas used for such purpose but not cleared thereafter, will be recovered as per the prevailing Scale of Rate of Cochin Port Authority, for the rent applicable for open storage space for commercial purpose, for the period for which the area had been occupied by the Contractor. In addition to the above, in case the Port requires the area immediately for its use, Port will repossess the land after restoring it to its original condition, material will be confiscated and disposed off at the risk and cost of the Contractor, after issuing two notices giving 15 days' time each for removing the material. All expenses incurred in this shall be recovered by disposing off the material if any confiscated. If any balance amount still remains to be realized that will be recovered from the Contractor by appropriate means.

- 5.12 The Contractor shall observe all safety regulations during the execution of the work. Safety measures, precautions, warning signals etc. shall be taken/provided at the Contractor's cost, as directed by the Engineer-in-Charge of the work. The Contractor shall provide all necessary personnel protection equipments such as helmet, lifeguard, goggles, boots, safety belts etc. to the workmen at his own cost and it shall be the Contractor's responsibility to ensure that they use it while on the work site.
- 5.13 The Contractor shall ensure that no labourers with criminal background are engaged for the work.
- 5.14 The contractor shall take all precautions for not to damage any cables, pipelines etc. passing through the area of work.
- 5.15 The Contractor shall comply with all the provisions of the Indian Workmen's Compensations Act, Public Liability Policy, Provident Fund Regulations, Employees Provident Fund and ESI Act etc. amended from time to time and rules framed there under and other laws affecting the Contract labour that may be brought in to force from time to time.
- 5.16 The bidders having EPF/ ESI registration certificates only shall be considered for qualification in the tenderers, if applicable, as per EPF /ESI Acts. In case, the Tenderer does not have the required number of employees which makes such registration mandatory, an Undertaking as per Annexure I to the effect shall be furnished..**
- 5.17 The Contractor shall provide, at every work place, at which 20 or more women workers are ordinarily employed, crèches of reasonable size and with adequate facility for the use of their children under the age of six years at his risk and cost.

5.18 The Contractor shall also be responsible for arranging and carrying out works as mentioned in Clauses 1.1 & 1.2 above.

5.19 Defect Liability period of the work is one year from the date of completion of the work.

6. POWER AND WATER

6.1 Electric power required for the work can be supplied by the department from the nearest existing line of the Port Authority at prevailing rates. The cost of drawing temporary lines/ cables/ providing switches and making connection and metering arrangements etc, shall be borne by the Contractor. If there is any disruption in the power supply due to supply failure/ restrictions imposed by the Kerala State Electricity Board, the department shall not be held responsible and the Contractor has to make suitable alternative arrangements at their cost.

6.2 Water required for the work shall be arranged by the Contractor at his own cost.

7. WORKMANSHIP

7.1 All the works shall be done strictly according to relevant B.I.S. specifications unless otherwise specified. Whenever special conditions and other specifications deviate from the B.I.S. the former shall prevail.

7.2 The whole work shall be completed in a diligent manner within the Contract period and defect or imperfection if any, observed during the Defect Liability Period/ guarantee period the same shall be rectified at Contractor's cost to the full satisfaction of the Engineer's Nominee within the time allowed.

7.3 Precautions shall be taken for not to damage cables/ pipe lines etc.

7.4 The work shall be arranged in the order of preference and as directed by the Engineer's Nominee of work.

8. TEMPORARY WORKS

8.1 All scaffolding, staging, bracing and other temporary works required for proper execution of the works, shall be provided by the Contractor at his own cost, unless stated otherwise and that should be inclusive of all materials, labour, supervision and other facilities. The layout and details of such temporary works shall have prior approval of the Engineer's Nominee, but the Contractor shall be responsible for proper strength and safety of the same. All temporary works shall be so constructed as not to interfere with any permanent work or with the work of other agencies. If it is necessary to remove any of the temporary works at any time to facilitate execution of works or work by other agencies, such removal and re erection, if required, shall be carried out by the Contractor at the direction of Engineer's Nominee without any delay and any extra cost on this account shall be borne by the Contractor.

8.2 On completion of the works, temporary works if any provided by the Contractor shall be removed from the site and the area shall be reinstated to the original condition at his own risk and cost.

9. TIME FOR COMPLETION

9.1 The time allowed for carrying out the work as mentioned in the memorandum shall be strictly observed by the Contractor. The work shall throughout the time

period be proceeded with diligence, time being deemed to be the essence of the Contract. The number of days lost due to heavy rain shall be certified by the Engineer's Nominee. The Contract period shall be extended for such certified days also without imposing compensation for delayed performance.

9.2 The whole work shall be completed in accordance with the provisions under Contract Data or such extended time as may be allowed as per clause 29 of G.C.C.

10. WORKING TIME

The normal working time of the Port Authority is from 8 a.m. to 4.00 p.m. on all weekdays. If the Contractor wishes to carry out the work beyond normal working hours and or on holidays, he should get specific approval from the Engineer's Nominee for the same. Necessary supervision will be arranged by the department and the expenditure to be incurred in this connection will be borne by the department.

11. RATES FOR VARIOUS ITEMS

The rate specified for each item shall be all inclusive value of the finished work, income tax and other taxes but excluding Service Tax.

12. ALTERATIONS / ADDITIONS / OMISSIONS

The quantities given in the bill of quantities (Schedule of items) are only approximate and payment will be made as per actual quantity of work done and rate specified.

13. MEASUREMENT

The quantities shall, unless otherwise stated, be measured in accordance with I.S.1200.

14. For levying compensation as per Clause-49 of General Conditions of Contract (GCC), the Employer is not required to have documentary evidence to quantify or prove the losses suffered by the Employer due to delay in completion of work by the Contractor, as per conditions.

15. Clause-25 of GCC- 'Settlement of Disputes and Arbitration' is not applicable in this Contract.

16. Clause-26 of GCC- 'Computerised Measurement Book' is modified to the extent as detailed below.

Measurements of Work Done:

Executive Engineer (hereinafter called the Engineer's Nominee) shall, except as otherwise provided, as certain and determine by measurement the value in accordance with the Contract of work done.

All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the Contract.

All measurements and levels shall be taken jointly by the Engineer's Nominee or his authorised representative and by the Contractor or his authorised representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer's Nominee and the Contractor or their

representatives in token of their acceptance. If the Contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.

If for any reason the Contractor or his authorised representative is not available and the work of recording measurements is suspended by the Engineer's Nominee or his representative, the Engineer's Nominee and the Department shall not entertain any claim from Contractor for any loss or damages on this account. If the Contractor or his authorised representative does not remain present at the time of such measurements after the Contractor or his authorised representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer's Nominee or his representative shall be deemed to be accepted by the Contractor.

The Contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The Contractor shall give not less than seven days' notice to the Engineer's Nominee or his authorised representative in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer's Nominee or his authorised representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer's Nominee's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer's Nominee or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this Contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or

final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the Contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

17. Clause 45 and Clause 80 of GCC shall be modified as below;

Clause 45-Rates for items to be inclusive of Taxes The rate quoted by the Contractor shall be inclusive of the cost of provision of plant and equipment, materials, labour, execution, supervision, maintenance, overheads and profits and every incidental and contingent cost and charges whatsoever excluding Goods and Service Tax (GST). GST as may be applicable from time to time shall be shown separately in the invoice. The Employer will perform such duties in regard to the deduction of such taxes at sources as per applicable law. Any new Taxes, levies, duties imposed after signing the Contract shall be reimbursed by the Employer on production of documentary evidence. The invoice to be submitted by the Contractor should include the GST Registration Number of the Contractor as well as the Employer.

Clause 80-Taxes and Duties Income Tax The Contractor and his staff shall be responsible for payment of all personal income taxes to the concerned authorities as per the law in force from time to time. Deduction of Income Tax shall be made by the Employer from each certificate of payment to the Contractor at the rate of 2% plus surcharge or such other rates as may be specified by the Central Government from time to time, on the gross amount of the Contractor's bill for payment. The Contractor shall comply all the GST Regulations viz. timely uploading of bills, issue of debit/ credit notes etc.

18. Sub clause 43.2 under Clause 43:Payments,..... in GCC 2016 stands amended as given below:

43.2 Payment of bills for Civil Works shall be regulated as detailed hereunder:

43.2.1 Any Interim/Final bill which is incomplete in any respect shall be returned to the Contractor within 5 days of date of submission of bill to the Engineer or his Nominee.

43.2.2 Interim bills shall be paid within 21 days of date of submission of bills in full shape, by the Contractor, as detailed below.

43.2.3 Clarifications/corrections if any required on an Interim bill submitted, shall be sought from the Contractor within 4 days of submission of the bill and also, all such clarifications/corrections required shall be sought at one go except in exceptional circumstances. The Contractor shall submit the clarifications including carrying out corrections in the bill, if required, within 4 days thereafter. The clarified / corrected bill shall be verified and forwarded to Finance Department within the next 4 days. Clarifications if any required by the Finance Department shall be sought within 3 days and the Engineer/Nominee shall clear it on top priority within the next 3 days and, finally, the bill shall be paid to

the Contractor within 3 days thereafter, i.e., within a total 21 days of date of submission of bills in full shape, as indicated above.

43.2.4 However, on request by the Contractor, 75% of the bill amount shall be paid within 7 days of submission of the bill. Balance amount of the verified bill shall be paid within 21 days of the submission of the bill, on completion of all contractual requirements as brought out at sub clause 43.2.3. above.

43.2.5 Final bill shall be paid within 3 months of issue of Taking Over Certificate by the Engineer / Nominee, as detailed below.

43.2.6 The Contractor shall submit the Final bill to the Engineer / Nominee within 20 days of issue of Taking Over Certificate by the Engineer / Nominee. The bill shall be checked and all clarifications/corrections required on the bill submitted, shall be sought from the Contractor within 15 days thereafter. The Contractor shall submit the clarifications including carrying out corrections in the bill, if required, within the next 10 days. The clarified / corrected bill shall be verified and forwarded to Finance Department within the next 15 days. Thereafter, clarifications if any required by the Finance Department shall be sought within 10 days and the Engineer/Nominee shall clear it on top priority within the next 10 days and, finally, the bill shall be paid to the Contractor within 10 days thereafter, i.e., within a total 3 months of issue of Taking Over Certificate by the Engineer / Nominee, as indicated above.

43.2.7 However, on request by the Contractor, 50% of the final bill amount shall be paid within 7 days of submission of the bill, which will be adjusted against the final bill payment, on completion of all contractual requirements as brought out at sub clause 43.2.6. above.

SIGNATURE OF TENDERER

6. DETAILED SPECIFICATIONS FOR MATERIALS TO BE USED ON WORK

6.1 GENERAL

- 6.1.1 Except where otherwise specified or authorized by the Engineer-in-Charge, materials supplied by the contractor shall conform to the latest edition of the Indian Standard Specifications and code of practices published by the Indian Standard Institution. Samples of materials to be supplied by the contractor shall be shown to the Engineer-in-Charge sufficiently in advance for approval of its quality for use on the work.
- 6.1.2 All materials supplied shall be stored appropriately to prevent deterioration/ damage from any cause what so ever and to the entire satisfaction of the Engineer-in Charge.
- 6.1.3 The materials required for the work shall be brought to the site and stacked at the places shown by the Engineer-in-Charge and the same shall be got approved for use in work sufficiently advance so that the progress of the work is not affected by the supply of materials.
- 6.1.4 Payment for the materials supplied, shall be given only after they are used on the work.
- 6.1.5 Tolls are payable by the Contractor as per rules for vehicles using the Port's road for supplying the materials.

6.2 ACRYLIC EMULSION PAINT EXTERIOR/INTERIOR

- 6.2.1 The weather proof exterior acrylic emulsion paint shall be of approved premium quality either "Weather coat" by Berger or Nerolac Excel or "Weather shield" by ICI Dulux or Snowcryl XT-premium by Snowcem India Ltd. or Jotun Paints/ Asian paints. The interior acrylic emulsion paint shall be of approved premium quality either manufactured by Berger or Dulux or Nicholson or Jotun Paints/ Asian paints. The coverage shall conform to the manufacture's specification. The colour/ shade shall be as per direction of the Engineer-in-Charge.
- 6.2.2 The Weather Proof Exterior Acrylic Emulsion paint shall be of approved premium quality manufactured by either Asian Paints/ Berger Paints/Nerolac Excel Paints or its equivalent. The coverage shall conform to the Manufacturer's specification. The colour / shade shall be as per schedule or as per the direction of Engineer-in-Charge. . The paint shall be brought to the site of work by the Contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a week's work. The materials shall be kept in the joint custody of the Contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of the work has been completed and permission obtained from the Engineer-in-Charge.
- 6.2.3 The Contractor shall invariably produce the Test Certificates and Bills with batch number and date, signed by an authorised person of the Manufacturer / Dealer, while seeking final approval of the Engineer-in-Charge for use on the Work.

6.3 SYNTHETIC ENAMEL PAINT

- 6.3.1 The Synthetic Enamel paint shall be of approved premium quality and shall conform to IS : 2923 (2003). The coverage shall conform to the Manufacturer's specification. The colour / shade shall be as per schedule or as per the directions of Engineer-in-Charge. The paint shall be brought to the site of work by the Contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a week's work. The materials shall be kept in the joint custody of the Contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of the work has been completed and permission obtained from the Engineer-in-Charge.
- 6.3.2 The Contractor shall invariably produce the Test Certificates and Bills with batch number and date, signed by an authorised person of the Manufacturer / Dealer, while seeking final approval of the Engineer-in-Charge for use on the Work.

6.4 CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPES

- 6.4.1 CPVC pipes & fittings used in hot & cold potable water distribution system shall conform to requirement of IS 15778. The material from which the pipe is produced shall consist of chlorinated polyvinyl chlorides. The polymer from which the pipe compounds are to be manufactured shall have chlorine content not less than 66.5%. The internal and external surfaces of the pipe shall be smooth, clean and free from grooving and other defects. The pipes shall not have any detrimental effect on the composition of the water flowing through it.
- 6.4.2 Diameter and wall thickness of CPVC pipes are as per given in Table 18.16 of CPWD Specifications.
- 6.4.3 **Dimensions of Pipes**
The outside diameter, outside diameter at any point and wall thickness shall be as given in Table 18.16.
- 6.4.4 **Pipe Ends**
The ends of the pipes meant for solvent cementing shall be cleanly cut and shall be reasonably square to the axis of the pipe or may be chamfered at the plain end.
- 6.4.5 **Visual Appearance** : The colour of the pipes shall be off-white. Slight variations in the appearance of the colour are permitted. The internal and external surface of the pipe shall be smooth, clean and free from grooving and other defects.
- 6.4.6 **Marking**
Each pipe shall be clearly and indelibly marked in ink/paint or hot embossed on white base at intervals of not more than 3 m. The marking shall show the following:
- (a) Manufacturer's name or trade-mark
 - (b) Outside diameter,
 - (c) Class of pipe and pressure rating, and
 - (d) Batch or lot number
- 6.4.7 **BIS Certification Marking** : Each pipe may also be marked with the Standard Mark.

6.5 CEMENT

- 6.5.1 Quality of cement used for the Work shall be 43 grade ordinary Portland cement conforming to IS:8112 or 53 grade ordinary Portland cement conforming to IS:12269 or Pozzolona cement conforming to IS:1489 unless otherwise approved by the Engineer-in-Charge.
- 6.5.2 The cement required for the Work will have to be procured by the Contractor and shall comply with the relevant IS. As far as possible, the cement required for the Work will have to be procured from the government agencies. The cement shall, if required by the Chief Engineer / Engineer-in-Charge, be tested and analyzed by an independent analyst at the Contractor's cost and result produced to the Engineer-in-Charge.
- 6.5.3 Supply of cement shall be taken in 50kg bags bearing manufacture's name and ISI marking. Samples of cement arranged by the Contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS codes. In case, test results indicate that the cement arranged by the Contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.
- 6.5.4 A cement godown of adequate capacity as directed by the Engineer-in-Charge shall be constructed by the Contractors at the site of the Work for which no extra payment shall be made. Double lock provision shall be made to the door of the cement godown. The key of one lock shall remain with the Engineer-in-Charge or his authorized representative and the key of the other lock shall remain with the Contractor. The Contractor shall be responsible for the watch and ward and safety of the cement godown. The Contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge.
- 6.5.5 The cement brought to the site and cement remaining unused after completion of Work shall not be removed from the site without written permission from /of the Engineer-in-Charge.
- 6.5.6 The cement shall be stored in a weather proof building with facilities for inspection.
- 6.5.7 The Contractor shall maintain a cement register showing dates of receipt and issue, quantities used daily and balance which shall be accessible to the Engineer-in-Charge.

6.6 WATER

- 6.6.1 Clean fresh water free from oils, acids, alkalies, salt, sugar, organic materials or other harmful materials shall be used for washing aggregates, mixing and curing of concrete. The water used shall comply with clause 5.4 of IS:456-2000. Potable water is generally considered good for mixing concrete.
- 6.6.2 **Cochin Port Trust will not provide/supply water for the Work.** Water has to be arranged by the Contractor himself for the construction works including curing work **at his own risk and cost.**

6.6.3 Samples of water arranged by the Contractor shall be taken by the Engineer in Charge and got tested in accordance with the provisions of relevant BIS codes. In case test results indicate that the water arranged by the Contractor does not conform to the relevant BIS codes, the same shall not be used for any Works. The cost of tests shall be borne by the Contractor.

6.7 SAND FOR MAKING MORTAR FOR MASONRY WORK/ PLASTERING WORK

6.7.1 Sand used for masonry mortar shall conform to IS: 2116. Sand used for plastering shall conform to IS: 1542.

6.8 ANTI-CORROSIVE BITUMASTIC PAINT

6.8.1 Ready mixed Paint (conforming to IS 158) shall be of approved brand and manufacture. It shall be black, lead free, acid-alkali-heat-water resistant.

6.9 PRECAST CEMENT CONCRETE BLOCKS

6.9.1 Factory made precast solid concrete blocks shall be of size 300 mm x 200 mm x 150 mm or nearest available size conforming to IS : 2185 – Part I - 1979 in plain cement concrete of 1:1.5:3 grade with 20mm /12mm graded metal. However, the length and shape of blocks to be provided at junctions shall be suitably modified to fit into the general configuration. These blocks are to be cast in appropriate moulds preferably steel moulds, which shall provide a smooth surface. The finished blocks shall be cured properly for a minimum period of 14 days. Blocks damaged during the removal of forms and handling will be rejected.

6.9.2 Blocks shall be unloaded one at a time and stacked in regular tiers to minimize breakage and defacement. These shall not be dumped at site. The height of the stack shall not be more than 1.2 m.

6.9.3 The length of the stack shall not be more than 3.0 m, as far as possible and the width shall be of two or three blocks.

6.9.4 Normally blocks cured for 28 days only should be received at site. In case blocks cured for less than 28 days are received, these shall be stacked separately. All blocks should be water cured for 10 to 14 days and air cured for another 15 days; thus no blocks with less than 28 days curing shall be used in building construction.

6.9.5 Blocks shall be placed close to the site of work so that least effort is required for their transportation.

Blocks manufactured at site shall be stacked at least for required minimum curing period as given above

6.10 MATERIALS NOT SPECIFIED

6.10.1 All materials not herein detailed and fully specified but which may be required for use on works, shall be subjected to the approval of the Engineer-in-Charge without which they shall not be used anywhere in the permanent works.

6.11 SAMPLING AND TESTING OF MATERIALS

6.11.1 Sampling and testing of the material supplied by the contractor for use on the Work shall be done as per the provisions of the relevant BIS codes/specifications. In the absence of BIS specification in a particular case, the sampling and testing shall be done as directed by the Engineer-in-Charge as per sound engineering

practice. Material conforming to the specifications and approved by the Engineer-in-Charge shall only be used by the Contractor.

6.11.2 All the sampling and testing shall be done at the Contractor's cost.

SIGNATURE OF TENDERER

7. DETAILED SPECIFICATIONS FOR ITEMS OF WORKS

7.1 GENERAL

7.1.1 Except where otherwise specified or authorized by the Engineer-in-Charge, all items of works executed by the contractor shall conform to the latest edition of the Bureau of Indian Standard Specifications and code of practices published by the B.I.S. Where no such specifications or code of practice exists the latest B.S.S. codes of practice or any other equivalent / standard code of practice shall also be considered for adoption. The tenderer while indicating any such specifications shall enclose the full set of the publication so referred and not in extracts. Photostats / Xerox copies in duplicate shall be forwarded which shall not be returned to the contractor. In absence of any specification, the department deserves the right to adopt trade specifications and/or sound engineering practices for the specialized work as may be decided by the Engineer-in-Charge which shall be final, conclusive and binding on the contractor.

7.2 PAINTING-GENERAL

7.2.1 Commencing Work

Painting shall not be started until the Engineer-in-Charge has inspected the items to be used, satisfied himself about their proper quality and given his approval to commence the painting work with the approved materials. Painting of external surface shall not be done in adverse weather condition like hail storm and dust storm. Painting, except the priming coat, shall generally be taken in hand after practically finishing all other building works. The rooms should be thoroughly swept out and the entire building cleaned up, at least one day in advance of the Paint work being started.

7.2.2 Preparation of Surface

The surface shall be thoroughly cleaned and dusted off. All rust, dirt, scales, smoke splashes, mortar droppings and grease shall be thoroughly removed before painting is started. The prepared surface shall have received the approval of the Engineer-in-Charge after inspection, before painting is commenced.

7.2.3 Application

7.2.3.1 Before pouring into smaller containers for use, the Paint shall be stirred thoroughly in its containers, when applying also, the Paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform.

7.2.3.2 The painting shall be laid on evenly and smoothly by means of crossing and laying off, the latter in the direction of the grains of wood. The crossing and laying off consists of covering the area over with Paint, brushing the surface hard for the first time over and then brushing alternately in opposite direction, two or three times and then finally brushing lightly in a direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat.

- 7.2.3.3 No left over Paint shall be put back into the stock tins. When not in use, the containers shall be kept properly closed.
- 7.2.3.4 No hair marks from the brush or clogging of Paint puddles in the corners of panels, angles of mouldings etc. shall be left on the work.
- 7.2.3.5 In painting doors and windows, the putty round the glass panes must also be painted but care must be taken to see that no Paint stains etc. are left on the glass. Tops of shutters and surfaces in similar hidden locations shall not be left out in painting. However, bottom edge of the shutters where the painting is not practically possible, need not be done nor any deduction on this account will be done but two coats of primer of approved make shall be done on the bottom edge before fixing the shutters.
- 7.2.3.6 On painting steel work, special care shall be taken while painting over bolts, nuts, rivets overlaps etc.
- 7.2.3.7 The additional specifications for primer and other coats of Paints shall be as according to the detailed specifications under the respective headings.
- 7.2.3.8 **Brushes and Containers**
After work, the brushes shall be completely cleaned of Paint and linseed oil by rinsing with turpentine. A brush in which Paint has dried up is ruined and shall on no account be used for painting work. The containers when not in use, shall be kept closed and free from air so that Paint does not thicken and also shall be kept safe from dust. When the Paint has been used, the containers shall be washed with turpentine and wiped dry with soft clean cloth, so that they are clean, and can be used again.

7.3 EXTERIOR PAINTING ON WALL

- 7.3.1 This paint shall be brought to the site of work by the Contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnight's work. The materials shall be kept in the joint custody of the Contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge.

7.3.2 Preparation of Surface

For new work, the surface shall be thoroughly cleaned off all mortar dropping, dirt dust, algae, fungus or moth, grease and other foreign matter of brushing and washing, pitting in plaster shall make good, surface imperfections such as cracks, holes etc. should be repaired using white cement. The prepared surface shall have received the approval of the Engineer-in-Charge after inspection before painting is commenced.

- 7.3.3 Before pouring into smaller containers for use, the paint shall be stirred thoroughly in its container, when applying also the paint shall be continuously stirred in smaller containers so that its consistency is kept uniform. Dilution ratio of paint with potable water can be altered taking into consideration the nature of surface climate and as per the recommended dilution given by manufacturer. In all cases, the manufacturer's instructions & directions of the Engineer-in-Charge shall be followed meticulously. The lids of paint drums shall be kept tightly closed when not in use, as by exposure to atmosphere, the paint may thicken and also dust may accumulate.
- 7.3.4 Paint shall be applied with a brush on the cleaned and smooth surface. Horizontal strokes shall be given, First and vertical strokes shall be applied immediately afterwards. This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks.
- 7.3.5 The specifications in respect of scaffolding, protective measures, measurements and rate shall be as described under 2.4 above.

7.4 WALL PAINTING WITH PREMIUM ACRYLIC INTERIOR EMULSION PAINT

- 7.4.1 The wall surface shall be prepared as specified in Clause 15.5.2 above.
- 7.4.2 Application: The number of coats shall be as stipulated in the item. The Paint will be applied in the usual manner with brush, spray or roller. The Paint dries by evaporation of the water content and as soon as the water has evaporated the film gets hard and the next coat can be applied. The time of drying varies from one hour on absorbent surfaces to 2 to 3 hours on non-absorbent surfaces. The thinning of emulsion is to be done with water and not with turpentine. Thinning with water will be particularly required for the under coat which is applied on the absorbent surface. The quantity of water to be added shall be as per manufacturer's instructions. The surface on finishing shall present a flat velvety smooth finish. If necessary more coats will be applied till the surface presents a uniform appearance.
- 7.4.3 Precautions
- (a) Old brushes if they are to be used with emulsion Paints, should be completely dried of turpentine or oil Paints by washing in warm soap water. Brushes should be quickly washed in water immediately after use and kept immersed in water during break periods to prevent the Paint from hardening on the brush.(b) In the preparation of wall for plastic emulsion painting, no oil base putties shall be used in filling cracks, holes etc. (c) Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening. (d) Washing of surfaces treated with emulsion Paints shall not be done within 3 to 4 weeks of application.

7.4.4 Measurements

The length and breadth shall be measured correct to a cm. Measurements of the work under this head shall be made on the basis of the area of work done and the rate quoted shall include the cost of labour, materials scaffoldings etc. required for the completion of the work.

7.5 APPLYING SYNTHETIC ENAMEL PAINT

7.5.1 The surface shall be thoroughly cleaned off all dirt, rust, dust, grease etc. with wire brush, sand paper etc., and be made perfectly clean and dry while painting.

7.5.2 The number of coats shall be as per schedule. Successive coats shall be applied only on the next day after rubbing with the finest grade of wet abrasive paper and dusting of the loose particles. The primers and paints used shall be of approved quality.

7.5.3 Measurements of the work under this head shall be made on the basis of the area of work done and rate quoted shall include the cost of surface preparation, materials, labour, scaffolding etc. required for the completion of works as detailed above.

7.6 PROVIDING AND FIXING CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPES

7.6.1 Piping Installation Support and Spacing

7.6.1.1 **Concealed Piping:** Pipes can be concealed in chases. The pipes and fitting are to be pressure tested prior to concealing the chases. To maintain alignment of CP fittings while joining, all alignment of fittings and pipe shall be done correctly. **DO NOT USE NAILS FOR HOLDING OF PIPES IN THE CHASES.**

7.6.1.2 **External Installations:** For pipes fixed in the shafts, ducts etc. there should be sufficient space to work on the pipes. Pipes sleeves shall be fixed at a place the pipe is passing through a wall or floor so as to allow freedom for expansion and contraction. Clamping of the pipe is done to support it while allowing the freedom for movement. All pipes exposed to sunlight shall be painted with a water based acrylic paint emulsion to enhance UV protection. Pipes in trenching shall be laid in accordance to the Good Plumbing practices followed for Metal piping.

7.6.1.3 **Recommended Support Spacing (Distance between Pipe Clamps Horizontal Support) shall be as per CPWD Specification for CPVC pipe work**

7.6.1.4 Measurements

The net length of pipes as laid or fixed shall be measured in running meters correct to a cm for the finished work, which shall include CPVC pipe and fittings including plain and Brass threaded fittings and jointing solvent cement.

7.7 REPAIRS TO PLASTER

7.7.1 The work includes cutting the patch and preparing the wall surface.

7.7.2 Scaffolding

Scaffolding as required for the proper execution of the work shall be erected. If work can be done safely with the ladder or jhoola these will be permitted in place of scaffolding.

7.7.3 **Cutting**

The mortar of the patch, where the existing plaster has cracked, crumbled or sounds hollow when gently tapped on the surface, shall be removed. The patch shall be cut out to a square or rectangular shape at position marked on the wall as directed by the Engineer-in-Charge or his authorized representative. The edges shall be slightly under cut to provide a neat joint.

7.7.4 **Preparation of Surface**

The masonry joints which become exposed after removal of old plaster shall be raked out to a minimum depth of 10 mm in the case of brick work and 20 mm in the case of stone work. The raking shall be carried out uniformly with a raking tool and not with a basuli, and loose mortar dusted off. The surface shall then be thoroughly washed with water, and kept wet till plastering is commenced. In case of concrete surfaces, the same shall be thoroughly scrubbed with wire brushes after the plaster had been cut out and pock marked.

7.7.5 **Application of Plaster**

Cement plastering shall be with the grade of mortar and of thickness specified in the schedule. For external work and under coat work, the fine aggregate shall conform to grading IV. For finishing coat work the fine aggregate conforming to grading zone V shall be used.

7.7.6 Ceiling plaster shall be completed before commencement of wall plaster. Plastering shall be started from the top and worked down towards the floor. All putlog holes shall be properly filled in advance of the plastering as the scaffolding is being taken down. To ensure even thickness and a true surface, plaster about 15 × 15 cm shall be first applied, horizontally and vertically, at not more than 2 metres intervals over the entire surface to serve as gauges. The surfaces of these gauged areas shall be truly in the plane of the finished plaster surface. The mortar shall then be laid on the wall, between the gauges with trowel. The mortar shall be applied in a uniform surface slightly more than the specified thickness. This shall be brought to a true surface, by working a wooden straight edge reaching across the gauges, with small upward and side ways movements at a time. Finally the surface shall be finished off true with trowel or wooden float according as a smooth or a sandy granular texture is required. Excessive troweling or over working the float shall be avoided. All the corners shall be rounded off to a radius of 25 mm unless otherwise specified.

7.7.7 Where smooth finishing is specified in the schedule the plastering shall be floated over with neat cement slurry using 2.2 kg of cement per square metre immediately

after the final coat of plastering and rate quoted for plastering shall include cost of this finishing work.

- 7.7.8 When suspending work at the end of the day, the plaster shall be left, cut clean to line both horizontally and vertically. When recommencing the plastering, the edge of the old work shall be scrapped cleaned and wetted with cement slurry before plaster is applied to the adjacent areas, to enable the two to properly join together. Plastering work shall be closed at the end of the day on the body of wall and not nearer than 15 cm to any corners or arrises. It shall not be closed on the body of the features such as plasters, bands and cornices, nor at the corners of arrises. Horizontal joints in plaster work shall not also occur on parapet tops and copings as these invariably lead to leakages. The plastering and finishing shall be completed within half an hour of adding water to the dry mortar. No portion of the surface shall be left out initially to be patched up later on. The plastering and finishing shall be completed within half an hour of adding water to the dry mortar.
- 7.7.9 The plastered surface on which glazed tiles or other similar type of finishing are to be provided subsequently shall not be finished smooth but shall be scarified for forming a base for providing the final surface finish as required.
- 7.7.10 The surface shall be finished even and flush and matching with the old surrounding plaster. All roundings necessary at junctions of walls, ceilings etc. shall be carried out in a tidy manner..All dismantled mortar & rubbish etc. shall be disposed off within 24 hours from its dismantling promptly as directed by the Engineer-in-Charge.

7.7.11 Curing

Curing shall be started as soon as the plaster has hardened sufficiently not to be damaged when watered. The plaster shall be kept wet for a period of at least 7 days. During this period, it shall be suitably protected from all damages at the contractor's expense by such means as the Engineer-in-Charge may approve. The dates on which the plastering is done shall be legibly marked on the various sections plastered so that curing for the specified period thereafter can be watched.

7.7.12 Finish

The plaster shall be finished to a true and plumb surface and to the proper degree of smoothness as required. The work shall be tested frequently as the work proceeds with a true straight edge not less than 2.5 m long and with plumb bobs. All horizontal lines and surfaces shall be tested with a level and all jambs and corners with a plumb bob as the work proceeds.

7.7.13 Precaution

Any cracks which appear in the surface and all portions which sound hollow when tapped, or are found to be soft or otherwise defective, shall be cut out in rectangular shape and redone as directed by the Engineer-in-Charge.

(i) When ceiling plaster is done, it shall be finished to chamfered edge at an angle at its junction with a suitable tool when plaster is being done. Similarly when the wall plaster is being done, it shall be kept separate from the ceiling plaster by a thin straight groove not deeper than 6 mm drawn with any suitable method with the wall while the plaster is green.(ii) To prevent surface cracks appearing between junctions of column/beam and walls, 150 mm wide chicken wire mesh should be fixed with U nails 150 mm centre to centre before plastering the junction. The plastering of walls and beam/column in one vertical plane should be carried out in one go. For providing and fixing chicken wire mesh with U nails payment shall be made separately.

7.7.14 The rate shall include all labour and materials including scaffolding, plastering of jambs, sills, soffits or opening, providing grooves at edge of sunshade, curing etc. complete. required for completion of work including lead as described in the item for disposal of old dismantled plaster /material. Measurement of the work under this head shall be made on the basis of the area of work done.

7.7.15 Protective Measure

Doors, windows, floors, articles of furniture etc. and such other parts of the building shall be protected from being splashed upon. Splashing and droppings, if any, shall be removed by the contractor at his own cost and the surface cleaned. Damages, if any, to furniture or fittings and fixtures shall be recoverable from the contractor.

7.7.16 Measurements

Length and breadth shall be measured correct to a cm. The area shall be calculated in square metre correct to two places of decimal. Patches below 0.05 square metre in area shall not be measured for payment. Pre-measurements of the patches to be plastered shall be recorded after the old plaster has been cut and wall surface prepared.

7.7.17 Rate

The rate shall include the cost of all labour and materials involved in all the operations described above

7.8 DISMANTLING/ DEMOLISHING WORKS

7.8.1 The tenderer shall inspect the site and carry out the required investigation by himself about the present position and condition of the existing structures and assess the difficulties and the work involved in its dismantling and removal. It will be deemed that the tenderer has satisfied himself the condition of the structure and the nature of the work involved for the dismantling and removal and estimated its cost accordingly and port will be in no way responsible for the lack of such knowledge and also consequences thereof to the tenderer. The dismantling shall be done carefully without causing any damage to the remaining portions / structure.

7.8.2 Existing damaged cement plastering is to be dismantled as per the direction of Engineer-in-charge. All the dismantled usable materials shall be stacked at the area pointed out by the Engineer-in-charge and all unusable materials shall be disposed by the contractor.

7.8.3 All the dismantling works shall be done carefully without causing any damage to the adjacent portion/ existing structure. The unserviceable dismantled/ cut materials shall be disposed off within 6kms of the work site and levelled as directed by the Engineer-in-Charge.

7.9 CEMENT PLASTERING

7.9.1 Cement plastering shall be with the grade of mortar and of thickness specified in the schedule. The surface to be plastered shall be thoroughly cleaned and kept wet for 4 hours before plastering.

7.9.2 All the corners shall be rounded off to a radius of 25 mm unless otherwise specified.

7.9.3 Where smooth finishing is specified in the schedule the plastering shall be floated over with neat cement slurry using 2.2 kg of cement per square metre immediately after the final coat of plastering and rate quoted for plastering shall include cost of this finishing work.

7.9.4 The plastered surface on which glazed tiles or other similar type of finishing are to be provided subsequently shall not be finished smooth but shall be scarified for forming a base for providing the final surface finish as required.

7.9.5 The surface shall be cured for 7 days.

7.9.6 The rate shall include all labour and materials including scaffolding, plastering of jambs, sills, soffits or opening, providing grooves at edge of sunshade, curing etc. required for completion of work. Measurement of the work under this head shall be made on the basis of the area of work done

7.10 PECAST CEMENT CONCRETE BLOCK MASONRY

7.10.1 The blocks shall be laid to level and alignment to bring out joint not more than 10 mm wide between the blocks. The grade of mortar shall be specified in the schedule of items. Curing shall be done for 7 days.

7.10.2 Payment for cement concrete block masonry shall be made on cubic meter. The rate shall include all labour and materials including curing etc. complete required for completion of work.

SIGNATURE OF TENDERER

COCHIN PORT AUTHORITY

**REPAIR WORKS OF NTRO BUILDINGS UNDER OPERATION &
MAINTENANCE**

UNDERTAKING REGARDING EPF AND ESI REGISTRATION

I/ We, M/s..... (Name & Address of the tenderer) solemnly affirm and undertake that I/ We do not have the required number of employees for taking registration under EPF Organisation and ESI Corporation. I/ We also undertake that I/ We take the full responsibility for all the consequences arising due to the above and indemnify CoPA officials for any actions taken in this regard

SIGNATURE OF TENDERER