



कोचिन पत्तन प्राधिकरण
Cochin Port Authority

COCHIN PORT AUTHORITY

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TENDER DOCUMENT FOR RESURFACING KPK MENON ROAD FROM CHTS JN. TO CFS TECHNICAL BID

(e-Tendering Mode)

Website: www.tenderwizard.com/COPT

Tender No. T6/T-2021/2024-C

COCHIN PORT AUTHORITY
CHIEF ENGINEER'S OFFICE
COCHIN-682 009

Price: Rs.2,360/- (2,000+ 18% GST)

COCHIN PORT AUTHORITY
CIVIL ENGINEERING DEPARTMENT

Tender No:T6/T-2021/2024-C

Tender for

Resurfacing KPK Menon Road from CHTS Jn. to CFS
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SECTION -I

COCHIN PORT AUTHORITY
CIVIL ENGINEERING DEPARTMENT

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SECTION -I

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**SECTION I
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-2021/2024-C

Date : 23 /09/2024

1.NOTICE INVITING TENDER

Electronic Tenders (**e-tenders**) on percentage basis are invited by Cochin Port Authority 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 “**Resurfacing KPK Menon Road from CHTS Jn. to CFS**”.

1. Minimum Eligibility Criteria:

a) Experience

The tenderers should have experience of having successfully completed during the last 7 (seven) years ending **31st July, 2024**, at least either:

- i. Three Similar Works each costing not less than **Rs.59.78 lakhs**

(OR)

- ii. Two Similar Works each costing not less than **Rs.74.72 lakhs**

(OR)

- iii. One Similar Work costing not less than **Rs.119.55 lakhs**

b) Financial Turnover

Average Financial Turnover of the tenderer over the last three financial years ending 31st March of the previous financial year [2020-'21, 2021-'22 & 2022-'23] shall not be less than **Rs.44.83 lakhs**.

Explanatory Notes to a) & b) :

Note 1:- Similar Work(s) means “Road works using Bitumen /Concrete Paver blocks”

Note 2:- 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 past years.

Table 1

Year before	Multiplying factor
One year [July, 2023]	1.07
Two years [July, 2022]	1.14
Three years [July, 2021]	1.21
Four years [July, 2020]	1.28
Five years [July, 2019]	1.35
Six years [July, 2018]	1.42

Note 3:- *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.*

Note 4:- *Satisfactory Client / Owners's Certificate or documentary proof shall be submitted in support of the assignments / works performed and claimed by the tenderer to fulfill the eligibility criteria for qualification. A statement duly certified by the Chartered Accountant showing the Average Annual Financial Turnover over the last 3 financial years and audited financial statements for the last three years shall be submitted.*

Note 5:- *The works reckoned for the above purpose are those executed by the tenderers as prime contractor or proportionately as member of joint venture or as a sub-contractor authorized and approved by the Employer of the work(s) against which the tenderer has claimed his experience; it will be considered for qualification only if documentary proof of such authorization / approval of the Employer are submitted.*

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 – 11 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	23-09-2024
2	Download period of Bid Documents	23-09-2024 to 14-10-2024
3	Last date for seeking clarification	03-10-2024
4	Date of Pre-Bid meeting	04-10-2024
5	Last date and time of submission of Bid	14-10-2024 up to 14.30 hrs
6	Date and time of opening the Bid	14-10-2024after 15.00 hrs

ii) **Bid information :**

Table 3

i)	Estimated Amount put to Tender	: Rs.1,49,44,600/-.
ii)	Earnest Money Deposit	: Rs.2,99,000/- furnished through Demand Draft or Banker's Cheque drawn in favour of Financial Adviser & Chief Accounts Officer, CoPA from any Commercial Bank in India or through RTGS/NEFT mode
iii)	Cost of Bid document	Rs.2360.- (Rs.2,000 + 18% GST) (Non refundable) furnished through Demand Draft or Banker's Cheque drawn in favour of Financial Adviser & Chief Accounts Officer, CoPA from any Commercial Bank in India or through RTGS/NEFT mode
iv)	Validity period of Tender	120 days from the Last Date of Submission of Bid.
v)	Time for Completion	4 (Four) months

4. **This work essentially comprises of the following :**

- (i) Filling pot holes using bitumen premix.
- (ii) Applying Tack Coat.
- (iii) Providing and laying Bituminous Macadam.

- (iv) Providing and laying Bituminous Concrete.
 - (v) Providing and applying retro reflective road marking strips.
 - (vi) Providing Glow studs.
 - (vii) Providing Wetmix Macadam.
 - (viii) Laying 100mm thick heavy duty paver blocks M40 grade,
 - (ix) Providing Road sign boards
5. Tender documents can be downloaded from the e-Tendering portal ***www.tenderwizard.com/COPT*** 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.tenders.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 along with the submission of bid.
 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. 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.
 12. The Bidder shall submit Originals of: (i) DD / Banker's Cheque towards the cost of Tender document, (ii) EMD and (iii) Power of Attorney in favour of signatory(s) to the tender along with letter of submission in a sealed cover **to the Chief Engineer, Cochin Port Authority, W/Island, Cochin – 682009, KERALA**, before opening date and time of the tender. **Non submission of original financial document towards cost of Tender document and EMD**

Declaration, before opening date and time, of the Tender will be liable for rejection.

- 13. Micro and Small Enterprises (MSE's) 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.**
14. 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.

**Sd/-
CHIEF ENGINEER i/c
COCHIN PORT AUTHORITY**

SECTION I COCHIN PORT AUTHORITY

2.INSTRUCTIONS TO TENDERERS

1. Introduction

This tender is invited for “**Resurfacing KPK Menon Road from CHTS Jn. to CFS**”. The work essentially comprises of the following:

- (i) Filling pot holes using bitumen premix.
- (ii) Applying Tack Coat.
- (iii) Providing and laying Bituminous Macadam.
- (iv) Providing and laying Bituminous Concrete.
- (v) Providing and applying retro reflective road marking strips.
- (vi) Providing Glow studs.
- (vii) Providing Wetmix Macadam.
- (viii) Laying 100mm thick heavy duty paver blocks M40 grade,
- (ix) Providing Road sign boards
- (x) Providing additional CPVC water supply lines at Ground floor.

2. General Instructions

- 2.1 The work is to be executed as described in the Bid document and in particular in the Technical Specifications, Special Conditions, Schedule of Quantities and Drawings and in general includes, but is not limited to supplying all including consumables and equipment necessary to execute the work as described in the Bid Document.
- 2.2 Before submitting the Bid, the bidder shall examine carefully all conditions of contract, specifications, drawings etc. supplied herewith. The bidders shall inspect the site of work with prior appointment with the concerned Section Engineer of the work to get himself acquainted with the site conditions and to assess and satisfy himself of the difficulties and constraints which may be involved in executing the work in the location. It will be deemed that prior to the submission of Tender, the tenderer has visited the site and has satisfied himself as to the nature and location of the work, general and local conditions, particularly those pertaining to transportation, handling and availability and storage of materials, availability of labour, weather conditions, tidal variations at site, working conditions, ground level, nature of soil etc. and that the tenderer has estimated his cost accordingly; the Port Authority will be in no way responsible for the lack of such knowledge and also consequences thereof to the Tenderer. Failure to visit the site will in no way relieve the successful bidder of any of the obligations in performing the work in accordance with this Bid Document including Addenda / Corrigenda, within the quoted price.
- 2.3 A bidder shall be deemed to have full knowledge of all documents, site conditions etc. whether he has inspected them or not. The submission of a Bid by the bidder implies that he has read the notice and conditions of contract and has made himself aware of the scope and specifications and other factors bearing on the bid and that they are binding on him.

- 2.4 The bidders may please note that the EMPLOYER will not entertain any correspondence or query on the status of the offers received against this Bid. Bidders are also requested not to depute any of their personnel or agents to visit the Employer's offices for making such enquiries till finalization of the bid. Should the EMPLOYER find it necessary to seek any clarification, technical or otherwise, the concerned bidder will be duly contacted by the EMPLOYER.
- 2.5 Canvassing in any form by the bidder or by any other agency acting on behalf of the bidder after submission of the bid may disqualify the said bidder. The Employer's decision in this regard shall be final and binding on the bidder.
- 2.6 EMPLOYER will not be liable for any financial obligation in connection with the work until such time the EMPLOYER has communicated to the successful bidder in writing his decision to entrust the Work (covered by the bid document issued to him).
- 2.7 E-mail offers will not be considered. Bidders should prepare their bid themselves and submit it "online". Bids submitted by agents will not be recognized.
- 2.8 Bids received after the due date and time and any change in bid after the specified date & time will be rejected. EMPLOYER will not be responsible for the loss of the bid document or for the delay in postal transit.
- 2.9 In case of an unscheduled holiday on the prescribed closing/opening day of the bid, the next working day will be treated as the scheduled prescribed day of closing/opening of the bid.
- 2.10 While evaluating the document, regard would be paid to National defense and security considerations, at the discretion of the Cochin Port Authority. Bid received from any bidder may be summarily rejected on National security consideration without any intimation thereof to the bidder.
- 2.11 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 shall be binding on the Bidder.
- 2.12 In case the department desires to inspect the equipments/ machinery for confirmation of its availability and capacity etc., necessary arrangements shall be made by the contractor for such inspection at his own cost.
- 2.13 Any error in description, and any omissions there from shall not vitiate the contract or release the Contractor from the execution of whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract
- 2.14 All the Bank Guarantees (BGs) to be furnished except for EMD by the Contractors in connection with the tender shall be sent to 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.
- 2.15 ***The Contractor / approved Sub-Contractor if any, shall comply with all the provisions of the Indian Employer Compensations Act, 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 into force from time to time.***

- 2.16 *If applicable as per EPF/ESI Acts, the Tenderer shall be registered under EPF and ESI Act and the employees employed under them shall be covered in the EPF and ESI scheme. In such cases, who are registered under EPF Organisation and ESI Corporation and furnish documentary evidence in support of valid registration shall only be considered for qualification for opening of Price Bids. In case, the Tenderer does not have the required number of employees which makes such registration mandatory, an undertaking as per Annexure – 11 to the effect shall be furnished.*
- 2.17 *The Contractor shall regularly remit the Employer and Employee contribution to the authorities. If not, the Employer would remit the same and the amount so remitted shall be deducted from the part/final bill of Contractor.*
- 2.18 *The contractor shall be registered under GST and shall furnish documentary evidence in support of valid GST registration.*
- 3. Micro and Small Enterprises (MSE's) 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.**
- 3.1 If a bidder has already been awarded or qualified for a similar nature work with a higher value or equivalent value within the last 6 months from the date of Notice Inviting Tender, the tender of such bidder shall be evaluated / considered for qualification with the documents submitted by the bidders in those tenders **provided the Bidder clearly states the details of above such works in the Letter of Submission.**
- 3.2 In the Letter of submission, the Bidder shall compulsorily indicate 2 nos. of current active e-mail IDs to which further Bid related communication can be sent by CoPA. All communication from CoPA shall be deemed to have been delivered when the e-mail is sent to the specified e-mail ID and the date of sending the e-mail by CoPA shall be considered as the receipt by the Bidder. CoPA shall no way be responsible for the non-receipt of any such communication by the Bidder whatever be the reason due to which this has occurred.
- 4. Invitation for Bids:**
- The Invitation for Bids is open to all eligible bidders meeting the Minimum Eligibility Criteria.
- 5. Downloading of Tender Documents:**
- Tender documents can be downloaded from the e-Tendering portal www.tenderwizard.com/COPT on the dates specified in NIT by making online

requisition. Tender document can also be downloaded from Cochin Port website www.cochinport.gov.in or Government of India (GOI) tender portal www.tenders.gov.in. Demand Draft /Banker's cheque for cost of tender document drawn in favour of the Financial Adviser & Chief Accounts Officer (FA & CAO), CoPA from any Scheduled / Nationalized Bank having its branch at Cochin shall be submitted at the time of submission of bids and scanned copy of the same shall be attached with the e-tender.

In case of tender document being downloaded from the website, at the time of uploading, the tenderer shall give an undertaking that no changes have been made in the document. Port's Tender document will be treated as the authentic Tender document and if any discrepancy is noticed at any stage between the Port's Tender document and the one submitted by the Tenderer, the Port's document shall prevail. For the discrepancies found at any time, the Tenderer shall be liable for legal action.

6. One Bid per Bidder:

Each bidder shall submit only one bid. A bidder who submits or participates in more than one Bid will cause all the proposals with the Bidder's participation to be disqualified.

7. The Bidder

The Bidder shall be a single entity only.

8. Cost of Bidding:

The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will, in no case, be responsible and liable for those costs.

9. Site visit:

The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the work site and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for execution of the Works. The cost of visiting the site shall be at the Bidders' own expense.

10. Clarification of the Bidding Documents:

- 10.1 The Tenderers are advised to examine the Tender Document carefully and if there be or appear to be any ambiguity or discrepancy in the documents, or any clarifications needed on the Tender Documents; these shall be referred to the Chief Engineer in writing at the following address, so as to reach him at least by **03-10-2024**. It is to be noted that no queries, clarifications will be answered after this date.

THE CHIEF ENGINEER,
CHIEF ENGINEER'S OFFICE,
COCHIN PORT AUTHORITY,
WILLINGDON ISLAND,
KOCHI-9,
KERALA, INDIA.
Ph: - 91-0484-2666414/2582400.
Fax:-91-0484-2666414.
Email: coptce@gmail.com/ce@cochinport.gov.in

10.2 **Pre-Bid Meeting:**

Pre-Bid meeting will be held for this Tender on 04-10-2024 at Chief Engineer's chamber, Cochin Port Authority.

The Bidders who need clarifications on any specific issue shall inform the Employer in writing latest by before **03-10-2024** at the address given in the Clause 9.1 above. No queries/clarifications on Bid Document shall be entertained after this date. The replies/clarifications/decisions shall be hosted at the Cochin Port Authority website www.cochinport.gov.in, e-Tendering Portal and CPP Portal.

At any time prior to the deadline for submission of Bid, CoPA may, for any reason, whether at its own initiative or in response to clarifications requested by a Bidder, modify the Bid Document by the issuance of Addenda /Corrigenda.

Any Addenda/ Corrigenda / Errata/ Replies to the queries of Bidder etc., if any, issued by CoPA will be hosted in Cochin Port Authority website www.cochinport.gov.in, e-Tendering Portal and CPP Portal only and the Bidder shall be responsible to check and download those Documents, if any, issued by CoPA, from the website before submission of Bid. Bids with any shortfall in uploading the said Addenda/ Corrigenda / 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. In order to afford Bidders with reasonable time to take an Addendum into account, or for any other reason, the CoPA may, at its discretion, extend the Bid Submission Date and the Bid extension notice shall be hosted in the websites only.

11. **Amendment of Bidding Documents:**

The Chief Engineer, Cochin Port Authority shall have the right to omit or suspend certain items of work or revise or amend the Bid documents prior to the due date of submission of the Bid by issuance of Addenda / Corrigenda. Any Addendum / Corrigendum thus issued shall be part of the Tender documents. The Addenda / Corrigenda, if any, shall only be hosted in the e-tender portal as well as in the website of the Cochin Port. It is the responsibility of the Bidders to download such Addenda / Corrigenda hosted in the website and submit the same duly signed along with the Bid. 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 Bid and bid extension notice shall be hosted in the web site.

12. **Preparation of bids:**

All documents relating to the bid shall be in the English language.

13. **Minimum Eligibility Criteria:**

(a) **Experience**

The tenderers should have experience of having successfully completed during the last 7 (seven) years ending **31st July, 2024**, at least either:

- i. Three similar works each costing not less than **Rs.59.78 lakhs**

(OR)

- ii. Two similar works each costing not less than **Rs.74.72 lakhs**

(OR)

- iii. One similar work costing not less than **Rs.119.55 lakhs**

(b) Financial Turnover

Average Financial Turnover of the tenderer over the last three financial years ending 31st March of the previous financial year [2020-'21, 2021-'22 & 2022-'23] shall not be less than **Rs.44.83 lakhs**.

Explanatory Notes to (a) & (b):

Note 1:- Similar work(s) means “Road works using Bitumen /Concrete Paver blocks”

Note 2:-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 past years.

Table 1

Year before	Multiplying factor
One year [July,2023]	1.07
Two years [July,2022]	1.14
Three years [July,2021]	1.21
Four years [July,2020]	1.28
Five years [July,2019]	1.35
Six years [July,2018]	1.42

Note 3:- *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.*

Note 4:- *Satisfactory Client / Owner’s Certificate or documentary proof shall be submitted in support of the assignments / works performed and claimed by the tenderer to fulfill the eligibility criteria for qualification. A statement duly certified by the Chartered accountant showing the average annual Financial Turnover over the last 3 financial years and audited financial statements for the last three years shall be submitted.*

Note 5:- *The works reckoned for the above purpose are those executed by the tenderers as prime contractor or proportionately as member of joint venture or as a sub contractor authorized and approved by the Employer of the work(s) against which the tenderer has claimed his experience; it will be considered for qualification only if documentary proof of such authorization / approval of the Employer are submitted.*

14. Other Eligibility Considerations

13.1 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.

13.2 **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 – 13 to the effect shall be furnished.**

15. Bid Prices:

15.1 Percentage Basis Contract

The Bidder shall fill the percentage above / below in the Bidder's Quoting Area under "Percentage Quoted" in the Schedule-II (Schedule of Quantities to be done on Contract) both in **figures and words**. The Bidder shall also fill 'Above / Below' column.

15.2 On scrutiny, if there are differences between the percentage given in figures and in words, the following procedure shall be followed:-

- a) When there is a difference between the percentage quoted in figures and in words, the percentage in words shall be taken as correct.
- b) When the sign (+) / (-) and Above / Below does not correspond with each other, the "words" under "Above / Below" shall be taken as correct.

15.3 Rates Quoted

The rate quoted by the Tenderer 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.

15.4 The Contract shall be for the whole Work based on the priced Bill of Quantities submitted by the Bidder. **The Bidder should ensure that his tendered percentage as per Price Bid is not mentioned anywhere in any documents in Technical Bid submission, directly or indirectly. If any such mention is made, the tender will become invalid and shall become liable for rejection.**

15.5 Currencies of Bid and Payment:

The unit rates and the prices shown in Schedule II of this document are in Indian National Rupees (INR).

15. Bid Validity:

Bids shall remain valid for a period not less than one twenty days (120 days) from the deadline date for bid submission. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

In exceptional circumstances, prior to expiry of the original time limit, the Employer may request the Bidder to extend the period of validity for an additional period. The request and bidders response shall be made in writing. A bidder agreeing to the request will not be permitted to modify his bid (ie, the extension shall be unconditional).

16. Bid Security / EMD:

- 16.1 Each tender should be accompanied by an Earnest Money amounting to **Rs.2,99,000/- (Rupees Two lakhs Ninety Nine Thousand only)**. EMD shall be deposited /furnished either through Demand Draft or Banker's Cheque drawn in favour of Financial Adviser & Chief Accounts Officer, Cochin Port Authority from any Commercial Bank in India . Any bid not accompanied by an acceptable Bid Security shall be treated as Non-responsive and shall be rejected by the Employer.

17. Forfeiture of Bid security / EMD

Bid Security/EMD will be forfeited in the following cases:

- (a) If a Bidder withdraws his bid during the period of bid validity.
- (b) The Bidder does not accept the correction of the Bid Price pursuant to any arithmetical errors.
- (c) In case of a successful bidder fails
 - (i) to commence the work, within the specified time limit
 - (ii) to sign the Agreement or furnish the required Performance Security within the specified time limit

18. No Alternative Proposals by Bidders:

Bidders shall submit offers that comply with the requirements of the bidding documents. Alternatives will not be considered.

19. Format and Signing of Bid:

- 18.1 The Tenderer shall prepare one set of his Tender (all Volumes), duly completed and signed, along with the set of Drawings and other documents mentioned hereinafter. The Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder with signature duly witnessed and company seal affixed. The Power of Attorney (in original) authorizing the signatory/s of the Tender shall be enclosed. All pages of the bid where entries or amendments have been made shall be signed by the person or persons signing the bid.
- 18.2 If the tender is made by an individual it shall be signed by his full name and his address shall be given. In the event of the tender being submitted by a registered partnership firm, it must be signed individually by each partner thereof. In the event of absence of any partner, it must be signed on his behalf by person holding a proper power-of- attorney authorizing him to do so and to bind the partner in all matters pertaining to the contract ~~including the arbitration clause~~, such power-of-attorney to be attached with the tender which must disclose that the firm is duly registered under Indian Partnership Act. If the tender is made by a Limited Company it shall be signed by a duly authorized person who shall produce with the tender satisfactory evidence of the authorization. In the case of a Limited Company the tender should be accompanied by the Memorandum and Articles of

Association of the Company.

19 Bid Submission:

- 19.1 Bid shall be submitted in two parts, **Part - I: Technical Bid** and **Part - II: Price Bid** through **e- tender mode before 14.30 Hrs on 14-10-2024.**
- 19.2 The Technical Bid document and the scanned copies of the documents as detailed in clause 20 below shall be submitted through e-Tendering mode on **www.tenderwizard.com/COPT.**
- 19.3 Price bid (Schedule-II) in the provided format shall be submitted **only through e-tendering mode on www.tenderwizard.com/COPT** before 14.30 Hrs on 14-10-2024. **In no case shall filled in Price Bid (Schedule II) be submitted in hard copy, as it shall result in rejection of the tender.**
- 19.4 Tenders shall be submitted “**online**” strictly in accordance with the Instructions to Tenderers and Terms & Conditions given in the tender document. The bidders shall submit scanned copy of all the required documents such as DD / Banker’s Cheque towards the cost of tender, proof of experience, financial details etc. through the e-tendering portal.
- 19.5 The Bidder shall submit **Original (i) DD / Pay Order / Bankers Cheque towards the cost of Tender document,(ii) EMD and (iii) Power of Attorney** along with Letter of submission in a sealed cover, super scribing there on the Tender Number, Name of Work, date notified for submission of tender and the name of the tenderer. Tenders can be brought either in person or sent by registered post/ courier to the Chief Engineer, Cochin Port Authority, W/Island, Cochin - 682009, KERALA, before opening date & time of the tender. Tenders brought in person, shall be put in the Tender Box on or before the due date and closing time specified above.
- 19.6 **Tenders without submitting the original documents towards (i) Cost of tender document, (ii) EMD; and(iii) Power of Attorney as above, before opening date and time of the tender will be liable for rejection.**
- 19.7 The successful Bidder shall submit original copy of complete Technical Bid already submitted in e-mode within 7 days of receipt of Letter of Acceptance issued for the work.

20 Information Required in the Bid

20.1 **Part I -Technical Bid** shall contain the following:

- a) Letter of Submission (vide **Annexure-1**)
- b) Bid Security / EMD as described in Clause 16.1 above .
- c) Cost of Tender Document
- d) Check list as per **Schedule I** attached along with Technical Bid in the e-Tendering Portal
- e) Power of Attorney (in original) in favour of signatory/s to the Tender, duly authenticated by Notary Public. (vide **Annexure-2**)
- f) Organization Details (vide **Annexure-3**)
- g) Details of experience as per **Annexures -4a &4b** and Certificates in proof of experience in Similar Works as detailed under Clause 12 of Instructions to

Tenderers.

Explanatory notes:

- (1) Original or Notary certified copy of completion certificates of each work issued by the owner/ the responsible officers of the owner under whom he has executed such contracts a work order shall be attached. The certificate shall invariably contain the following among other things.
 - (i) Details of work involved specifying the nature of work
 - (ii) The completion cost of the work
 - (iii) Date of commencement ; and
 - (iv) Date of completion of the work.
- (2) If the experience in Similar Works is as a member of joint venture, Notary attested copy of joint venture agreement in this respect shall be attached.
- (3) If the experience in Similar Works is as a subcontractor, Notary 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 shall be attached.
- (4) The works indicated in Annexure-4a will only be considered for evaluation. Mere submission of work completion certificate will not be considered towards Eligible Assignments**
- h) A statement duly certified by Chartered Accountant showing the Average Annual Financial Turnover of the tenderer over the last three financial years [2020-'21, 2021-'22& 2022-'23] (vide *Annexure-5*) supported by Audited Financial statements for the last three years.
- i) Form of Bid duly signed and sealed
- j) **Bid document including all Addenda / Corrigenda duly signed and sealed**
- k) Partnership Deed or Memorandum and Articles of Association of the Company and Registration certificate of the company as the case may be.
- l) **Copies of EPF ,ESI,PAN and GST registration**
- m) Documentary proof for NSIC registration, if applicable.
- n) A detailed Method Statement (Technical Note) for carrying out of the works, along with an Implementation Schedule showing sequence of operation and the time frame for various segments of temporary and permanent works.(vide *Annexure-6*). The information provided will form part of the Work Methodology and the same shall be in line with the Specifications and Bill of quantities.
- o) A list of Plant and equipment proposed to be engaged for the work (vide *Annexure-7*).
- p) A declaration to the effect that (vide *Annexure-8*):-
 - i) All details regarding construction plant and machinery, temporary work and personnel for site organization considered necessary and sufficient for the work have been furnished in the *Annexure-7* and that such plant, temporary works and personnel for site organization will be available at

appropriate time of relevant works for which the equipment have been proposed at site till the completion of the respective work.

- ii) No conditions are incorporated in the Price Bid. In case any conditions are specified in the Price Bid, the tender will be rejected summarily without making any further reference to the bidder.
- iii) We have not made any payment or illegal gratification to any persons/ authority connected with the bid process so as to influence the bid process and have not committed any offence under PC Act in connection with the bid.
- iv) We disclose with that we have made / not made (strike out whichever is not applicable) payments or propose to be made to any intermediaries (agents) etc in connection with the bid.
- v) We do hereby confirm that no changes have been made in the Tender document uploaded by us for the above bid. Port Tender document will be treated as the authentic Tender Document and if any discrepancy is noticed at any stage between the Port's tender document and the one submitted by the tenderer, the Port's document shall prevail.

q) Bank information for e- Payment system as per *Annexure-9*.

r) Details of litigation history, blacklisting etc. of the Bidder as per *Annexure-10*.

s) Undertaking regarding EPF & ESI Registration as per *Annexure-11*.

20.2 Scanned copy of all the above documents shall be uploaded for on line submission of Technical Bid.

NOTE: If a bidder has already been awarded or qualified for a similar nature work with a higher value or equivalent value within the last 6 months from the date of notice inviting tender, the tender of such bidder shall be evaluated / considered for qualification with the documents submitted by the bidders in those tenders, provided the Bidder clearly states the details of above such works in the Letter of Submission.

20.3 List of Documents to be Submitted in Original.

- i) DD / Pay Order / Bankers Cheque towards Cost of Tender document
- ii) Bid Security / EMD.
- iii) Power of Attorney, duly authenticated by Notary Public (vide *Annexure-3*)
- iv) Letter of Submission (vide *Annexure-1*)

20.4 Part II : "Price Bid" shall contain the Preamble to BoQ and Bill of Quantities- Schedule II shall be duly filled in and fully priced, which shall be submitted only in e-tendering mode.

21 Deadline for Submission of the Bids:

E-tenders attaching all documents shall be submitted ‘**online**’ in the **e tender portal** strictly in accordance with the terms and conditions of tender document before *the time and the day notified* in Table 2 of NIT.

The (i) Original DD / Pay Order / Bankers Cheque towards the Cost of Tender document,(ii) Bid Security / EMD and (iii) Power of Attorney with letter of submission in a sealed cover in original super scribed with the Tender Number, Name of Work, date notified for submission of tender and the Name of the Tenderer, should reach the office of the Chief Engineer, Cochin Port Authority, Cochin-9, on or before the time and the day notified in Table 2 of NIT.

22 Late Bids:

Any Bid received by the Employer after the Bid Due Date will be returned unopened to the bidder.

23 Bid Opening

23.1 The Officer inviting the tender or his duly authorized assistant will open the tenders in the presence of intending tenderers who may be present at the time in person or through their authorized representative. In the case of the tenders invited under Two Cover System, the technical bids of the tenders received will be opened first.

23.2 **Technical Bid:** Technical Bid shall be opened in the office of the **Chief Engineer, Cochin Port Authority** after **15.00** Hours on the last date fixed for receiving the Tenders. Submission of EMD and Cost of Tender Document is verified initially. In case the Earnest Money and Cost of Bid Document are not deposited/submitted or is not in order, the Bid will not be opened further and hard copy submitted will be returned.

23.3 If all Bidders have submitted unconditional Bids together with requisite Bid Security/ EMD then all Bidders will be so informed then and there. If any Bid contains any deviation from the Bid documents and /or if the same does not contain Bid Security Declaration in the manner prescribed in the Bid documents, then that Bid will be rejected and the Bidder will be informed accordingly. The Price Bid submitted in e- mode will not be opened.

24 Bid Opening – Price Bid:

Price Bid of those Tenderers found responsive on evaluation of Technical Bids, will be opened later. **Short listed bidders will be communicated about the date and time of opening of the Price Bid through e-tender portal notification / communication and there will be no direct communication from department in this regard.** The Bidder’s name, the Bid percentages, the total amount of each Bid, any discounts, Bid modifications and withdrawals, and such other details as the Employer may consider appropriate, will be announced by the Employer at the time of opening.

25 Clarification of Bids:

To assist in the examination and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdown of unit rates. The request for clarification and the response shall be in writing, but no change in the price or substance of the Bid shall be sought, offered, or permitted.

No Bidder shall contact the Employer on any matter relating to his bid from the

time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, he should do so in writing.

Any effort by the Bidder to influence the Employer's bid evaluation, bid comparison or contract award decisions, may result in the rejection of his bid.

26 Examination of Bids and Determination of Responsiveness:

26.1 Prior to detailed evaluation of Bids, Cochin Port Authority will determine whether each Bid

- (a) meets the Minimum Eligibility Criteria defined in Clause 12.
- (b) has been properly signed by an authorised signatory (accredited representative) holding Power of Attorney in his favour. The Power of Attorney shall inter alia include a provision to bind the Bidder to settlement of disputes clause;
- (c) is accompanied by the required Bid Security Declaration and cost of bid document.
- (d) Undertaking in the Technical Bid that he has not incorporated any conditions in the Price Bid.

A responsive Bid is one which conforms to all the terms, conditions and specification of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one;

- i) which affects in any substantial way the scope, quality or performance of the Works;
- ii) which limits in any substantial way, the Employer's rights or the Bidder's obligations under the Contract; or
- iii) whose rectification would affect unfairly the competitive position of other Bidders presenting responsive Bids.

(e) is responsive to the requirements of the Bidding documents.

26.2 If a Bid is not substantially responsive, it shall be rejected by the Employer, and shall not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27 Correction of Errors:

Bids determined to be responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as detailed in Clause 14.2

The amount stated in the Bid will be adjusted by the Employer in accordance with the above stated procedure for the correction of errors and shall be considered as binding upon the bidder. If the Bidder does not accept the corrected amount, the Bid shall be rejected and the Bid security shall be forfeited in accordance with Clause 17.

28 Evaluation and Comparison of Bids:

The Employer will evaluate and compare only the Bids determined to be responsive in accordance with Clause 27. In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:

- (a) making any correction for errors pursuant to Clause 28;
- (b) making appropriate adjustments to reflect discounts or other price modifications offered.

29 Alteration of tender documents:

No alteration shall be made in any of the tender documents or in the Bill of Quantities and the tender shall comply strictly with the terms and conditions of the tender document. The Employer may however ask any tenderer for clarifications of his tender if required. Nevertheless, no tenderer will be permitted to alter his tender price after opening of the tender.

30 Alternative Conditions and Proposals:

The Tenderer shall note that alternative or qualifying tender conditions, or alternative design proposal for whole or part of the work will not be acceptable. Tenders containing any qualifying conditions or even Tenderer's clarifications in any form will be treated as non-responsive and will run the risk of rejection. Price Bid of such Tenderer's will not be opened.

31 Award of Contract:

The Employer will award the Contract to the bidder whose bid has been determined to be responsive to the bidding documents and who has offered the lowest evaluated bid price, provided that such bidder has been determined to be

- (a) Eligible in accordance with the provisions of Clause 12, and
- (b) Qualified in accordance with the provisions of Clause 12.

32 Performance Security:

The Performance Security shall be 5% of Contract Value or Cost of Work Done, whichever is higher. So, initially 5% of the Contract value shall be furnished as Performance Security.

13.3 The Security Deposit/ Performance Security @ 5% of the value of the contract awarded (Rounded off to the nearest Rs.1000/-), shall be furnished by the Contractor to the Employer, not later than **14 days** from the date of receipt of letter of acceptance or such extension of that period as may be permitted by the official of Cochin Port writing, and shall be furnished in one of the following forms:

- i) Banker's Cheque / Demand Draft of a Commercial Bank/ online payment through RTGS/NEFT. If online payment is made, the evidence thereof shall be submitted to the office.
- ii) An irrevocable Bank Guarantee(BG) enforceable and encashable at Cochin, drawn from any Scheduled Bank operating in India as per the prescribed proforma.

13.4 The BG furnished towards the Performance Security shall be valid for a period covering the contract period stipulated as per the terms of the contract. 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, the Earnest Money will be liable to forfeiture and the Contract to cancellation.

13.5 **Performance Security will be released/ refunded to the contractor not later than 14 days from the date of payment of final bill..**

13.6 **Retention Money:** Retention Money @ 5% shall be retained from each payment due to the Contractor.

- 13.7 Retention Money shall be deducted at 5% of the gross amount of the bill from the first Running Account bill onwards till the recovered sum along with Performance Security amounts to 10% of the Contract value or the value of the work done whichever is higher at all times. **Retention Money shall be refunded to the Contractor within 14 days from the date of payment of final bill.**
- 13.8 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 Retention Money recovered from the running account bills, shall amount to 10% of the Cost of Work done.
- 139 In cases where cost of Work done exceeds the Contract Value while releasing the Retention Money after payment of Final Bill, only 5% cost of Work Done is released, instead of the entire Retention Money recovered from the bills. The balance amount shall be retained; to make up for the shortage in the Performance Security, upto the completion of Defects Liability Period.
- 32.1 *Annexure-A of GCC.*

33 Signing of Agreement

- 33.1 The Successful Tenderer will be required to execute an Agreement at his expense within 28 (twenty eight) days from the date of Letter of Acceptance / Work Order, on proper value Kerala State Stamp Paper in the prescribed form. The agreement as finally executed will include the Employer's Bid Documents and the Bidder's offer as finally accepted by the EMPLOYER together with Addendum / Corrigenda, bid clarification and all correspondences exchanged between EMPLOYER and the bidder, if any. Till the formal agreement is executed, the Letter of Acceptance together with the offer as finally accepted along with correspondence shall form a binding contract between the two parties.
- 33.2 The Contractor shall made 13 copies of the Agreement and submit to the Employer within 7 days following the date of signing of Agreement.
- 33.3 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 the 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.

34 Fraud and Corrupt Practices:

- 34.1 The bidder and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this document, the Port shall reject the tender without being liable in any manner whatsoever to the bidder, if it determines that the bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Selection Process. In such an event, the Port shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Port for, inter alia, time, cost and effort of the Authority, in regard to the Tender, including consideration and evaluation of such Bidder's Proposal. Such Bidder shall not be eligible to

participate in any tender or RFP issued by the Authority during a period of **2 (two)** years from the date such Bidder is found by the Authority to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

34.2 For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:

(a) “corrupt practice” means

- (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOA or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Selection Process; or
- (ii) engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Authority in relation to any matter concerning the Project;

(b) “fraudulent practice” means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;

(c) “coercive practice” means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person’s participation or action in the Selection Process;

(d) “undesirable practice” means

- (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or
- (ii) having a Conflict of Interest; and

(e) “restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.

35 Rejection of Tender:

Any Tender not conforming to the foregoing instructions will not be considered. The Employer does not bind himself to accept the lowest or any tender and has the right to reject any tender without assigning any reason thereof. No representation whatsoever will be entertained on this account.

SIGNATURE OF BIDDER

COCHIN PORT AUTHORITY

SECTION I

3.FORM OF BID

To

The Board of Cochin Port Authority

Through

The Chief Engineer
Cochin Port Authority, Cochin -9

Tender for the work of “**Resurfacing KPK Menon Road from CHTS Jn. to CFS**”

I/We have read and examined the Notice inviting tenders, Instructions to tenderers, Form of Agreement, Contract Data, General Conditions of Contract, General description of work, Special conditions of Contract, Technical Specifications, Drawings, Preamble, Bill of Quantities, & other documents and rules referred to in the General Conditions of Contract and all other contents in the tender document for the work.

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 | : Resurfacing KPK Menon Road from CHTS Jn. to CFS . |
| b) Estimated cost | : Rs.1,49,44,000/- |
| c) Earnest Money | : Rs.2,99,000/- |
| d) Security Deposit | : 10% of the value of the contract awarded or the value of the work done whichever is higher [performance guarantee @ 5% and retention money @5%]. |
| e) Percentage, if any, to be deducted from the bills | : The retention money will be recovered from the first running bill onwards at the rate of 5% of the gross amount of each bill. |

- 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. : **4 (Four) months**
- h) Schedule, specifications, conditions, drawings etc. as per contents sheet attached. : As per content sheet attached

I/ We agree to keep the tender open for 120 days from the due date of submission

Should this Bid be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of contract annexed hereto. I/We further agree to execute an agreement with the Board in the prescribed form

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..... is hereby forwarded in Port challan receipt / Bankers cheque or demand Draft of a scheduled bank / Bank Guarantee issued by a Scheduled bank drawn in favour of 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 above Memorandum 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 Clause 40.1 of General Conditions of Contract 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 General Conditions of Contract.

Dated the day of 2024.

Signature of the Tenderer

Address :

Witness :

Address :

Occupation :

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Board of Major Port Authority for a sum of Rs.....(Rupees)

The letters referred to below shall form part of this Contract Agreement

- a) ..
- b) ..
- c)

Dated.....

**Chief Engineer
Cochin Port Authority**

COCHIN PORT AUTHORITY

SECTION – I

4. FORM OF AGREEMENT

AGREEMENT No.....of 20.....

AGREEMENT FOR THE WORK OF RESURFACING KPK MENON ROAD FROM CHTS JN. TO CFS

THIS AGREEMENT IS MADE on this day..... of 2024 BETWEEN THE BOARD OF MAJOR PORT AUTHORITY OF COCHIN PORT AUTHORITY, a body corporate under the Major Port Authority Act, 1963 having office on Willingdon Island, Cochin-682009 represented by its Chief Engineer Sri., S/o., aged years residing at, Village, Taluk,District (hereinafter referred to as the Employer which expression shall include his successors, assignees and administrators in the office) of the one part and M/s. represented by Shri. aged S/o residing at Village Taluk District(hereinafter referred as “Contractors” which expression shall include their successors, assignees and administrators) of the other part.

WHEREAS the Employer invited tenders for
..... vide Tender Notice Date
..... and the Contractor submitted a tender for the same giving rates subject to the terms and conditions etc. of the tender document.

AND WHEREAS the said tender submitted by the Contractor has been accepted by the Employer vide work order No dated, issued to the Contractor while accepting their tender.

NOW THESE PRESENTS WITNESSETH and the parties hereby agree as follows.

1. The tender submitted by the Contractor for execution for the Board, 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 is accepted.
2. It is mutually understood and agreed that, notwithstanding that the works has been sectioned, every part of it shall be deemed to be supplementary to and complementary of every other part and shall be read with it or into it.
3. The Contractor agreed to abide by and fulfill all the terms and provisions of the said Conditions of Contract or in default thereof forfeit and pay to the Board the sum of money mentioned in the said conditions.

4. The sum of Rs...../- [Rupees.....only) has been deposited by the Contractor with Financial Adviser and Chief Accounts Officer of the Port Authority as Performance Security (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 the Contractor fail to commence the work specified in underwritten memorandum or should the Contractor not deposit the full amount of security deposit specified in underwritten memorandum 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, up to maximum of the percentage mentioned in Clause 40.1 of the Conditions of Contract and those in excess of that limit at the rates to be determined in accordance with the provisions contained in Clause 40.3 of the Conditions of Contract.
5. It is mutually agreed that the tender submitted in its entirety shall form part of this agreement. Apart from the tender the following shall also form part of the agreement
- (a) The Letter of Acceptance ;
 - (b) Bill of Quantities and
 - (c) Letters exchanged between the Employer and the Tenderer upto the issue of Letter of Acceptance as separately listed and annexed here to.
 - (d) Replies to Prebid queries and amendments issued, if any.

M E M O R A N D U M

- | | |
|--|--|
| a) General description of work | : Resurfacing KPK Menon Road from CHTS Jn. to CFS. |
| b) Estimated cost | : Rs.1,49,44,000/- |
| c) Tendered cost | : Rs. |
| d) Earnest Money | : Rs.2,99,000/-. |
| e) Security Deposit | : Rs.....(10% of the value of the Contract awarded or the value of the work done whichever is higher). |
| f) Percentage, if any, to be deducted from the bills | : In case, where the value of work done exceeds Contract Value, Additional Security Deposit @ 5% of the excess amount will be deducted from the respective RA Bills, while making the payment. |

- g) Time allowed for commencement of work from the date of receipt of work order : 7 days
- h) Time allowed for the work from the date of commencement of work. : 4 (Four) months
- i) Schedule, specifications, conditions, drawings etc. as per contents sheet attached. :

IN WITNESS WHEREOF THE CONTRACTOR hereunto set his hand and seal on behalf of M/s..... and on behalf of **The Board of Major Port Authority** of COCHIN PORT AUTHORITY, the CHIEF ENGINEER has set his hand and seal and common seal of Cochin Port authority has been hereunto affixed the day and year first written above.

CONTRACTOR

- (Retain only the authority signing the agreement)

Signed, sealed and delivered by

Shri.....of M/s.

(Common Seal of the Firm)

Signed and affixed seal in the presence of :

1) Signature with address :

2) Signature with address :

EMPLOYER

Signed, sealed and delivered by the

CHIEF ENGINEER

Cochin Port Authority

On behalf of The Board of

Major Port Authority of Cochin.

Signed and affixed the common seal of

Board of Major Port Authority of Cochin Port Authority

In the presence of

1)

2)

B

COCHIN PORT AUTHORITY

SECTION I

5.CONTRACT DATA

[To be filled up before issuing tender document as applicable for each tender]

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 (Will be informed in due course)	(8.2)											
	The Schedule of Key personnel	(9)											
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Designation/ 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 Or Diploma Engineer</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2</td> <td rowspan="2" style="text-align: center;">Rs.15,000/- per month</td> </tr> <tr> <td></td> <td style="text-align: center;">2</td> <td style="text-align: center;">5</td> </tr> </tbody> </table>	Designation/ Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non compliance	Graduate Engineer Or Diploma Engineer	2	2	Rs.15,000/- per month		2	5	
Designation/ Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non compliance										
Graduate Engineer Or Diploma Engineer	2	2	Rs.15,000/- per month										
	2	5											
2	The Employer is	(1)											
	The Board of Major Port Authority , Cochin Port Authority, Cochin -9												
	Name of Authorized Representative:												
	Name: Shri.Kasiwiswanathan The Chairperson, Cochin Port Authority Cochin -9												
3	The Engineer is												
	Name: Shri. A.G Sathyan Chief Engineer i/c Cochin Port Authority, Cochin-9												
	Name of Nominee(s) is : Will be notified in LoA/ LoI												
4	Name of Contract : Resurfacing KPK Menon Road from CHTS Jn. to CFS	(1)											
	Tender No: T6/T-2021/2024-C												
5	10 copies of Contract Agreement shall be furnished by the												

Sl. No.	Description	Reference Clause No. in GCC		
	Contractor	[7.1]		
6	Tender document and other data are available at the following web sites : 1) www.cochinport.gov.in 2) www.tenders.gov.in 3) tenderwizard.com/copt	(7.2)		
7	The Intended Completion Date for the whole of the Work is 3 (Four) Months	(17,28)		
8	Milestone dates: <table border="1" data-bbox="352 658 1251 770"> <tr> <td>Physical works to be completed</td> <td>Period from the date of commencement of work</td> </tr> </table> The activity wise schedule needs to be submitted by the Contractor within 21 days of receipt of LoA from CoPA. This needs to be strictly followed for the timely completion of the work.	Physical works to be completed	Period from the date of commencement of work	
Physical works to be completed	Period from the date of commencement of work			
9	The following shall form part of the Contract Document: (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 and (11) Any other documents listed in the Contract Data as forming part of the Contract.	(2.3)		
10	The Contractor shall submit a Program for the Works within 21 days of date of the Letter of Acceptance/LoI.	(27)		
11	The site possession date The site will be handed over within 7 days after issue of LoA/LoI and the site is free from encumbrances.	(21)		
12	The start date shall be 7 days from the date of receipt of the Letter of Acceptance (LoA)/LoI by the Contractor.	(1)		
13	The site is located Willingdon Island Project Location shown in Page No.113.			
14	The Defects Liability Period is One year from the date of completion of the work.	(35)		
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,	(13)		

Sl. No.	Description			Reference Clause No. in GCC
	Contractor will pay additional premium necessary to make insurance valid always.			
16	The following events shall also be Compensation Events: (Nil)			(44)
17	The period between Programme updates shall be 90 days.			(27)
18	The amount to be withheld for late submission of an updated Programme shall be Rs.25,000/- .			(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 5% from each bill subject to a maximum of 5% of the contract price or cost of work done whichever is higher.- 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]
	Nature of Advance	Amount (Rs)	Conditions to be fulfilled	
	1.Secured Advance for non-perishable Materials brought to site	75% of Invoice value or Market value whichever is Lower.	a) The non perishable materials, in accordance with Tender	
b) Such materials have been delivered to site and are properly stored and protected against damage or deterioration to the satisfaction of the Engineer or his nominee. The contractor shall store the bulk material in measurable stacks.				
c)The Contractor's records of the requirements, orders, receipt and use of materials are kept in a form approved by the				

Sl. No.	Description		Reference Clause No. in GCC
		Engineer or his nominee and such records shall be available for inspection by the Engineer or his nominee.	
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:		[51.6]
	The advance shall be repaid from each succeeding monthly payment to the extent materials for which advance was previously paid pursuant to Clause 51.6 of Conditions of Contract on being incorporated into the Works.		
28	The date by which “As-Built” drawings are required is withindays of issue of certificate of completion of whole or section of the work, as the case may be.		(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 Rs.50,000/-.		(58)
30	Schedule of Rates Applicable: (DSR 2018 + Cost Index 55%) multiplied by a factor 0.8768 to exclude 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 %		(47)

COCHIN PORT AUTHORITY

SECTION I

6. ANNEXURES

Sl. No.	Annexure	Description	Page No.
1	1	Letter of Submission - Covering Letter	37
2	2	Proforma of Power- of-Attorney/ of Authority	38
3	3	Organization Details	39-40
4a	4a	Eligible Assignment Details for MEC	41-42
4b	4b	Details of past experience of Contractors for Similar Works	43
5	5	Financial Capability	44
6	6	Details of Proposed Approach & Methodology	45
7	7	Plant and Equipment Proposed for the Work	46
8	8	Declaration	47
9	9	Format for Furnishing Bank information for e-payment	48
10	10	Details of Litigation History	49-50
11	11	Undertaking regarding ESI & EPF	51

COCHIN PORT AUTHORITY
Resurfacing KPK Menon Road from CHTS Jn. to CFS
LETTER OF SUBMISSION- COVERING LETTER
(On the Letter Head of the Bidder)

No.....

Date:.....

To

The Chief Engineer,
Cochin Port Authority.

Sir,

Sub: Tender for “**Resurfacing KPK Menon Road from CHTS Jn. to CFS**”
~~~~~

Being duly authorized to represent and act on behalf of .....  
(Hereinafter referred to as “the Bidder”) and having reviewed and fully understood all of  
the requirements of the bid document and information provided, the undersigned hereby  
apply for the project referred above.

We are submitting our Bid enclosing the following, with the details as per the  
requirements of the Bid Document, for your evaluation.

- (i) EMD
- (ii) Power of Attorney (*Annexure-2*)

We have also uploaded the following documents for online submission of  
Technical Bid.

- (i) Organization Details (*Annexure-3*)
- (ii) Details to fulfill the “Minimum Eligibility Criteria” and certificates(*Annexure-4a*)
- (iii) Details of Past Experience of Contractor for Similar works (*Annexure-4b*)
- (iv) Average Financial Turnover over the last three financial year(*Annexure-5*)
- (v) Detailed Method Statement (Technical Note)(*Annexure-6*)
- (vi) List of Plant and Equipment (*Annexure-7*)
- (vii) Declaration (*Annexure -8*)
- (viii) Bankers Details ( *Annexure-9*)
- (ix) Details of litigation history / blacklisting of the bidder ( *Annexure-10*)
- (x) Undertaking regarding EPF & ESI registration. (*Annexure-11*)
- (xi) Tender Document along with Addenda Nos ----,

We also certify that further Bid related communication, if any, will be sent to the  
following e-mail IDs by CoPA.

(i).....

(ii).....

(Furnish 2 nos. current active e-mail IDs)

Signature

(Authorized Signatory)

*Annexure- 2*

**PROFORMA OF POWER- OF-ATTORNEY/LETTER OF AUTHORITY**  
(To be submitted on Non-judicial Stamp Paper of appropriate value)

To

The Chief Engineer,  
Cochin Port Authority,  
Cochin 682009.  
Kerala, India.

Dear Sir,

We \_\_\_\_\_  
do hereby confirm that Mr./Ms./Messrs \_\_\_\_\_  
[*INSERT NAME AND ADDRESS*], whose signature is given below, is /are authorized  
to represent us to bid, negotiate and conclude the agreement on our behalf with you  
against Tender for **Resurfacing KPK Menon Road from CHTS Jn. to CFS**  
(**Tender No.T6/T-2021/2024- C**).

We confirm that we shall be bound by all and whatsoever our said agents shall commit.

Signature of the authorized person:

Name & Designation :

Yours faithfully,

Signature, name and seal of the certifying authority



**COCHIN PORT AUTHORITY**  
**Additional Resurfacing KPK Menon Road from CHTS Jn. to CFS**  
**ORGANIZATION DETAILS**

CONTRACT No.:

NAME OF APPLICANT:

1. Name of the Owner:
2. Address:

Telephone No. :

E-mail:

Fax No.

3. Description of Applicant  
(For e.g. General, Civil Engineering  
Contract or Joint Venture/Consortium etc.)
4. Registration and Classification  
of Contractors
5. Name and address of bankers
6. Number of years of experience  
as a general contractor :-  
  
In own Country:  
  
Internationally:
7. Number of years of experience  
as a sub contractor
8. Name and Address of partners or  
associated companies to be involved  
in the project and whether Parent/  
Subsidiary/other

6. Name and address of any associates knowledgeable in the procedures of customs, immigration and local experience in various aspect of the project etc.
10. Name and address of the companies/ Sub-contractors who will be involved in the execution of works, namely:
11. Name and address of companies who will be involved in the supply of bought out items
  - a) Fenders, stainless chains and accessories
  - b) Bollards, Capstan, Remote control Quick release Mooring systems
12. Attach organization chart showing the structure of the company including names of Directors/ Key Personnel at Head Office who would be responsible for the project and a separate chart showing proposed Site Construction Organization.

Signature  
(Authorized Signatory)

**COCHIN PORT AUTHORITY**  
**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

Tenderer shall furnish Details of “Eligibility Works Experience” as per Clause 12 of Minimum Eligible Criteria (MEC) of Instruction to Tenderer and certificates in the following format (Client Certificates/work completion certificates or any other documentary evidences with respect to the eligibility work)

**ELIGIBLE ASSIGNMENT DETAILS FOR MEC**

Assignment Number:

| Description                                                                                                                                 | Bidder to fill up the details here |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Name and Address of the Client                                                                                                              |                                    |
| Title of the Eligible Assignment                                                                                                            |                                    |
| Date of completion of the Eligible Assignment                                                                                               |                                    |
| Project Completion Cost                                                                                                                     |                                    |
| Reference No. of the enclosed Client Completion Certificate/ Documentary Evidence for having successfully completed the Eligible assignment |                                    |
| Name, telephone no, telefax no and email address of the client’s representative                                                             |                                    |
| Description and Scope of Work                                                                                                               |                                    |

Instructions:

- i) Bidders are expected to provide information in respect of Eligible Assignments in this Section. The assignments cited must comply with the criteria specified Clause No. 12 (a) Minimum Eligibility of the Instructions to Tenderers”.
- ii) A separate sheet should be filled for each of the eligible assignments.
- iii) The details are to be supplemented by documentary proof from the respective client /owner for having carried out such assignment duly certified by clients/ owner.
- iv) The works indicated in this **Annexure-4a** will be only being considered for evaluation. Mere submission of work completion certificate will not be considered as Eligible Assignments
- v) Original or Notary certified copy of completion certificates of each work issued by the owner/ the responsible officers of the owner under whom he has executed such contracts shall be attached. The certificate shall invariably contain the following among other things.
  - a) Details of work involved specifying the nature of work

- b) The completion cost of the work and
  - c) Date of commencement ; and
  - d) Date of completion of the work.
- vi) If the experience in Similar Works is as a member of joint venture, Notary attested copy of joint venture agreement in this respect shall be attached.
  - vii) If the experience in Similar Works is as a subcontractor, Notary 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 shall be attached.
  - viii) If the experience in Similar Work is in works executed in private sectors/organizations, the TDS certificate along with Notary attested copy(s) of work order and completion certificate shall be attached.
  - ix) In case of bid submitted by JV/ Consortium, the Minimum Eligibility Criteria EXCEPT Financial Turnover can be fulfilled collectively by the Partners of the JV/ Consortium.
  - x) The tenderer shall also be obligated to produce the original of the certified copy(s), on request by the department.

Signature  
(Authorized Signatory)

**COCHIN PORT AUTHORITY**  
Resurfacing KPK Menon Road from CHTS Jn. to CFS

**DETAILS OF PAST EXPERIENCE OF CONTRACTORS FOR  
SIMILAR WORKS**

| Sl. No. | Name & Location of Project | Owner's Complete address including TeleFax No. with contact Person | Value of Contract | Duration of Contract |                           |                        | Details of work including major items of work involved | Reference No. & Date of letter of intent & completion certificate enclosed |
|---------|----------------------------|--------------------------------------------------------------------|-------------------|----------------------|---------------------------|------------------------|--------------------------------------------------------|----------------------------------------------------------------------------|
|         |                            |                                                                    |                   | Commencement date    | Scheduled completion date | Actual completion date |                                                        |                                                                            |
| 1       | 2                          | 3                                                                  | 4                 | 5                    | 6                         | 7                      | 8                                                      | 9                                                                          |
|         |                            |                                                                    |                   |                      |                           |                        |                                                        |                                                                            |

**Note:** 1) Bidder to enclose completion certificate issued by owner, certified by a Notary Public or equivalent certifying authority.

2) If the Bidder is claiming his experience as Subcontractor; it will be considered for qualification only if documentary proof of sub-contractor authorized and approved by the Employer of the work(s) is submitted.

**SIGNATURE OF TENDERER**

**COCHIN PORT AUTHORITY**  
**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

**FINANCIAL CAPABILITY**

(A) Average Annual Turnover of the Bidder

| <b>Turnover (Rs.)</b> |               |               |                |
|-----------------------|---------------|---------------|----------------|
| <b>Year 1</b>         | <b>Year 2</b> | <b>Year 3</b> | <b>Average</b> |
|                       |               |               |                |

**Instructions:**

- (i). Year 1 will be the Financial Year-2020-21. Year 2 shall be the year immediately preceding Year 1 and Year 3 shall be the year immediately preceding Year 2.
- (ii). The Bidder shall provide audited Annual Reports / Audited financial statements such as balance sheets and profit & loss account statements as required under this Bid Document.
- (iii). Annual Turnover of the bidder shall be submitted duly verified by Chartered Accountant or Competent Authority.

**Certified by Chartered Accountant**

Signature  
(Authorized Signatory)

**COCHIN PORT AUTHORITY**  
**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

**DETAILS OF PROPOSED APPROACH & METHODOLOGY**

Bidder shall furnish a detailed Method Statement (Technical Note) for carrying out of the works, along with a construction programme [ Preferably in MS project / Primavera] showing sequence of operation and the time frame for various segments of temporary and permanent works showing critical path of activities.

Signature  
(Authorized Signatory)

**COCHIN PORT AUTHORITY**  
**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

**PLANT AND EQUIPMENT PROPOSED FOR THE WORK**

Please indicate the main plant and equipments considered to be necessary and proposed to be deployed for undertaking this work and whether this plant is ready in ownership or will be purchased or hired.

| Sl. No. | Description of equipment | Requirement No. / Capacity | Owned / leased / to be procured | Nos / Capacity | Age / Condition | Remarks (From whom to be purchased) | At what Stage of contract period the Equipment will be available |
|---------|--------------------------|----------------------------|---------------------------------|----------------|-----------------|-------------------------------------|------------------------------------------------------------------|
|         |                          |                            |                                 |                |                 |                                     |                                                                  |
|         |                          |                            |                                 |                |                 |                                     |                                                                  |
|         |                          |                            |                                 |                |                 |                                     |                                                                  |
|         |                          |                            |                                 |                |                 |                                     |                                                                  |

Signature  
(Authorized Signatory)



**COCHIN PORT AUTHORITY**  
**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

**DECLARATION**

We M/s (*Name & address of the bidder*) hereby declare that:-

1. All details regarding construction plant, temporary work and personnel for site organization considered necessary and sufficient for the work have been furnished in the **Annexure-6** and that such plant, temporary works and personnel for site organization will be available at the site till the completion of the respective work.
2. No conditions are incorporated in the Financial/ Price bid. In case any conditions are specified in the financial bid, the tender will be rejected summarily without making any further reference to the bidder.
3. We have not made any payment or illegal gratification to any persons/ authority connected with the bid process so as to influence the bid process and have not committed any offence under PC Act in connection with the bid.
4. We disclose with that we have \* made / not made payments or propose to be made to any intermediaries (agents) etc in connection with the bid.
5. We do hereby confirm that no changes have been made in the tender document downloaded and uploaded by us for the above bid. Port Tender document will be treated as authentic tender and if any discrepancy is noticed at any stage between the Port's tender document and the one uploaded by the tenderer, the Port's document shall prevail.

Signature  
(Authorized Signatory)

\* **Notes:**

*(i) Delete whichever is not applicable.*

*(ii) The above Declaration shall be submitted in the Letter head*

**FORMAT FOR FURNISHING BANK INFORMATION FOR e-PAYMENT**

|   |                                                 |            |
|---|-------------------------------------------------|------------|
| 1 | Name and full address of the beneficiary        |            |
| 2 | Credit Account No.<br>(Should be full 14 digit) |            |
| 3 | Account Type<br>(SB or CA or OD)                |            |
| 4 | Name of the Bank                                |            |
| 5 | Branch<br>(Full address with telephone No.)     |            |
| 6 | MICR code<br>(Should be 9 digit)                |            |
| 7 | Telephone/Mobile/Fax No. of the beneficiary     | Telephone: |
|   |                                                 | Mobile :   |
|   |                                                 | Fax :      |
| 8 | Cancelled Cheque                                |            |

Signature with seal  
(Authorized Signatory)

**LITIGATION HISTORY AND DETAILS OF BLACK LISTING**

(A). Details of Litigation History till 31<sup>st</sup> July, 2024 in accordance with clause 20.1(s) of Instruction to Bidders are as follows:

| Sl No | Date, month & Year of award | Amount of Award, INR | Contract Identification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Total Contract Amount INR |
|-------|-----------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 1     | [insert date]               | [insert amount]      | <p><i>Contract Identification: [indicate complete contract name, number, date and any other identification]</i></p> <p><i>Name of Employer: [insert full name]</i></p> <p><i>Address of Employer: [insert street/city/country]</i></p> <p><i>Matter in dispute: [indicate main issues in dispute]</i></p> <p><i>Party who initiated the dispute: [indicate "Employer" or "Contractor"]</i></p> <p><i>Status of dispute: [Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i></p> | [insert amount]           |
| 2     |                             |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |
| 3     |                             |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |

(B). Details of Black listing/ debarring by the Govt. departments for last 5 years till 31<sup>st</sup> July, 2024:

| Sl. No | Date, month & year of Black listing / de barring | Name of Agency Black listed / de barred | Period of Black listing / de barring | Ending date of Black listing / de barring |
|--------|--------------------------------------------------|-----------------------------------------|--------------------------------------|-------------------------------------------|
| 1      | [insert date, month & year]                      | [insert name and place of agency]       | [insert period in years & months]    | [insert date, month & year]               |
| 2      |                                                  |                                         |                                      |                                           |

(C). Details of Pending Litigation upto 31<sup>st</sup> July 2024:

| Sl No | Date, month & Year of award | Amount of Award, INR | Contract Identification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Total Contract Amount INR |
|-------|-----------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 1     | [insert date]               | [insert amount]      | <p><i>Contract Identification: [indicate complete contract name, number, date and any other identification]</i></p> <p><i>Name of Employer: [insert full name]</i></p> <p><i>Address of Employer: [insert street/city/country]</i></p> <p><i>Matter in dispute: [indicate main issues in dispute]</i></p> <p><i>Party who initiated the dispute: [indicate "Employer" or "Contractor"]</i></p> <p><i>Status of dispute: [Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i></p> | [insert amount]           |
| 2     |                             |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |

**Certified that the above information is correct as per records and nothing has been omitted / concealed.**

.....(Signature of the Statutory Auditor)

..... (Full Name of the Statutory Auditor)

..... (Name of the Statutory Auditor's Firm)

..... (Complete Address of the Statutory Auditor's Firm)

..... (Telephone/fax numbers, including country and city codes)

..... (E-mail of the Statutory Auditor)

..... (Seal of the Statutory Auditor)

**Membership No. of the Statutory Auditor: .....**

**Notes:**

- (i) The Tenderer shall provide accurate information about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last three years.
- (ii) This may be noted that under this category only cases of arbitration /litigation finally settled against the Tenderer should be listed. If the case is pending at any level of arbitration or judiciary, the same should be listed in Pending Litigation and NOT under Litigation History. A consistent history of awards against the Tenderer may result in failure of the Application/Tender.

Date:

Tenderer's Signature  
WithStamp

**COCHIN PORT AUTHORITY**  
**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

**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**

## **SECTION II**

**COCHIN PORT AUTHORITY**  
**CIVIL ENGINEERING DEPARTMENT**

Tender No:**T6/T-2021/2024-C**

Tender for  
**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

|                                   |    |                                                       |              |
|-----------------------------------|----|-------------------------------------------------------|--------------|
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|                                   | 4. | Form of Agreement                                     | 28-31        |
|                                   | 5. | Contract Data                                         | 32-35        |
|                                   | 6. | Annexure (1 to 11)                                    | 37-51        |
| <br>                              |    |                                                       |              |
| Section II                        | 1. | <b>General Conditions of Contract:<br/>Part A - G</b> | <b>56</b>    |
|                                   | 2. | <b>Form of Securities (Annexure A<br/>&amp; B)</b>    | <b>58-62</b> |
| <br>                              |    |                                                       |              |
| Section III                       | 1. | General Description of work                           | 66-75        |
|                                   | 2. | Special Conditions of Contract                        | 90-101       |
| <br>                              |    |                                                       |              |
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|                                   | 2. | Drawings                                              | 139-144      |
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| Section V<br>(Separate<br>Volume) |    | Schedule II-Bill of Quantities                        | 1-3          |

# INDEX

## SECTION -II

| <b>Sl. No.</b> | <b>Clause/<br/>Sections</b> | <b>DESCRIPTION</b>                          | <b>Page No.</b> |
|----------------|-----------------------------|---------------------------------------------|-----------------|
| 1              | 1.                          | General Conditions of Contract - Part A - G | 56              |
| 2              | 2.                          | Form of Securities (Annexure A & B)         | 58-62           |



**SECTION -II  
COCHIN PORT AUTHORITY**

**1. GENERAL CONDITIONS OF CONTRACT (GCC) - PART A - G**

| <b>Sl. No.</b> | <b>Part</b> | <b>DESCRIPTION</b>                                                                                      | <b>Page No.</b> |
|----------------|-------------|---------------------------------------------------------------------------------------------------------|-----------------|
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| 2              | B           | Part B - Time Control                                                                                   | CC 18           |
| 3              | C           | Part C - Quality Control                                                                                | CC 22           |
| 4              | D           | Part D - Cost Control                                                                                   | CC 24           |
| 5              | E           | Part E - Finishing the Contract                                                                         | CC 37           |
| 6              | F           | Part F - Labour Laws and Miscellaneous Clauses                                                          | CC 42           |
| 7              | G           | Part G - Salient features of some major laws applicable to establishments engaged in construction work. | CC 59           |

**(GCC ATTACHED AS SEPARATE VOLUME)**

**SECTION -II  
COCHIN PORT AUTHORITY**

**2. FORM OF SECURITIES (ANNEXURE A & B)**

| <b>Sl. No.</b> | <b>Annexure</b> | <b>Description</b>                                                     | <b>Page No.</b> |
|----------------|-----------------|------------------------------------------------------------------------|-----------------|
| 1              | A               | Proforma of Bank Guarantee for Performance Guarantee/ Security Deposit | 58-60           |
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**PROFORMA OF BANK GUARANTEE FOR PERFORMANCE  
GUARANTEE/ SECURITY DEPOSIT**

*(To be executed on non-judicial Stamp Paper of appropriate value)*

*[The bank, as requested by the successful Tenderer, shall fill in this form in accordance with the instructions indicated]*

In consideration of the Board of Trustees of the Port of *[insert name of Port]* incorporated by **The Board of Major Port Authority** Act, 1963 as amended by Major Port Authority (Amendment) Act 1974 (hereinafter called “The Board” which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Trustees of the Port of *[insert name of Port]*, its successors and assigns) having agreed to exempt \_\_\_\_\_ (hereinafter called the “Contractor”)

(Name of the Contractor/s)

from the demand under the terms and conditions of the Contract, vide \_\_\_\_\_ ‘s letter No. \_\_\_\_\_

(Name of the Department)

date \_\_\_\_\_ made between the Contractors and the Board for execution of \_\_\_\_\_ covered under Tender No. \_\_\_\_\_ dated \_\_\_\_\_ (hereinafter called “the said contract”) for the payment of Security Deposit in cash or Lodgement of Government Promissory Loan Notes for the due fulfilment by the said Contractors of the terms and conditions of the said Contract, on production of a Bank Guarantee for Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only we, the (Name of the Bank and Address) \_\_\_\_\_

\_\_\_\_\_ (hereinafter referred to as “the Bank”) at the request of the Contractors do hereby undertake to pay to the Board an amount not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only against any loss or damage caused to or suffered or which would be caused to or suffered by the Board by reason of any breach by the Contractors of any of the terms and conditions of the said contract.

2. We, \_\_\_\_\_, \_\_\_\_\_, do hereby

(Name of Bank)

(Name of Branch)

undertake to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Board stating that the amount claimed is due by way of loss or damage caused to or which would be caused to or suffered by the Board by reason of any breach by the Contractors of any of the terms and conditions of the said contract or by reason of the Contractors failure to perform the said contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to any amount not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only.

3. We, \_\_\_\_\_(Name of Bank and Branch)\_\_\_\_\_, undertake to pay to the

Board any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.

4. We, \_\_\_\_\_(Name of Bank and Branch) further agree with the Board that the guarantee herein contained shall remain in full force and effect during the period that would be taken for performance of the said contract and that it shall continue to be enforceable till all the dues of the Board under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the

---

(Name of the user department)

of the said certifies that the terms and conditions of the said contract have been fully and properly carried out by the said Contractors and accordingly discharge this guarantee. PROVIDED HOWEVER that the Bank shall be the request of the Board but at the cost of the Contractors, renew or extend this guarantee for such further period or periods as the Board may require from time to time.

5. We, \_\_\_\_\_ further agree with the Board

(Name of Bank and Branch)

that the Board shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend the time of performance by the said contract or to extend the time of performance by the said Contractors from time to time or to postpone for any time or from time to time any of the powers exercisable by the Board against the said Contractors and to forebear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extensions being granted to be Contractors or for any forbearance, act or omission on the part of the Board or any indulgence shown by the Board to the Contractors or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7. It is also hereby agreed that the Courts in [*insert city*] would have exclusive jurisdiction in respect of claims, if any, under this Guarantee.

8. We, \_\_\_\_\_ Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Board in writing.

9. Notwithstanding anything contained herein :

a) Our liability under this Bank Guarantee shall not exceed Rs. \_\_\_\_\_

(Rupees \_\_\_\_\_ only);

b) this Bank Guarantee shall be valid upto \_\_\_\_\* \_\_\_\_\_; and

c) we are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before \_\_\_\_\_ (date of expiry of Guarantee).”

Date \_\_\_\_\_ day of \_\_\_\_\_ 20

For (Name of Bank)

(Name)

Signature

\* The date will be thirty (30 )days after the end of the period of Defect Liability as specified in the Contract.

**PROFORMA OF BANK GUARANTEE FOR ADVANCE**  
*(To be submitted on Non-Judicial Stamp Paper of appropriate value)*

Bank Guarantee No. \_\_\_\_\_ dated \_\_\_\_\_

Amount of Guarantee Rs. \_\_\_\_\_

Guarantee cover from \_\_\_\_\_ to \_\_\_\_\_

Last date of lodgment of claim

In consideration of Board of Major Port Authority of Cochin Port Authority (hereinafter called "Port Authority") which expression shall include all their successors and assignees having agreed to pay advance of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) repayable with interest @ \_\_\_\_\_ % per annum to \_\_\_\_\_ (Name & Address of contractor ) (hereinafter called the "CONTRACTOR") which expression shall include their successors and assignees for the contract for the work of \_\_\_\_\_ (Name of work) evidenced by the offer of the Contractor dated..... and accepted by the Port Authority forming the contract and the work order No..... dated,..... for the work of (name of work) issued by the Port Authority and the formal stamped agreement to be entered into between parties in the above, the said amount and interest being recoverable from the running bills of the contractor on pro-rata basis as per terms of agreement, we (Name of Bank) having our Head office at ..... (hereinafter referred to as "the Bank") do hereby undertake to pay The Cochin Port Authority an amount of Rs.....(Rupees.....only) with interest against any loss or damage caused to or would be caused to or suffered by the Port Authority by reason of any breach by the said contractor of any of the terms or conditions contained in the said agreement, making it impossible or difficult to recover the said mobilization advance of Rs.....(Rupees.....only) or part thereof or interest thereon we (Name of the Bank)do hereby undertake to pay the amounts due and payable under the guarantee without any demur, merely on demand of The Cochin Port Authority by reason of any breach by the said contractor of any of the terms and conditions contained in the said agreement or by the reason of contractor's failure to perform the said agreement. Any such demand made on the Bank shall be conclusive not only as regards to contractor's failure but also as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee will be restricted to an amount of Rs.....(Rupees..... only) with interest as per the agreement.

We, (Name of the Bank) further agree the guarantee herein contained will remain in full force and affect during the period that would be taken for the recovery of the loan and that it shall continue to be live and enforceable till all the amounts due with interest thereon have been fully recovered and its claims satisfied or discharged or till The Cochin Port Authority certifies that the amount outstanding under the advance has been fully recovered from the contractor and accordingly discharged the guarantees. Unless a demand or claim under this guarantee is made on us in writing on or before (date of the expiry) we shall be discharged from all liability under this guarantee thereafter.

We, (Name of the Bank) further agree with the Port Authority that the Port Authority shall have the fullest liberty without or consent and without affecting in any manner or obligation hereunder to vary any of the terms and conditions regarding the recovery or repayment and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor or any forbearance, act or omission on the part of Cochin Port Authority or any indulgence by the Port Authority to the contractor or in such matter or things whatsoever which under the law relating to sureties would but for this provision have the effect of so relieving us.

Notwithstanding anything contained herein:

- (i) Our liability under this bank guarantee shall not exceed Rs.....(Rupees.....)
- (ii) This bank guarantee shall be valid upto.....
- (iii) Our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only if you serve upon us a written claim or demand in terms of this guarantee on or before.....

We, (Name of the Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Port Authority in writing.

Dated this the.....day of.....(year)

For (Name of Bank)

(Signature)



## **SECTION III**

**COCHIN PORT AUTHORITY**  
**CIVIL ENGINEERING DEPARTMENT**

Tender No: **T6/T-2021/2024-C**

Tender for  
**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

|                                   |           |                                               |              |
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## SECTION -III

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## **SECTION -III COCHIN PORT AUTHORITY**

### **1. GENERAL DESCRIPTION OF WORK**

#### **1. General**

Where it is mentioned in the Specifications that the Contractor shall perform certain Work or provide certain facilities, it is understood that the Contractor shall do so at his own Cost.

The materials, design and workmanship shall satisfy the relevant Indian Standard Specification and conditions herein referred to. Where the Specifications stipulate requirement in addition to those contained in the Standard codes and Specifications, these additional requirements shall also be satisfied.

#### **1.1 Definitions**

“Contract” means the agreement entered into between the Employer and the Contractor, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein;

“Contract Price” means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations;

“Employer / Client” means Cochin Port Authority, the Organization purchasing the Works and Services.

“Contractor” means the individual or firm supplying the Works and Services under this Contract.

“Engineer-in-Charge” means the nominee/representative of the Employer/Consultant authorized to give instruction to the Contractor during the various stages of execution of the Work.

#### **2. Scope of work**

2.1 This work essentially comprises of works of the following:

- (i) Filling pot holes using bitumen premix.
- (ii) Applying Tack Coat.
- (iii) Providing and laying Bituminous Macadam.
- (iv) Providing and laying Bituminous Concrete.
- (v) Providing and applying retro reflective road marking strips.
- (vi) Providing Glow studs.
- (vii) Providing Wetmix Macadam.
- (viii) Laying 100mm thick heavy duty paver blocks M40 grade,
- (ix) Providing Road sign boards
- (x) Providing additional CPVC water supply lines at Ground floor.

**3. Site conditions**

**a. Location**

The proposed site for work are (i) KPK Menon Road from CHTS Jn. to CFS: and (ii) P.S Padmanabhan Road (Ayyappa Temple Road) in W/Island at Cochin Port.

Sketch of proposed Road Location Plan and Site Plan are shown in **Page No 113**.

**b. Reference Level**

All the levels indicated in the drawings and/or specifications are with reference to Port Chart Datum, which is at 0.582 m below Mean Sea Level. The contractor shall establish reference benchmarks at suitable spots. The maintenance of these reference benchmarks will be the responsibility of the contractor for which no payment will be made.

The tenderers shall make their own arrangements for inspecting the area and satisfying themselves regarding the water depth available in this area. However, the sounding chart in the location of the berth is enclosed for reference.

**c. Tide and Flood Levels**

The tides at Cochin are semi-diurnal with a marked daily inequality. The contractor shall carefully investigate the records of all past states of tides and flood and shall be held to have satisfied himself on all the tide and flood levels likely to prevail during the period of contract so far as it may affect the work.

The various tidal levels in the area as per Naval Hydrographic Chart No.2004 are as indicated below for the general guidance to the tenderer.

| <u>Tide</u>                   | <u>Levels with reference to Port Chart datum</u><br><u>(in metres)</u> |
|-------------------------------|------------------------------------------------------------------------|
| Highest High Water Level      | +1.20m                                                                 |
| Mean High Water Spring (MHWS) | +0.92m                                                                 |
| Mean Low Water Spring (MLWS)  | +0.80m                                                                 |
| Mean Sea Level (MSL)          | +0.582m                                                                |
| Mean High Water Neap (MHWN)   | +0.60m                                                                 |
| Mean Low Water Neap (MLWN)    | +0.30m                                                                 |
| Lowest Low Water Level        | +0.20m                                                                 |

**d. Current**

The maximum current expected in the inner harbour is about 0.5 metre/sec.

**e. Waves**

In the inner harbour area where generally calm conditions prevail throughout the year

**f. Wind**

Wind at Cochin is highly influenced by the land and sea breezes. Wind direction changes from north-east during morning hours to west during evening for the period of October to May. During peak of south-west monsoon, especially from June to September, predominant wind direction remains south-west both during

morning and evening hours. Due to strong monsoon winds, effect of land winds is not dominant during south-west monsoon. During the non-monsoon periods, the predominant wind direction is from north east during the morning and west during the evening which shows influence of land breeze.

**g. Rainfall**

The climate is characterized by dry and wet seasons. The wet seasons starts in late May and ends in November. During this period, two monsoons pass by one after another. The major monsoon is south-west monsoon which lasts from June to September. This is followed by north-east monsoon during October and November. The average annual rainfall is about 3000mm; and the major portion is during south-west monsoon.

**h. Temperature**

Cochin experiences moderate temperatures throughout the year. The temperature varies from 22°C to 34°C. The low temperature occurs during the southwest monsoon, December and January. Daytime temperature goes upto 30°C even during this period. The hot months are from March to May.

**(ii) Drawings**

The drawings enclosed with the tender document are to provide some idea of the job only and are preliminary and for tender purpose and are by no means complete and final and do not show the full range of the work under the scope of the contract. Work shall be carried out only on the basis of drawings marked “Issued for Construction” with addition, alteration, modifications, if any made to aforesaid drawings as required from time to time and also according to other drawings that would be supplied to the contractor from time to time

**(iii) Time Schedule and monitoring of progress**

- a. Tenderer shall prepare and attach with the tender a detailed work schedule [preferably in MS Project / Primavera] indicating key activities and critical items showing critical path of activities for completing the work within the stipulated contract period. This time schedule forms the basis for monitoring the progress of work. Issue of working drawings by the department will be regulated as per the time schedule approved by the department.
- b. The contractor shall furnish to the Engineer-in-Charge monthly progress reports of the work during execution in the approved proforma indicating delay, if any, its reason and proposal to cover up the delay.

**(iv) Facilities to be provided by the Port**

**a. Contractor’s work area:**

Work area as per availability near to the site will be made available to the contractor, free of rent.

**b. Power**

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

**(v) Contractor's responsibility**

- a. All materials for use on the works shall be supplied and provided by the contractor at his own cost and shall conform to relevant BIS Specification unless otherwise specified.
- b. Samples of all materials including fixtures, if any, to be incorporated in the work shall be got approved by the Engineer-in-Charge before procurement.
- c. The contractor shall thoroughly study the specifications and drawings 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.
- d. All labour, skilled or unskilled shall be provided by the contractor. Settling any dispute with the labour will be contractor's responsibility.
- e. The contractor shall take all care to observe no / least disturbance to the functioning of the officers at the working places.
- f. 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 these shall be made good or compensated at his risk & cost. The contractor shall ensure that valid Insurance Policy as per contract document is available at all times.
- g. The contractor shall take all care and precautionary measures for avoiding any kind of damage/accident in the work site on any account. The department shall not entertain any claim from the contractor whatsoever towards compensation for any damage/accidents at the site due to negligence from his part, during the execution of work.
- h. The contractor shall prior to commencement of the work insure in the joint names of the Employer and the contractor against all loss or damage from whatever cause arising for which he is responsible under the terms of contract.
- i. The work shall be arranged by the contractor without causing any damage to Port's/ any other structures. Any damage caused by the contractor's operation shall be compensated/ made good at contractor's risk and cost to the satisfaction of the Engineer-in-Charge of the works, failing which department will do the rectification work and the cost incurred will be recovered from any sum due to him from the Port.
- j. All plants and equipments and consumables required for the whole work shall be provided by the contractor at his own cost.
- k. The contractor shall not construct any structure, even of temporary nature, for any purpose at site, except with the written permission of the Engineer-in-Charge of the work and any construction so put up shall be removed by the contractor whenever the Engineer-in-Charge calls upon the contractor to do so.
- l. The Contractor shall be responsible for the true and proper setting out of the works in relation to original points, lines and levels of reference given by the Engineer-in-charge and for the correctness of the position, levels, dimensions and alignment of all parts of the works and for the provision of all necessary instruments, appliances and labour in connection therewith. If at any time during

the progress of work any error shall appear or arrive in the position, levels, dimensions or alignment of any part of the works, the contractor on being required to do so by the Engineer-in-Charge shall, at his own cost, rectify such error to the satisfaction of the Engineer-in-Charge, unless such error is based on incorrect data supplied by the Engineer-in-Charge, in which case the expense of rectifying the same shall be borne by the department. The checking of any setting out or of any line or level by the Engineer-in-charge shall not in any way relieve the contractor of his responsibility for the correctness thereof and the contractor shall carefully protect and preserve all bench marks, pegs, other things used in setting out the work and measurement purpose.

- m. Qualified Engineers with sufficient experience in works of similar nature as indicated in "Contract Data" shall be available at site throughout the contract period during working hours in order to receive instructions from department and to implement them properly and in time.
- n. The contractor shall take all care and precautionary measures for avoiding damage or accidents to the work from ship or other water crafts movements or other operations in the area. The department will not entertain any claim from the contractor whatsoever, towards compensation for any such damage or accident occurring during the execution of the contract.
- o. The contractor shall observe all safety regulations during the execution of the work. Safety measures, precautions, warning signals etc. shall be done 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 etc. to the workmen at his own cost. It shall be the contractor's responsibility to ensure that the workmen make use of the personnel protection equipments during the execution of work**
- p. The work shall be arranged by the contractor without causing any hindrance to the ship and other water craft operating in the area. No damage shall be caused to the structures in the area, water crafts operating in the area or otherwise by the contractor's operations. Any damage or accident caused by the contractor's operations shall be compensated / made good at the contractor's risk and cost.
- q. The contractor shall supply at his own cost monthly or at intervals as directed by the Engineer-in-charge, well executed photographs in standard size (approximately 24x18 cm) with soft copy showing the progress of the work and also such other particular item of the work.
- r. No information or photograph concerning the works shall be published without the prior permission of the Chief Engineer and drafts of all such proposal/ publication shall be submitted for approval.
- s. The information and data shown in the drawing and detailed elsewhere in the tender document are furnished for general information and guidance only and the Port Authority in no case will be held responsible for the strict accuracy thereof or any deduction, interpretation or conclusion drawn by the tenderer.
- t. The contractor shall observe the conservancy rules relating to the Port and shall always take necessary steps to keep the Port water free of noxious or unhygienic matter due to the work, as are required by the Engineer-in-Charge. Under no circumstances, inflammable materials are allowed to spill into Port waters.



- u. The Cochin Port is an International Ship & Port Facility Security (ISPS) code compliant Port and the contractor is obliged to comply with the provisions of the code in force and as amended from time to time.
- v. The contractor will have to provide a site office accommodation using container of approx. size 12m x 2.4m x 2.4m(min.) with 3 cabins & one toilet on 30cm high raised platform and all around concrete hard-standing near the contractor's work area or other location as approved by the Engineer-in-charge, for the use of departmental staff, within 15 days of the work order which shall be maintained till completion of work with the following facilities as per detailed specifications and directions of Engineer-in-charge.
  - 1) Air-conditioning with split A/Cs
  - 2) Electrical facilities
  - 3) Toilet facilities including sanitary and water supply arrangements
  - 4) Septic tank for 10 users
  - 5) Furniture as per detailed specifications and directions of Engineer-in-charge.
- w. The contractor shall provide at his own cost **1(one)** AC Car with 4 persons capacity, at his own cost, with driver, exclusively for the departmental staff for supervision works, throughout the contract period including extended period of contract, limiting to a maximum distance of 1500 km per month. The supply shall commence not later than 15 days from the date of commencement of work. The vehicle shall be available round the clock on all days including Sundays and holidays. In Sundays and holidays the vehicle shall be made available, only if work is arranged at site. The vehicle shall have valid registration and insurance. All consumables and stores for the safe working of the vehicle and its drivers as necessary should be provided by the contractor and nothing will be given by the Port for the running of the vehicle under this contract. The contractor shall be solely responsible for the consequences arising out of any loss or damage/accident etc. caused to the vehicle on duty. If the contractor fails to provide vehicle as above, the department will hire the same, the actual cost of which will be deducted from the contractor's bills or an amount of Rs.5,000/- per day or part thereof shall be deducted from the contractor's running bills.
- x. The contractor shall provide necessary arrangements as desired by the Engineer-in-Charge for inspection of work without any extra cost from commencement till completion of work.
- y. The Contractor shall ensure that no labourers with criminal background are engaged for the work.
- z. All fossils, coins, articles of value or antiques and structures and other remains or things of geological or archaeological interest discovered in the site of work shall be deemed to be the absolute property of the Port Authority and the contractor shall take responsible precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal, acquaint the departmental officers of such recovery and carry out at the expense of the department, the Engineer-in-Charge's orders as to the disposal of the same.
- aa. The contractor shall remove any plant (floating or otherwise) belonging to him or to any person employed by him which might have sunk in the course of work or otherwise deal with the same as directed by the Engineer-in-Charge and until the same is raised and removed, the contractor shall set on such buoys and display at night such lights for avoiding any mishaps.

- bb. Water required for the construction works including curing work shall be arranged by the contractor at his own cost.**
- cc. The contractor shall take all precautions for not to damage any cables/pipes etc. passing through the area of work. Damages, if any, caused to electrical cables/ water lines/ telephone lines shall be rectified by the Contractor at his cost and risk.
- dd. While carrying out hot works such as welding, cutting, chipping the concrete etc. at W/Island, the following conditions shall be strictly observed by the contractor:
- (i) Hot work shall be carried out with the approval of the Dy. Conservator's department and the work shall be done as per the instruction of the fire service personnel.
  - (ii) Welding /gas cutting work shall be carried out only with the prior permission of the Marine Dept. and only when vessel carrying inflammable materials is not berthed at the existing berths near to it.
  - (iii) Suitable spark arresters shall be provided on the exhaust of the engine connected to the pile driving mechanism.
  - (iv) Chipping and drilling the RCC etc. when vessel carrying inflammable material is at berth shall be done with soft metal tools only and under the directions of the Fire Personnel.
- ee. 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-in-Charge 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-in-Charge 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 on 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.
- ff. The contractor shall extend all facilitations and cooperation for other contractors for simultaneous execution of other works in the area entrusted by Cochin Port Authority.**
- gg. The contractor shall comply with all the provisions of the Indian Workmen's Compensations Act, 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."

- hh. The contractor shall be registered under EPF and ESI Act and the employees employed under them shall be covered in the EPF and ESI scheme. Work Order shall be issued only to the contractors who are registered under EPF organization and ESI Corporation. The contractors shall regularly remit the employer and employee contribution to the authorities. If not, the Department would remit the same and the amount so remitted shall be deducted from the part/final bill of contractors.
- ii. 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 at the age of six years at his risk and cost.

**(vi) Workmanship**

- a. All the works shall be done strictly according to relevant B.I.S. specifications unless otherwise specified.
- b. 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, shall be rectified at contractor's cost to the full satisfaction of the Engineer-in-Charge within the time allowed.
- c. **The work shall be arranged in the order of preference if so directed by the Engineer-in-Charge of work. In addition to above, contractor shall submit a Quality Assurance Plan (QAP) for the entire works under this contract and it shall be approved by the Engineer-in-Charge before commencing the work and shall be ensured strict compliance of the same. The QAP shall contain the details of tests to be conducted for each material to be used in the work and work.**

**(vii) Temporary works**

- a. 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-in-Charge, 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-in-Charge without any delay and any extra cost on this account shall be borne by the contractor.
- b. 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.

**(viii) Time For Completion**

- a. 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.

- b. The completion of work may entail working in monsoon period/rainy season without any extra cost. The contractor shall take such an eventuality into consideration while quoting for the work. Normally, no extension of time will be admissible for work in monsoon.
- c. The whole work shall be completed in the stipulated time, accordance with the provisions under Memorandum included under “Form of Tender” or such extended time as may be allowed under clause 29 of Conditions of Contract included in the GCC.

**(ix) Working time**

The normal working time of the Port Authority is from 8 a.m. to 4.00 p.m. on all working days. 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-in-Charge 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.

**(x) Method of Execution**

The contractor shall clearly indicate in their tender as per *Annexure-6*, the method proposed by them for executing the various items of works. During the actual execution of the works if modifications or changes in the method of execution of work are found necessary the contractor shall obtain approval from the Engineer-in-charge of work for such modifications or changes in the method. No claim from the contractor for additional payment shall be entertained by the department on the above account.

The detailed list of equipment/machineries/tools & plants proposed to be mobilized for the deployment in the work as furnished as per *Annexure-7* of **Section- I** and method of execution furnished under clause above, are considered only for the technical appreciation of the proposal of the contractors and it shall not relieve the contractor of his responsibility of executing the work with the quality specified in the tender and any discrepancy occurs, the construction procedures detailed/specified in the tender will prevail. In case, any additional equipment are required to be mobilized than those listed in the tender for deployment in the work, it shall be arranged and the work executed as per the tender specifications without any extra cost to the Department

**(xi) Alterations and Additions**

The Employer shall have power and authority from time to time and at all times to make amendments or additions or alternations or changes in the scope of the work, and specifications, drawings and bill of quantities and give such further instructions and directions as may appear to the Employer necessary and proper for the guidance of the Contractor and the good and efficient execution of the works and the contractor shall receive, obey and be bound by the same according to the true intent and meaning thereof as if the same had been mentioned or referred to in the scope of the work, specifications, Bill of Quantities and Schedules and drawings. The Employer may also vary or alter the lines, levels or positions of any of the works contemplated or may order any of the works contemplated thereby to be omitted, with or without the substitution of any other works in lieu thereof, or may order any work or any portion of works executed or partially executed to be removed, changed or altered, if

required, and may order that other work shall be substituted in lieu thereof and any difference in the cost occasioned by any such diminution or alteration so ordered and directed shall be added to or deducted from the Contract Price based on rates available in the contract or where the rates are not specified a suitable rate backed up by rate analysis shall be submitted by the contractor and agreed upon between the contractor and the Employer. In the event of disagreement, the Employer shall fix such rates or prices as shall in their opinion, be reasonable and proper having regard to the circumstances. The contractor shall give to the Employer before the tenth day of every month, a statement in writing of any extra work which he may have performed during the preceding month, failing which any claim for which he may afterwards make for payment on account of any such extra work will not be allowed.

# COCHIN PORT AUTHORITY

## 2. SPECIAL CONDITIONS OF CONTRACT

### 1. GENERAL

- 1.1 Special Conditions shall be read in conjunction with the General Conditions of Contract, Specifications, Drawings and any other document forming part of this Contract wherever the context so requires.
- 1.2 Notwithstanding the subdivision of the documents into separate section and volumes every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Contract so far as it may be practicable to do so.
- 1.3 Where any portion of the General Conditions of Contract is repugnant to or at variance with any provision of the Special Conditions, the provisions of the Special Conditions shall be deemed to over-ride the provisions of the General Conditions of Contract and shall to the extent of such repugnancy of variations, prevail.

### 2. RATES FOR VARIOUS ITEMS

- 2.1 The rates percentage /lump sum amount as applicable shall except in so far as the contract otherwise provides, cover all obligations of the contractor under this contract and all matters and things necessary for the proper completion and maintenance of the works. The ratespercentage / lump sum amount quoted for each item shall be all inclusive value of the finished work as per drawings and specifications and shall cover the cost of all constructional plants, temporary works, appliances, materials, both for the works and temporary works, labour and all other matter in connection with each item quoted for.
- 2.2 The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices stated in the Schedule of Quantities.
- 2.3 The contractor's rates and prices shall include all taxes, duties and fees including Port charges like wharfage, Port dues, berth hire, pilotage etc. if any applicable, all charges and taxes whatsoever excluding Goods and Service Tax (GST) in respect of materials, labour and plant and all other things obtained or used by the contractor for the execution and maintenance of the works or any temporary works and also considering the base rates indicated in Sl. No.31 of Contract Data.

### 3. WORKS EXECUTED THROUGH SUBLETTING

- 3.1 The contractor may sublet any portion of the contract, as per clause 8 of Conditions of Contract of GCC.
- 3.2 Notwithstanding any subletting with such approval as required under above and notwithstanding that the Engineer-in-Charge shall have received copies of any sub-contract, the contractor shall be solely responsible for the quality and proper execution of the works, performance of all conditions of contract in all respects as if such subletting had not taken place and as if such work has been done directly by the contractor.

3.3 If any sub-contractor engaged upon the works at the site executes, any work which, in the opinion of the Engineer-in-Charge, is not in accordance with the contract condition, written notice may be given to the contractor requesting him to terminate such sub contract and the contractor upon receipt of such notice shall terminate such sub contract and the said sub contractor shall forthwith leave the works, failing which the department shall have right to remove such sub contractors from site. No action taken by the department under this clause shall relieve the contractor of any of his liabilities under the contract or give rise to any compensation, extension of time or otherwise.

#### **4. MEASUREMENTS OF WORK DONE**

4.1 In addition to the Clause-26 of GCC- 'Computerized Measurement Book', measurement of the work can also be done as detailed below

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

4.3 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.

4.4 All measurements and levels shall be taken jointly by the Engineer's Nominee or his authorized representative and by the Contractor or his authorized 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.

4.5 Department shall not entertain any claim from Contractor for any loss or damages on this account. If the Contractor or his authorized representative does not remain present at the time of such measurements after the Contractor or his authorized 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.

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

4.7 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.

4.8 The Contractor shall give not less than seven days' notice to the Engineer's Nominee or his authorized 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 authorized 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.

- 4.9 Engineer's Nominee or his authorized 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.
- 4.10 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.

## **5. BASIC RATES AND ADJUSTMENT FOR SUBSEQUENT PRICE VARIATION**

- 5.1 No price adjustment shall be made for the variation in price of cement, reinforcement steel, Mild Steel plate, Structural steel, bitumen emulsion.

## **6. LIQUIDATED DAMAGES**

For levying compensation as per Clause-49 of General Conditions of Contract, 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 agreement conditions.

## **7. ADVANCE**

The Mobilization Advance and Construction/Installation equipment Advance shall be as per clause 51 of General Conditions of Contract. Secured Advance shall be given for non - perishable materials as provided in clause 51.6 of General Conditions of Contract. Cement is not considered as a non - perishable item.

## **8. CARE OF WORKS**

From the commencement to the completion of the work the contractor shall take full responsibility for the care of the work and his employees in connection with the work thereof and in case any damage, loss or injury shall happen to the works or any part thereof or to any temporary work from any cause whatsoever (save and except the excepted risks as defined in clause 5 given below shall at his own cost repair and make good the same so that the work shall be completed in good order and in conformity in every respect with requirement of the contract. In the event of any such damage, loss or injury happening from any of the excepted risks, the Contractor shall if and to the extent required by the Engineer-in-Charge, make good the same as aforesaid and it will be to the account of the Board.



## **9. EXCEPTED RISKS**

The excepted risks are riot (in so far as it is uninsurable) war, invasion, act of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection or military usurped power or a cause solely due to use of occupation by the Board of any portion of the work, any operation of the forces of nature that the contractor could not have foreseen or reasonably provided against. (All of such are herein collectively referred to as the excepted risks).

## **10. INSURANCE OF WORKS**

10.1 The insurance cover for the loss of or damage to the Works, plant, materials and equipment stated in the clause 13 of GCC shall be as follows:

- a) The insurance cover for the Works for the time being executed to the estimated current contract value thereof plus 10(ten) percent thereon to allow any additional costs and professional fees resulting from the loss or damage.
- b) The constructional plant and other things brought on to the site by the Contractor to the replacement value of such constructional plant and other things.

10.2 It shall be the responsibility of the Contractor to notify the insurer of any change in the nature and extent of the Works and to ensure the adequacy of the insurance cover at all times in accordance with the provisions of this clause.

## **11. PAYMENTS OF SALARY / WAGES AND OTHER BENEFITS etc. TO CONTRACT / CASUAL WORKERS**

11.1 **The Contractors shall make all payments of salary/wages and other benefits etc. to the contract / casual workers deployed for the work through Bank / Cheque only.**

11.2 **All the payments to the contractors would be released only on submission of undertaking to comply with the clause 10.1 above.**

## **12. MODIFICATIONS TO GCC**

**The following clauses of General Conditions of Contract (GCC) shall be replaced and modified as below.**

### **1. DEFINITIONS**

Following Definitions stands replaced as:

The **Completion Date** is the date of completion of the Works as certified by the Engineer or his Nominee in accordance with Sub Clause **56.1**

**Market Rate** is the rate as decided by the Engineer on the basis of the cost of materials and labour at the site where the work is to be executed plus **15%** to cover all overheads and profits.

### **25. SETTLEMENT OF DISPUTES AND ARBITRATION**

Clauses 25 of GCC stands replaced as:

The seat & venue of the arbitration shall be at Cochin. Only comes in Cochin will have Jurisdiction.

## 25.1 General

Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:-

If the Contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Engineer in writing for written instruction or decision. Thereupon, the Engineer shall give his written instructions or decision within a period of one month from the receipt of the Contractor's letter.

If the Engineer fails to give his instructions or decision in writing within the aforesaid period or if the Contractor is dissatisfied with the instructions or decision of the Engineer, the Contractor may, within 15 days of the receipt of Engineer's decision, appeal to the Chairman who shall afford an opportunity to the Contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. The Chairman shall give his decision within 30 days of receipt of Contractor's appeal. If the Contractor is dissatisfied with this decision then:

- a) The Dispute value upto Rs. 1crore shall not be referred for adjudication through arbitration and.
- b) If the value of the dispute is exceeding Rs.1 crore and upto Rs.5 crores ,the Dispute shall be resolved through arbitration as follows;
  - i. The Parties together shall appoint a Sole Arbitrator by mutual consent to resolve the dispute as per the provisions of the Arbitration and Conciliation Act, 1996. The award of the Arbitrator so appointed shall be final and conclusive and binding on all the Parties to the Agreement subject to as amended from time to time or any statutory re-enactment thereof for the time being in force. The Arbitrator may, with the consent of the Parties extend the time, from time to time, to make and publish award as the case may be.
  - (ii) If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another Sole Arbitrator shall be appointed in the manner aforesaid. Such person shall be

entitled to proceed with the reference from the stage at which it was left by his predecessor.

c) In case of the dispute or difference is relating to interpretation and application of the provisions of commercial contract between Central Public Sector Enterprises (CPSE), Port Authority inter se or CPSE and Government Department shall be referred by either party for arbitration to the Permanent Machinery of Arbitrators in the Department of Public Enterprises through the Secretary to the Government of Public Enterprises as per the guidelines issued by Department of Public Enterprises OM No.4 (1) 2011- DPE (PMA) – GL dtd. 12.06.2013 or any statutory amendment thereof.

25.2.1 It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Chairman of the appeal.

25.2.2 It is also a term of this contract that no person other than person / persons appointed as aforesaid should act as arbitrator / arbitrators and if for any reason that is not possible, the matter shall not be referred to arbitration at all.

25.2.3 It is also a term of this contract that if the Contractor does not make any demand for appointment of arbitrator in respect of any claims in writing as aforesaid within 30 days of receiving the intimation from the Engineer that the final bill is ready for payment, the claim of the Contractor shall be deemed to have been waived and absolutely barred and the Employer or his authorized representative shall be discharged and released of all liabilities under the contract in respect of these claims.

25.2.4 The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996) or any statutory modifications or reenactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

25.2.5 It is also a term of this contract that the Arbitrator / Arbitral Tribunal shall adjudicate only on such disputes as are referred to him/them and give separate award against each dispute and claim referred and in all cases where the total amount of the claims by any party exceeds Rs. 1,00,000/- the arbitrator shall give reasons for the award.

25.2.6 It is also a term of the contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties.

25.2.7 It is also a term of the contract that the arbitrator/arbitrators shall be deemed to have entered on the reference on the date he / they issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of

the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any party by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.”

## **26. COMPUTERIZED MEASUREMENT BOOK**

5<sup>th</sup> para stands replaced as follows:

The Contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with **three** spare copies of the bill. Thereafter, this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements

## **40. PAYMENTS FOR VARIATIONS**

Clauses 40.2 and 40.3 shall be replaced as follow:

40.2 For items not existing in the Bill of Quantities or substitution to items in the Bill of Quantities, rate payable should be determined by methods given below and in the order given below:

- i) Rates and prices derived from the rate of similar items in Contract.
- ii) Rates and prices in the Schedule of Rates applicable to the Contract plus Ruling percentage.
- iii) Market rates of materials and labour, hire charges of plant and machinery used, plus **15%** for overheads and profits of Contractor.

40.3 For items in the Bill of Quantities but where quantities have increased beyond the variation limits, the rate payable for quantity in excess of the quantity in the Bill of Quantity plus the permissible variation shall be as determined by methods given below:

- i) Rates and prices in the Schedule of Rates applicable to the Contract plus Ruling percentage.
- ii) Market rates of materials and labour, hire charges of plant and machinery used plus **15%** for overheads and profits of Contractor.

whichever is lower, but not less than the rate in the Bill of Quantities

## **43. PAYMENTS**

Clause 43.2 stands replaced as follows:

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 4 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:

43.2.2.1 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.

43.2.2.2 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. below.

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

43.2.3.1 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.

43.2.3.2 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.

(b)All other sub clauses under Clause 43 remain the same.

#### **44. COMPENSATION EVENTS**

##### **44.1 (c) to (e) - Deleted.**

All other clauses under clause 44 remains the same.

#### **45. RATES FOR ITEMS TO BE INCLUSIVE OF TAXES**

##### **Clause 45 stands replaced as follows:**

45.1 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.

45.2 The invoice to be submitted by the Contractor should include the GST Registration Number of the Contractor as well as the Employer.

:

#### **55. COMPLETION**

(a) Clause 55.4 shall be added as follows:

**55.4**The Completion Report / Certificate to the Contractor will be issued only after obtaining 'No Claim Certificate' from the Contractor in the format approved by the department stating that they have no further claims against CoPA in respect of the Work.

(b)All other sub clauses under Clause 55 remain the same.

#### **82. TAXES AND DUTIES**

##### **80.1 -Deleted**

##### **80.2 -Deleted**

### **80.3 -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 as per prevailing rates 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 with all the GST Regulations, viz. timely uploading of bills, issue of debit/ credit notes etc.

### **80.4 GST -TDS Under GST Law Shall Be Deducted As Per Prevailing Rate.**

## **G. Salient Features of Some Major Laws Applicable To Establishments Engaged In Construction Work.**

Clauses [d] & [l(i)] stands replaced as follows:

(d) Maternity Benefit Act 1961 or Maternity Benefit Amendment Act 2017:- The Acts provide for leave and some other benefits to workmen/ employees in case of confinement or miscarriage etc.

(l) ESI Act, 1948:-

(i) As per the Govt. Notification dt. 20.7.09, Cochin Port Authority has registered under the ESI Act with ESI Corporation and provision of ESI Act, 1948 are applicable to contract/casual employees drawing wages/Salary upto **Rs.20,000/-** per month and working in Cochin Port Authority. Workers covered under ESI Act, are entitled for full medical care for self and family, besides, cash benefit in the event of sickness, maternity and employment injury. Accordingly, the contractual/casual employees drawing wages upto **Rs.20,000/-** per month employed either directly by Port Authority or through contractor are covered under ESI Act, 1948. It is obligatory on the part of the Employer to calculate and remit ESI contribution comprising of Employers' share of 4.75% plus Employees' share of 1.75% which is payable on or before 21st of the following month, to which the salary relates.

**SIGNATURE OF TENDERER**

## **SECTION IV**



**COCHIN PORT AUTHORITY**  
**CIVIL ENGINEERING DEPARTMENT**

Tender No.: T6/T-2021/2024-C

Tender for

**Resurfacing KPK Menon Road from CHTS Jn. to CFS**

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**SECTION -IV**  
**COCHIN PORT AUTHORITY**  
**1. TECHNICAL SPECIFICATIONS**

**1.1. DETAILED SPECIFICATIONS FOR MATERIALS TO BE USED FOR WORKS**

**1.1.1. GENERAL**

- 1.1.1.1. Except where otherwise specified or authorized by the Engineer-in-Charge, materials supplied by the contractor shall conform to the latest edition of code of practices published by the Bureau of Indian Standard. 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.
- 1.1.1.2. All the materials to be used on the works shall have BIS certification mark if so available, unless otherwise specified elsewhere or shall be of approved brand with equivalent material as approved by the Engineer-in-Charge. List of approved materials/ makes are indicated in Clause 3 of this section.
- 1.1.1.3. 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.
- 1.1.1.4. The materials required for the work shall be brought to the site and stacked at places shown by the Engineer-in-Charge and the same shall be got approved for use in work sufficiently in advance so that the progress of the work is not affected by the supply of materials.
- 1.1.1.5. Tolls are payable by the contractor as per rules for vehicles using the Port's road for supplying the materials.

**1.1.2. AGGREGATES FOR CONCRETE**

- 1.1.2.1. Aggregates (fine and coarse) for concrete shall comply with the requirements of IS: 383 – 'Specifications for coarse and fine aggregate from natural sources for concrete'. Aggregate shall be obtained from sources approved by the Engineer-in-Charge. Aggregates, which are not perfectly clean, shall be washed in clean water to the entire satisfaction of the Engineer-in-Charge.
- 1.1.2.2. The fine aggregate shall be clean, hard, durable, uncoated, dry and free from injurious, soft or flaky pieces and organic or other deleterious substances.
- 1.1.2.3. Each type of aggregate shall be stored separately for the approval of Engineer-in-Charge. Wet aggregate delivered at the site shall be kept in storage for at least 24 hours to ensure adequate drainage before being used for concreting.
- 1.1.2.4. Contractor shall maintain at site at all times such quantities of each type of aggregate as are considered by the Engineer-in-Charge to be sufficient to ensure continuity of work.

**1.1.3. CEMENT**

- 1.1.3.1. 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 I.S. 1489 unless otherwise approved by the Engineer-in-Charge.

- 1.1.3.2. 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.
- 1.1.3.3. Supply of cement shall be taken in 50kg bags bearing manufacture's name and BIS 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.
- 1.1.3.4. 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.
- 1.1.3.5. 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.
- 1.1.3.6. The cement shall be stored in a weather proof building with facilities for inspection.
- 1.1.3.7. 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.
- 1.1.3.8. For cement stored in silo, clauses 1.1.3.3 and 1.1.3.4 are not applicable.
- 1.1.4. WATER**
- 1.1.4.1. 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.
- 1.1.4.2. **Cochin Port Authority 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.
- 1.1.4.3. 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.
- 1.1.5. STRUCTURAL STEEL**

- 1.1.5.1. The mild steel flats / plates/ angles/ channels/ I-sections used for the work shall conform to IS:2062. The material shall be free from visible as well as hidden defects such as pitting cracks, laminations, twists etc. and excessive rusting.
- 1.1.5.2. It is not necessary for the Contractor to obtain separate approval in case mild steel plate is purchased from Steel Authority of India Ltd or TATA Iron & Steel or Jindal Steel & Power Ltd.(JSPL) In case of purchase from Tata Iron & Steel & JSPL,valid license certificate from BIS shall be produced. For purchase from other sources, the contractor shall apply sufficiently in advance and obtain written permission of the Engineer-in-Charge for making purchase from such sources.
- 1.1.6. SAND FOR MAKING MORTAR FOR MASONRY WORK / PLASTERING WORK**
- Sand used for masonry mortar shall conform to IS:2116-. Sand used for plastering shall conform to IS:1542-1992.
- 1.1.7. HEAVY DUTY CEMENT CONCRETE INTERLOCKING PAVER BLOCKS**
- 1.1.8.** Factory made precast concrete interlocking paver blocks are of M40 grade having thickness not less than 100mm and minimum compressive strength 400kg/cm<sup>2</sup> made in plain cement concrete and is used for paving in the heavy loaded container truck moving.
- 1.1.9. QUARRY DUST**
- Quarry dust shall be crusher-run-screening with grading having 100 % passing through 2.36 mm sieve and 10 to 20 % by weight passing through 75 micron sieve. The same shall be cleaned, hard, durable, uncoated, dry, free from injurious soft or flaky piece and organic or other deleterious substances.
- 1.1.10. 6mm SIZE AGGREGATE**
- 6mm size graded aggregate conforming to IS 383-2016 shall be used. Aggregates which are not perfectly clean shall be washed in clean water to the entire satisfaction of the Engineer-in-Charge.
- 1.1.11. MATERIALS FOR TACK COAT**
- The binder used for tack coat shall be bituminous emulsion, Medium Setting/ Rapid setting type conforming to IS : 8887.
- 1.1.12. BITUMEN**
- 1.1.12.1. Bitumen used for work shall be of VG-30 grade.
- 1.1.12.2. As far as possible, the bitumen required for the work shall be procured from BPCL-KR / IOC / HPCL. In case supply from BPCL-KR / IOC / HPCL is not available, the contractor shall obtain specific approval from the Engineer-in-Charge well in advance for purchase from other source(s). The bitumen shall, if required by the Engineer-in-Charge, be tested and analyzed by an independent analyst approved by the Engineer-in-charge at the Contractor's cost and result produced to the Engineer-in-Charge before its use on the work.
- 1.1.12.3. The bitumen brought to the site and bitumen remaining unused after completion of work shall not be removed from the site without written permission of the Engineer-in-Charge.

1.1.12.4. The contractor shall maintain a register showing the quantities and dates of receipt, daily consumption and balance in the pro forma approved by the Engineer-in-charge and it shall be accessible to the Engineer-in-Charge.

**1.1.13. MATERIALS FOR WET MIX MACADAM**

1.1.13.1. Aggregates: Coarse aggregate shall be crushed stone.

The aggregates shall conform to the physical requirements set forth in Table 400.10 of MORT&H’s Specification for Road and Bridge works.

1.1.13.2. Grading requirements: The aggregates shall conform to the grading given in Table below:

**(Table 400.13 of MORT&H ‘specification)**

Grading Requirements of aggregates for Wet Mix Macadam

| IS Sieve Designation | Percent by weight passing the IS sieve |
|----------------------|----------------------------------------|
| 53.00 mm             | 100                                    |
| 45.00 mm             | 95-100                                 |
| 26.50 mm             | -                                      |
| 22.40 mm             | 60-80                                  |
| 11.20 mm             | 40-60                                  |
| 4.75 mm              | 25-40                                  |
| 2.36 mm              | 15-30                                  |
| 0.600 mm             | 8-22                                   |
| 0.750 mm             | 0-5                                    |

Materials finer than 425 micron shall have Plasticity Index (PI) not exceeding 6. The final gradation approved within these limits shall be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve or vice versa.

**1.1.14. AGGREGATES FOR BITUMINOUS MACADAM**

1.1.14.1. **Coarse aggregates**

The coarse aggregates shall consist of crushed rock, crushed granite or other hard material passing through 26.50mm sieve and retained on the 2.36 mm sieve. They shall be clean, hard, durable, of cubical shape, dry, free from dust and soft or friable matter, organic or other deleterious matter. The aggregate shall satisfy the physical requirements set forth in Table 500-6 of MORT&H’s Specification for Road and Bridge works.

1.1.14.2. **Fine aggregates**

Fine aggregates shall consist of crushed or naturally occurring material, or a combination of the two, passing 2.36 mm sieve and retained on 75 micron sieve. They shall be clean, hard, durable, dry and free from dust, soft or friable

matter, organic or other deleterious matter.

**1.1.14.3. Combined grading**

The aggregates shall be proportioned and blended to produce a uniform mixture complying with the requirements of Table 500-7 of Ministry of Road Transport & Highways Specification for Road & Bridge work as below.

**[TABLE 500-7 of MORT &H's specification]**

| <b>Mix designation</b>                       | <b>Grading-2</b>                                         |
|----------------------------------------------|----------------------------------------------------------|
| <b>Nominal aggregate size</b>                | <b>19 mm</b>                                             |
| <b>IS Sieve (mm)</b>                         | <b>Cumulative % by weight of total aggregate passing</b> |
| 26.5                                         | 100                                                      |
| 19.0                                         | 90-100                                                   |
| 13.2                                         | 56-88                                                    |
| 4.75                                         | 16-36                                                    |
| 2.36                                         | 4-19                                                     |
| 0.30                                         | 2-10                                                     |
| 0.075                                        | 0-8                                                      |
| Bitumen content % by weight of total mixture | 3.3                                                      |
| Bitumen grade                                | VG 30 grade                                              |

**1.1.14.4. Bitumen**

Bitumen for work shall be of VG-30 grade.

**1.1.15. MATERIALS FOR PRIME COAT AND TACK COAT**

1.1.15.1. The materials used for prime coat shall be bituminous emulsion, type MS / RS complying with IS: 8887. The Kinematic Viscosity shall be 45 Centistokes at 60°C.

1.1.15.2. The binder used for tack coat shall be bituminous emulsion, type RS complying with IS:8887.

**1.1.16. BITUMEN**

1.1.16.1. The bitumen used for the work shall be of VG 30 grade.

1.1.16.2. As far as possible, the bitumen required for the work shall be procured from BPCL-KR / IOC / HPCL. In case supply from BPCL-KR / IOC / HPCL is not available, the contractor shall obtain specific approval from the Engineer-in-Charge well in advance for purchase from other source(s). The bitumen shall, if required by the Engineer-in-Charge, be tested and analyzed by an independent analyst approved by the Engineer-in-charge at the Contractor's cost and result produced to the Engineer-in-Charge before its use on the work.

1.1.16.3. The bitumen brought to the site and bitumen remaining unused after completion of work shall not be removed from the site without written permission of the Engineer-in-Charge.

1.1.16.4. The contractor shall maintain a register showing the quantities and dates of receipt, daily consumption and balance in the pro forma approved by the Engineer-in-charge and it shall be accessible to the Engineer-in-Charge.

**1.1.17. MATERIALS FOR BITUMINOUS CONCRETE**

**1.1.17.1. Coarse aggregates**

The coarse aggregates shall consist of crushed rock, crushed granite or other hard material retained on the 2.36 mm sieve. They shall be clean, hard, durable, of cubical shape, dry, free from dust and soft or friable matter, organic or other deleterious matter. The aggregate shall satisfy the physical requirements set forth in Table 500-3 of MORT & H's specification for Road and Bridge works.

**1.1.17.2. Fine aggregates**

Fine aggregates shall consist of crushed or naturally occurring material, or a combination of the two, passing 2.36 mm sieve and retained on 75 micron sieve. They shall be clean, hard, durable, dry and free from dust, soft or friable matter, organic or other deleterious matter.

**1.1.17.3. Filler**

Filler shall consist of finely divided mineral matter such as rock dust, hydrated lime or cement approved by the Engineer-in-Charge. The filler shall be graded within the limits indicated in **Table 500-9** of MORT&H's Specification for Road & Bridge works below.

**Table 500-9**

| IS Sieve (mm) | Cumulative percent passing by weight |
|---------------|--------------------------------------|
| 0.6           | 100                                  |
| 0.3           | 95-100                               |
| 0.075         | 85-100                               |

The filler shall be free from organic impurities and have a Plasticity Index not greater than 4. The Plasticity Index requirement shall not apply if filler is cement or lime.

**1.1.17.4. Combined grading**

The combined grading of the coarse and fine aggregate and added filler shall fall within the limits shown in Table 500-17 of MORT&H's Specification for Road & Bridge work below.



**Table 500-17**

|                                        |                                                   |
|----------------------------------------|---------------------------------------------------|
| Nominal aggregate size                 | 13 mm                                             |
| IS Sieve (mm)                          | Cumulative % by weight of total aggregate passing |
| 19                                     | 100                                               |
| 13.2                                   | 79-100                                            |
| 9.5                                    | 70-88                                             |
| 4.75                                   | 53-71                                             |
| 2.36                                   | 42-58                                             |
| 1.18                                   | 34-48                                             |
| 0.6                                    | 26-38                                             |
| 0.3                                    | 18-28                                             |
| 0.15                                   | 12-20                                             |
| 0.075                                  | 4-10                                              |
| Bitumen content % by mass of total mix | (5-7)                                             |
| Bitumen grade                          | VG 30 grade                                       |

### 1.1.18. MATERIALS FOR HOT APPLIED THERMOPLASTIC MARKING ON JETTY

- 1.1.18.1. The thermoplastic material shall be homogenously composed of aggregate, pigment, resin and glass reflecting beads. The colour of the compound shall be white and yellow or as directed by the Engineer-in-charge.
- 1.1.18.2. **Composition:** The pigment, beads, and aggregate shall be uniformly dispersed in the resin. The material shall be free from all skins, dirt and foreign objects and shall comply with requirements indicated in Table 800-3 of Ministry of Road Transport & Highways Specification for Road & Bridge work.

**Table 800-3 of MORT&H**

#### Proportions of constituents of marking material (Percentage by weight)

| Compound                            | White     | Yellow    |
|-------------------------------------|-----------|-----------|
| Binder                              | 18.0 min. | 18.0 min. |
| Glass Beads                         | 30-40     | 30-40     |
| Titanium Dioxide                    | 10.0 min. | -         |
| Calcium Carbonate and Inert Fillers | 42.0 max. | See Note* |
| Yellow Pigments                     | -         |           |

**\*Note:** Amount of yellow pigment, calcium carbonate and inert fillers shall be at the option of the manufacturer, provided all other requirements of this

specification are met.\

#### 1.1.18.3. **Reflectorising glass beads**

- (i) Reflectorisation shall be achieved by incorporation of glass beads. The glass beads shall be transparent, colourless and free from milkiness, dark particles and excessive air inclusions.
- (ii) This Specification covers two types of glass beads to be used for the production of reflectorised pavement markings.
- (iii) Type-1 beads are those which are a constituent of the basic thermoplastic compound vide Table 800-3 and Type 2 beads are those which are to be sprayed on the surface as per clause 803.6.3 of Ministry of Road Transport & Highways Specification for Road & Bridge work.

#### 1.1.18.4. **Gradation**

The glass beads shall meet the gradation requirements as given in Table 800-4 of Ministry of Road Transport & Highways Specification for Road & Bridge work.

**Table 800-4 of MORT&H**  
**Gradation requirements for glass beads**

| Sieve size       | Per Cent retained |          |
|------------------|-------------------|----------|
|                  | Type 1            | Type 2   |
| 1.18 mm          | 0 to 3            | -        |
| 850 micron       | 5 to 20           | 0 to 5   |
| 600 -do-         | -                 | 5 to 20  |
| 425 -do-         | 65 to 95          | -        |
| 300 -do-         | -                 | 30 to 75 |
| 180 -do-         | 0 to 10           | 10 to 30 |
| Below 180 micron | -                 | 0 to 15  |

#### 1.1.19. **GLOW STUDS**

- 1.1.19.1. Glow studs of size 100x20 mm made of heavy duty body shall be moulded ASA (Acrylic styrene Acryloretrite ) or HIP (High impact polystyrene) or ABS having electronically welded micro- prismatic lens with abrasion resistant coating as approved by Engineer in charge. The glow stud shall support a load of 13635kg tested in accordance with ASTM D4280. The slope of retro-reflective surface shall be 35 (+/-5) degrees to base. The reflective panels on both sides with at least 12 cm of reflective area up each side. The luminance intensity should be as per the specification and shall be tested as described in ASTM I: 809 as recommended in BS: 873 part 4 : 1973. The studs shall be fixed to the Road surface using the adhesive conforming to IS, as per procedure recommended by the manufacturer complete and as per direction of Engineer-in-charge.

### **1.1.20. MATERIALS NOT SPECIFIED**

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

### **1.1.21. SAMPLING AND TESTING OF MATERIALS**

1.1.21.1. 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 sound engineering practice. Material conforming to the specifications and approved by the Engineer-in-Charge shall only be used by the contractor.

1.1.21.2. All the sampling and testing shall be done at the contractor's cost.

## **1.2. DETAILED SPECIFICATIONS OF ITEMS FOR WORKS**

### **1.2.1. GENERAL**

1.2.1.1. Except where otherwise specified or authorised by the Engineer-in-Charge all items of works executed by the Contractor must conform to the latest edition of the Bureau of Indian Standard (BIS) Specifications, I.R.C., MORT&H's specifications and Code of practices published by BIS. Where no such specifications or code of adoption. The tenderer while indicating such specifications shall practice exists the latest BSS codes of practice shall also be considered for enclose the full set of the publication so referred and not in extracts. Photostat / Xerox copies in duplicate shall be forwarded which shall not be returned to the Contractor. In absence of any specification the department reserves the right to adopt trade specifications and /or sound engineering practices for the specialised work as may be decided by the Engineer-in-Charge which shall be final, conclusive and binding on the contractor.

1.2.1.2. Detailed specifications of items of works are described below:

### **1.2.2. PLAIN AND REINFORCED CEMENT CONCRETE**

#### **1.2.2.1. General**

The concrete used for all works, concreting procedure etc. shall be in accordance with IS:456-2000.

#### **1.2.2.2. Concrete Mix**

Mix used for R.C.C. shall be of minimum M20 grade unless otherwise specified. Design mix shall be used for M20 and higher grade of concrete unless otherwise specified in the schedule.

#### **1.2.2.3. Nominal Mix**

For nominal mix concrete, proportion of fine aggregate to coarse aggregate shall be 1:2 by mass. The minimum cement content per cubic meter of nominal mix concrete shall be as per table 5 of IS: 456-2000.

### **1.2.3. PROVIDING AND LAYING HEAVY DUTY CEMENT CONCRETE INTERLOCKING PAVER BLOCKS**

- 1.2.3.1. The paver blocks shall be neatly stacked as per standard practice and as directed by the Engineer - in - Charge.
- 1.2.3.2. Over the prepared surface coarse sand shall be spread to an average thickness not less than 50mm and it shall be rammed and compacted as directed by the Engineer-in-Charge. The blocks shall be set hand tight and the surface shall be rammed and vibrated properly to bring out joints not more than 2to 3mm wide between blocks. After compacting, the fine sand shall be brushed in to joints.
- 1.2.3.3. The top surface of the paved area shall be in uniform level and no protrusions shall be seen at the top.
- 1.2.3.4. Measurement shall be made in square meters for the gross quantity of work done including providing compact bed. The rate quoted shall include cost of all materials, labour etc. required for completion of work.

### **1.2.4. PROVIDING BITUMIN PREMIX FOR FILLING POT HOLE**

#### **1.2.4.1. Construction Operations**

Laying shall be suspended while free standing water is present on the surface to be covered, or during rain, fog and dust storms. After rain, the bituminous surface, prime or tack coat, shall be blown off with a high pressure air jet to remove excess moisture, or the surface let to dry before laying shall start. Laying of bituminous mixtures shall not be carried out when the air temperature at the surface on which it is to be laid is below 10°C or when the wind speed at any temperature exceeds 40 km per hour at 2m height unless specially approved by the Engineer-in-Charge.

#### **1.2.4.2. BITUMEN PREMIX**

Over the surface prepared, bitumen premix shall be laid and compacted to the required compaction as per clause 1.2.4.3 mentioned here under.

#### **1.2.4.3. PREPARATION AND TRANSPORTATION OF THE MIX**

##### **Mixing**

Bitumen premix shall be prepared in a hot mix plant of adequate capacity and capable of producing a mix of proper and uniform quality with thoroughly coated aggregates. The temperature of bitumen at the time of mixing shall be in the range of 150°C -165 °C and of aggregate in the range of 125°C -150 °C.

##### **Transporting**

Bituminous mix shall be transported in clean insulated vehicles, and unless otherwise agreed by the Engineer-in-charge, & shall be covered while in transit or awaiting tipping. Subject to the approval of the Engineer-in-charge a thin coating of diesel or lubricating oil may be applied to the interior of the vehicle to prevent sticking and to facilitate discharge of the material.

##### **Spreading & rolling**

Immediately after applying tack coat as above, bituminous mix shall be spread in layers of average thickness of 80mm/50mm over the surface where ever necessary for filling up the pot holes, easening the undulations on the existing

surface and making up the surface to the required level and camber. Immediately after spreading the mix, rolling shall be done with 8 to 10 tonne power road roller as directed by the Engineer-in-charge of the work. The roller shall be kept damp to prevent the mix from adhering to the wheels and being picked up.

### **Measurement for Payment**

Measurements for the finished work under this head shall be measured as finished work in cubic metres on the basis of volume of ingredients premeasured at plant site and shall include the cost of bitumen, labour, plants and equipments.

## **1.2.5. WET MIX MACADAM BASE (WMM)**

The work consists of providing, laying and compacting clean, crushed, graded aggregate and granular material, premixed with water, to a dense mass for 200mm thick in two layers over Soling/subbase to lines and grades as per drawings and directions of the Engineer-in-Charge.

### **1.2.5.1. Construction operations**

#### **(i) Preparation of Base**

The surface of the sub-base to receive the Wet Mix Macadam course shall be prepared to the specified lines and camber and made free of dust and other extraneous material. Any ruts or soft yielding places shall be corrected in an approved manner and rolled until firm surface is obtained, if necessary by sprinkling water. Any sub-base irregularities, where predominant, shall be made good by providing appropriate type of profile corrective course (leveling course) as per Clause 501 of MORT&H's Specification for Road and Bridge works or as directed by the Engineer-in-Charge.

#### **(ii) Provision of lateral confinement of aggregates**

While constructing Wet Mix Macadam, arrangement shall be made for the lateral confinement of wet mix. This shall be done by laying materials in adjoining shoulders along with that of Wet Mix Macadam layer and following the sequence of operations described in Clause 404. of MORT&H's Specification for Road and Bridge works or as directed by the Engineer-in-Charge.

#### **(iii) Preparation of mix**

- (a) Wet Mix Macadam shall be prepared using appropriate methods which shall ensure production of mix of proper and uniform quality as directed by the Engineer in charge.
- (b) Optimum moisture for mixing shall be determined in accordance with IS: 2720 (Part-8) after replacing the aggregate fraction retained on 22.4mm sieve with material of 4.75mm to 22.4mm size. While adding water, due allowance should be made for evaporation losses. However, at the time of compaction, water in the wet mix should not vary from the optimum value by more than agreed limits. The mixed material should be uniformly wet and no segregation should be permitted.

#### **(iv) Spreading of mix**

- (a) Immediately after mixing, the aggregates shall be spread uniformly and evenly upon the prepared sub grade in required quantities. In no case should these be dumped in heaps directly on the area where these are to be laid nor shall their hauling over a partly completed stretch be permitted.
- (b) The first layer of mix shall be spread by suitable means so as to get a uniform and level surface as directed by the Engineer-In-Charge. The second layer of mix shall be spread either by a paver finisher or motor grader. For portions where mechanical means cannot be used, manual means as approved by the Engineer –in-charge shall be used.
- (c) The surface of the aggregate shall be carefully checked with templates and all high or low spots remedied by removing or adding aggregate as may be required. The layer shall be tested by depth blocks during construction. No segregation of larger and fine particles should be allowed. The aggregate as spread should be of uniform gradation with no pockets of fine materials.

**(v) Compaction**

- (a) After the mix has been laid to the required thickness, grade and camber, the same shall be uniformly compacted, to the full depth with suitable roller. If the thickness of single compacted layer does not exceed 100mm, a smooth wheel roller of 80 to 100 kN weight may be used. For a compacted single layer upto 200 mm, the compaction shall be done with the help of vibratory roller of minimum static weight of 80 to 100 kN or equivalent capacity roller. The speed of the roller shall not exceed 5 km/hr.
- (b) In the portions having unidirectional super elevation, rolling shall commence from the lower edge and progress gradually towards the upper edge. Thereafter, roller should progress parallel to the centre line of the road, uniformly over-lapping each preceding track by at least one-third width until the entire surface has been rolled. Alternate trips of the roller shall be terminated in stops at least 1m away from any preceding stop.
- (c) In portions in camber, rolling should begin at the edge with the roller running forward and backward until the edges have been firmly compacted. The roller shall then progress gradually towards the center parallel to the centre line of the road uniformly overlapping each of the preceding track by at least one- third width until the entire surface has been rolled.
- (d) Any displacement occurring as a result of reversing of the direction of a roller or from any other cause shall be corrected at once as specified and/or removed and made good.
- (e) Along forms, kerbs, walls or other places not accessible to the roller the mixture shall be thoroughly compacted with mechanical tampers or a plate compactor. Skin patching of an area without scarifying the surface to permit proper bonding of the added materials shall not be permitted.
- (f) Rolling should not be done when the sub grade is soft or yielding or when it causes a wave-like motion in the sub grade. If irregularities

develop during rolling which exceed 12mm when tested with a 3 metre straight edge, the surface be loosened and premixed material added or removed as required before rolling again so as to achieve a uniform surface conforming to the desired grade and camber. In no case should the use of unmixed material be permitted to make up the depressions.

- (g) Rolling shall be continued till the density achieved is at least 98 per cent of the maximum dry density for the material as determined by the method outlined in IS: 2720 (Part-8)
- (h) After completion, the surface of any finished layer shall be well closed, free from movement under compaction equipment or any compaction planes, ridges, cracks and loose material. All loose, segregated or otherwise defective areas be made good to the full thickness of the layer and re-compacted.

**(vi) Setting and drying**

After final compaction of wet mix macadam course, the surface shall be allowed to dry for 24 hours.

**1.2.5.2. Surface evenness**

The surface finish of construction shall conform to the requirements of Clause 902 of MORT&H's Specification for Road and Bridge works or as directed by the Engineer-in-Charge.

**1.2.5.3. Quality control**

For control on the quality of materials and works carried out, relevant provisions of Section 900 of MORT&H's Specification for Road and Bridge works shall apply or as directed by the Engineer-in-Charge.

**1.2.5.4. Measurement for payment**

Wet Mix Macadam course shall be measured as finished work in cubic metres.

**1.2.5.5. Rate**

The contract unit rate for WMM shall be payment in full for carrying out the required operations including full compensation for making arrangements for traffic, furnishing all materials to be incorporated in the work including all royalties, fees, rents wherever necessary and all leads and lifts, all labour, tool, equipment and incidentals to complete the work to specifications, carrying out the required tests for quality control etc.

**1.2.6. BITUMEN EMULSION PRIME COAT**

**1.2.6.1. General**

1.2.6.1.1. The work consists of application of single coat of low viscosity bituminous material on the WMM layer laid preparatory to superimposition of bituminous macadam to be laid.

1.2.6.1.2. The primer shall not be applied to a wet surface or during a dust storm or when the weather is foggy, rainy or windy or when the temperature in the shade is less than 10°C. Surfaces which are to receive emulsion primer should be damp, but no free or standing water shall be present.

1.2.6.1.3. The primer distributor shall be a self propelled or towed bitumen pressure sprayer equipped for spraying the material uniformly at the specified rate and temperatures. Small areas, inaccessible to the distributor or narrow strips shall be sprayed with a pressure hand sprayer, or as directed by the Engineer-in-Charge.

**1.2.6.2. Preparation of surface**

The surface finish of granular surface on which bituminous works are to be placed, shall be free from dust. All the loose materials shall be removed from the surface to be primed. Immediately prior to applying the primer the surface shall be carefully swept clean by means of mechanical broom and dust removed by air jet, or other means approved by the Engineer – in-charge, care being taken not to disturb the interlocked aggregate. This is best achieved when the surface layer is slightly moist (lightly sprayed with water and the surface allowed to dry) and the surface should be kept moist until the primer is applied.

**1.2.6.3. Application of primer**

The viscosity and rate of application of the primer shall be as specified in the clauses 1.1.13 and 1.2.46 and respectively. The bituminous primer shall be sprayed uniformly on the prepared surface. The sprayer used for applying primer shall be operated in such a way that will ensure an even distribution of primer on the surface

**1.2.6.4. Curing of primer**

The primed surface shall be allowed to cure for at least 24 hours or such other period as is found to be necessary to allow all the volatiles to evaporate before any subsequent surface treatment or mix is laid. Any unabsorbed primer shall first be blotted with an application of sand, using the minimum quantity possible. A primed surface shall not be opened to traffic other than that necessary to lay the next course. A very thin layer of clean sand may be applied to the surface of the Primer, to prevent the primer picking up under the wheels of the paver and the trucks delivering bituminous material to the paver.

**1.2.6.5. Measurement for payment**

Prime coat shall be measured in terms of surface area of application in square meters.

**1.2.6.6. Rate**

The contract unit rate for prime coat shall be payment in full for carrying out the required operations as specified above. The rate quoted shall also include the cost of labour, materials, plants and equipments etc. required for surface preparation and providing prime coat.

**1.2.7. BITUMEN EMULSION TACK COAT**

**1.2.7.1. General**

- (i) The work consists of application of a single coat of bitumen emulsion (RS) over the already primed surface.
- (ii) The tack coat distributor shall be a self-propelled or towed bitumen pressure sprayer, equipped for spraying the material uniformly at specified rate. Small



areas, inaccessible to the distributor or narrow strips shall be sprayed with pressure hand sprayer, or as directed by the Engineer-in-charge.

**1.2.7.2. Preparation of Base**

The surface on which tack coat is to be applied shall be clean and free from dust, dirt, and any extraneous material. Immediately before the application of the tack coat, the surface shall be swept clean with a mechanical broom and high pressure air jet, or by other means as directed by the Engineer-in-charge.

**1.2.7.3. Application of Tack coat**

The rate of application of the tack coat shall be as specified in the clause 1.2.46. The bitumen emulsion shall be sprayed uniformly on the prepared surface. The sprayer used for applying tack coat shall be operated in such a way that will ensure an even distribution of primer on the surface. The normal range of spraying temperatures for a bituminous emulsion shall be 20°C to 70°C. Excessive deposits of emulsion on the surface caused by stopping and starting the sprayer or distribution by leakage should not be allowed, spraying shall in all case be carried out parallel to the centre line of the surface. Tack coat shall be applied just ahead of the oncoming bituminous macadam and bituminous concrete construction and shall be left to cure until all the volatiles have evaporated before any subsequent construction is started. No plant or vehicles shall be allowed on the tack coat other than those essential for the construction.

**1.2.7.4. Measurement for payment**

Tack coat shall be measured in terms of surface area of application in square metres.

**1.2.7.5. Rate**

- (i) The contract unit rate for tack coat shall be payment in full for carrying out the required operations as specified above. The rate quoted shall also include cost of labour, material, plants and equipments etc. required for surface preparation and providing tack coat.
- (ii) All joints shall be offset at least 300mm from parallel joints in the layer beneath or as directed, and in a layout approved by the Engineer-in-Charge. Joints in the wearing course shall coincide with either the lane edge or the lane marking, whichever is appropriate. Longitudinal joints shall not be situated in wheel track zones.

**1.2.8. PROVIDING BITUMINOUS MACADAM**

The work consists of providing 40mm thick of compacted crushed aggregate premixed with a bituminous binder on a previously prepared sub base.

**1.2.8.1. Construction operations**

Laying shall be suspended while free standing water is present on the surface to be covered, or during rain, fog and dust storms. After rain, the bituminous surface, prime or tack coat, shall be blown off with a high pressure air jet to remove excess moisture, or the surface let to dry before laying shall start. Laying of bituminous mixtures shall not be carried out when the air temperature at the surface on which it is to be laid is below 10°C or when the wind speed at any temperature exceeds 40 km per hour at 2m height unless

specially approved by the Engineer-in-Charge.

**1.2.8.2. Preparation of base**

The base on which Bituminous Macadam is to be laid shall be prepared, shaped and compacted to the required profile in accordance with clause 501.8 and 902.3 of MORT&H's Specification for Road and Bridge works or as directed by the Engineer-in-Charge. The surface shall be thoroughly swept clean by a mechanical broom, and the dust removed by compressed air. In locations where mechanical broom cannot access, other approved methods shall be used as directed by the Engineer-in-Charge. A prime coat shall be applied in accordance with Clause 1.2.42 above.

**1.2.8.3. Applying Tack Coat**

Tack coat shall then be applied as per Clause.1.2.43 above over the surface thus prepared.

**1.2.8.4. Mixing and transportation of the mixture**

**1.2.8.4.1. Mixing**

Pre-mixed bituminous materials, including bituminous macadam and bituminous concrete shall be prepared in a hot mix plant of adequate capacity and capable of yielding a mix of proper and uniform quality with thoroughly coated aggregates. Appropriate mixing temperatures can be found in Table 500-2 of MORT & H's Specification for Road and Bridge works; the difference in temperature between the binder and the aggregate should at no time exceed 14<sup>0</sup> C. In order to ensure uniform quality of the mix and better coating of aggregates, the hot mix plant shall be calibrated from time to time.

**Table -1 Manufacturing and rolling temperatures  
(Table 500-2 of MORT & H's Specification)**

| Bitumen Viscosity Grade | Bitumen Mixing (°C) | Aggregate Mixing (°C) | Mixed Material (°C) | Rolling (°C) | Laying (°C) |
|-------------------------|---------------------|-----------------------|---------------------|--------------|-------------|
| 65                      | 150-165             | 150-170               | 150 - 165           | 90 Minimum   | 140 Minimum |

Instead of installing a hot mix plant for the work at work site, the contractor shall be permitted to use an existing plant conforming to the above specifications, in the nearby locality subject to the following conditions.

- a) All materials required for the bituminous works shall be stored at the hot mix plant premises sufficiently in advance and stacked, measured and got approved by the Engineer-in-Charge before use in the work. Conveyance for the inspection / supervision of the material / works by the department staff at the plant site shall be arranged by the contractor without any extra cost to the department.

- b) Storage tank of adequate capacity for storing bitumen required for the work shall be arranged by the contractor at his risk and cost so that the progress of the work is not affected for want of bitumen.
- c) The contractor shall maintain a record of daily consumption and balance quantities of all materials measured for use in the work and also bitumen supplied from the department, at the plant site which shall be jointly signed by the representative of the Engineer-in-Charge and the contractor before starting each day's work and its closing on the day.
- d) The contractor shall take all precautionary measures to ensure the required temperature of the mix at the time of placing the same at work site.

#### 1.2.8.4.2. **Transporting**

Bituminous materials shall be transported in clean insulated vehicles, and unless otherwise agreed by the Engineer-in-charge shall be covered while in transit or awaiting tipping. Subject to the approval of the Engineer-in-charge a thin coating of diesel or lubricating oil may be applied to the interior of the vehicle to prevent sticking and to facilitate discharge of the material.

#### 1.2.8.4.3. **Spreading**

- (i) Except in areas where a mechanical paver cannot access, bituminous materials shall be spread, levelled and tamped by an approved self-propelled paving machine. As soon as possible after arrival at site, the materials shall be supplied continuously to the paver and land without delay.
- (ii) The rate of delivery of material to the paver shall be regulated to enable the paver to operate continuously. The travel rate of the paver and its method of operations, shall be adjusted to ensure an even and uniform flow of bituminous material across the screed, free from dragging, tearing and segregation of the material. In areas with restricted space where a mechanical paver cannot be used, the material shall be spread, raked and levelled with suitable hand tools by experienced staff and compacted to the satisfaction of the Engineer-in-Charge..
- (iii) The minimum thickness of material laid in each paver pass shall be in accordance with the minimum values given in the relevant parts in MORT&H's Specification for Road and Bridge works.

#### 1.2.8.4.4. **Rolling**

The compaction shall carry out in accordance with the provisions of clause 1.2.44.4.5 below shall apply, as modified by the approved laying trials. Rolling shall be continued until the specified density is achieved, until there is no further movement under the roller. The required frequency of testing is defined in Clause 903 of MORT & H's Specification for Road and Bridge works.

#### 1.2.8.4.5. **Compaction**

- (i) Bituminous materials shall be laid and compacted in layers which enable the specified thickness, surface level, regularity requirements and compaction to be achieved.
- (ii) Compaction of bituminous materials shall commence as soon as possible after laying. Compaction shall be substantially completed before the temperature falls below the minimum rolling temperatures stated in relevant part of the

MORT&H's Specification for Road and Bridge works. Rolling of the longitudinal joints shall be done immediately behind the paving operation. After this, rolling shall commence at the edges and progress towards the centre longitudinally except that on super elevated and unidirectional cambered portions, it shall progress from the lower to the upper edge parallel to the centre line of the pavement. Rolling shall continue until all roller marks have been removed from the surface. All deficiencies in the surface after laying shall be made good by the attendants behind the paver, before initial rolling is commenced. The initial rolling shall be done with 80-100 KN dead weight smooth-wheeled rollers. The finish rolling shall be done with 80-100 KN vibrating tandem rollers.

- (iii) Where compaction is to be determined by density of cores the requirements to prove the performance of rollers shall apply in order to demonstrate that the specified density can be achieved. In such cases the Contractor shall nominate the plant, and the method by which he intends to achieve the specified level of compaction and finish at temperatures above the minimum specified rolling temperature. Laying trials shall then demonstrate the acceptability of the plant and method used.
- (iv) Bituminous materials shall be rolled in a longitudinal direction, with the driven rolls nearest the paver. The roller shall first compact material adjacent to joints and then work from the lower to upper side of the layer, overlapping on successive passes by at least one-third of the width of the rear roll.
- (v) In portions super elevated and uni-directional camber, after the edge has been rolled, the roller shall progress from the lower to the upper edge.
- (vi) Rollers should move at a speed of not more than 5 km per hour. The roller shall not be permitted to stand on pavement which has not been fully compacted, and necessary precautions shall be taken to prevent dropping of oil, grease, petrol or other foreign matter on the pavement either when the rollers are operating or standing. The wheels of rollers shall be kept moist with water, and the spray system provided with the machine shall be in good working order, to prevent the mixture from adhering to the wheels. Only sufficient moisture to prevent adhesion between the wheels of rollers and the mixture should be used. Surplus water shall not be allowed to stand on the partially compacted pavement.

#### 1.2.8.4.6. **Joints**

- (i) Where longitudinal joints are made in pre-mixed bituminous materials, the materials shall be fully compacted and the joint made flush.
- (ii) All joints shall be offset at least 300mm from parallel joints in the layer beneath or as directed, and in a layout approved by the Engineer-in-Charge. Joints in the wearing course shall coincide with either the lane edge or the lane marking, whichever is appropriate. Longitudinal joints shall not be situated in wheel track zones.

#### 1.2.8.4.7. **Measurement for payment**

- (i) Bituminous Macadam shall be measured as finished work in cubic metres on the basis of level measurements.
- (ii) For one cubic metre of compacted volume of Bituminous Macadam, quantity

of each type of aggregate and bitumen used for the work shall be as per clause 1.2.10 below.

### **1.2.9. BITUMINOUS CONCRETE WEARING COURSE**

The work consists of providing 40mm thick Bituminous Concrete Wearing Course on the already laid Bituminous Macadam surface.

#### **1.2.9.1. Mix design**

The mix for bituminous concrete shall be design mix. The mix shall meet the following requirements set out in Table 500-17 of MORT & H's Specification for Road and Bridge works.

#### **1.2.9.2. Job Mix Formula**

1.2.9.2.1. The contractor shall inform the Engineer-in-Charge in writing, at least 7 days before the start of the work, of the job mix formula proposed for use in the works, and shall give the following details:

- i. Source and location of all materials.
- ii. Proportions of all materials expressed as follows each is applicable
  - a. Binder type, and percentage by weight of total mixture.
  - b. Coarse aggregates/fine aggregate/ mineral filler as percentage by weight of total aggregate including mineral filler.
- iii. A single definite percentage passing each sieve for the mixed aggregate.
- iv. The individual grading of the individual aggregate fractions, and the proportion of each in the combined grade.
- v. The results of tests enumerated in Table 500-16 as obtained by the Contractors.
- vi. Where the mixer is a batch mixer, the individual weights of each type of aggregate, and the binder per batch.
- vii. Test results of physical characteristics of aggregates to be used.
- viii. Mixing temperature and compacting temperature.

1.2.9.2.2. While establishing the job mix formula, the contractor shall ensure that it is based on a correct and truly representative sample of the materials that will actually be used in the work and that the mixture and its different ingredients satisfy the physical and strength requirements of these specifications.

1.2.9.2.3. Approval of the job mix formula shall be based on independent testing by the Engineer-in-Charge for which samples of all ingredients of the mix shall be furnished by the Contractor as required by the Engineer-in-Charge.

1.2.9.2.4. The approved job mix formula shall remain effective unless and until a revised job mix formula is approved. Should a change in the source of materials be proposed, a new job mix formula shall be forwarded to the Engineer-in-Charge for approval before the placing of the material.

#### **1.2.9.3. Plant Trials- Permissible Variation in Job Mix Formula**

- 1.2.9.3.1. Once the laboratory job mix formula is approved, the Contractor shall carry out plant trials at the mixer to establish that the plant can be set up to produce a uniform mix conforming to the approved job mix formula. The permissible variations of the individual percentages of the various ingredients in the actual mix from the job mix formula to be used shall be within the limits as specified in Table 500-18 of MORT& H's Specification for Road and Bridge works below.
- 1.2.9.3.2. These variations are intended to apply to individual specimens taken for the quality control test in accordance with Section 900 of MORT&H's specification for Road and Bridge works.

**Table -3**  
**(Table 500-18 of MORT& H's Specification)**

**Permissible Variations in Plant Mix from the Job Mix Formula**

| Description                             | Permissible Variation |
|-----------------------------------------|-----------------------|
| Aggregate passing 19mm sieve or larger  | ±7%                   |
| Aggregate passing 13.2mm, 9.5mm         | ±6%                   |
| Aggregate passing 4.75mm                | ±5%                   |
| Aggregate passing 2.36mm, 1.18mm, 0.6mm | ±4%                   |
| Aggregate passing 0.3mm, 0.15mm         | ±3%                   |
| Aggregate passing 0.075mm               | ±1.5%                 |
| Binder content                          | ±0.3%                 |
| Mixing Temperature                      | ±10°C                 |

Once the plant trials have demonstrated the capability of the plant, and the trials are approved, the laying operation may commence.

**1.2.9.4. Laying Trials**

- 1.2.9.4.1. Once the plant trials have been successfully completed and approved, the Contractor shall carryout laying trials, to demonstrate that the proposed mix can be successfully laid, and compacted all in accordance with the specifications hereinafter. The laying trial shall be carried out on a suitable area, approved by the Engineer-in-Charge. The area of the laying trials shall be a minimum of 100 Sq.m of construction, and it shall be similar to that of the proposed road of it shall be in all respects, particularly compaction, the same as the proposed construction on which the bituminous material is to be laid.
- 1.2.9.4.2. The Contractor shall previously inform the Engineer-in-Charge of the proposed method for laying and compacting the material. The plant trials shall then establish if the proposed laying plant, compaction plant, and methodology is

capable of producing satisfactory results. The density of the finished paving layer shall be determined by taking cores, no sooner than 24 hours after laying, or by other approved method.

- 1.2.9.4.3. Once the laying trials have been approved, the same plant and methodology shall be applied to the laying of the material on the work, and no variation of either shall be acceptable, unless approved in writing by the Engineer-in-Charge, who may at his discretion require further laying trials.

1.2.9.5. **Construction operations**

Laying shall be suspended while free standing water is present on the surface to be covered, or during rain, fog and dust storms. After rain, the bituminous surface, prime or tack coat, shall be blown off with a high pressure air jet to remove excess moisture, or the surface let to dry before laying shall start. Laying of bituminous mixtures shall not be carried out when the air temperature at the surface on which it is to be laid is below 10°C or when the wind speed at any temperature exceeds 40km per hour at 2m height unless specially approved by the Engineer-in-Charge.

1.2.9.6. **Preparation of base**

The base on which Bituminous concrete material is to be laid shall be prepared as directed by the Engineer-in-Charge. The surface shall be thoroughly swept clean by a mechanical broom, and the dust removed by compressed air. In locations where mechanical broom cannot access, other approved methods shall be used as directed by the Engineer-in-Charge.

1.2.9.7. **Applying Tack Coat**

In case the Bituminous Macadam surface over which the Bituminous concrete is to be laid is fresh and has not been subjected to traffic or contaminated by dust, a tack coat is not mandatory where the overlay is completed within two days. Otherwise, tack coat shall be provided as directed by the Engineer-in-Charge as per Clause.1.2.7 above.

1.2.9.8. **Mixing and transportation of the mix**

The provisions as specified in Clause 1.2.8.4.1 and 1.2.8.4.2 shall apply.

1.2.9.9. **Spreading**

The provisions as specified in Clause 1.2.8.4.3 shall apply.

1.2.9.10. **Rolling**

- (i) Rolling for compaction shall be carried out in accordance with the provisions of clause 1.2.8.4.4
- (ii) Rolling shall be continued until the specified density is achieved, until there is no further movement under the roller. The required frequency of testing is defined in Clause 903 of MORT & H's Specification for Road and Bridge works.

1.2.9.11. **Surface finish and quality control.**

The surface finish of completed construction shall conform to the requirements of Clause 902 of MORT&H's Specification for Road and Bridge works or as directed by the Engineer-in-Charge. For control on the quality of materials and

works carried out, relevant provisions of Section 900 of MORT&H's Specification for Road and Bridge works shall apply.

**1.2.9.12. Measurement for payment**

- (i) Bituminous concrete shall be measured as finished work in cubic metres on the level measurements.
- (ii) For one cubic metre of compacted volume of bituminous concrete, quantity of each type of aggregate and filler and bitumen used for the work shall be as per the proportion of ingredients determined in the mix design.

**1.2.9.13. Rate**

The contract unit rate for premixed bituminous courses shall be payment in full for carrying out the required operations including full compensation for, but not necessarily limited to:

- (i) Making arrangements for traffic control.
- (ii) Preparation of the surface to receive the material.
- (iii) Providing all materials to be incorporated in the work including arrangement for stock yards, all royalties, fees, rents wherever necessary and all leads and lifts;
- (iv) Mixing, transporting, laying and compacting the mix as specified.
- (v) All labour, tools, equipment, plant including installation of hot mix plant, power supply units and all machinery, incidental to complete the work to these specifications.
- (vi) Carrying out the work in part widths of the road if so directed by the Engineer-in-Charge.
- (vii) Carrying out all tests for control of quality; and
- (viii) The rate shall cover the provision of bitumen at the rate specified in the contract.
- (ix) The rates are to include for all necessary testing, mix design, transporting and testing of samples, and cores. If there is no laboratory at work site, the Contractor must arrange to carry out all necessary testing at an outside Laboratory, approved by the Engineer-in-Charge, and all costs incurred are deemed to be included in the rate quoted.
- (x) The cost of all plant and laying trials as specified to prove the mixing and laying methods is deemed to be included in the Contractor's quoted rate.

**1.2.10. QUANTITIES OF MATERIALS TO BE USED FOR VARIOUS WORKS FOR ITEMS**

Quantities of materials to be used for various items of works shall be as given below.

| <b>a)</b> | <b>Wet Mix Macadam</b>                  | <b>For one Cubic Metre</b>  |
|-----------|-----------------------------------------|-----------------------------|
|           | 45 to 22.40mm metal                     | 0.40m <sup>3</sup>          |
|           | 22.4 to 2.36mm                          | 0.53m <sup>3</sup>          |
|           | 2.36 to 75 micron                       | 0.40m <sup>3</sup>          |
| <b>b)</b> | <b>Tack coat @ 0.40Kg/m<sup>2</sup></b> | <b>For Ten Square Metre</b> |



|           |                                                |                             |
|-----------|------------------------------------------------|-----------------------------|
|           | Bitumen Emulsion (MS/RS)                       | 4.00 Kg                     |
| <b>c)</b> | <b>Tack coat @ 0.25Kg/m<sup>2</sup></b>        | <b>For Ten Square Metre</b> |
|           | Bitumen Emulsion (MS/RS)                       | 2.50 Kg                     |
| <b>d)</b> | <b>Bituminous Macadam</b>                      | <b>For one Cubic Metre</b>  |
|           | Bitumen VG 30 grade                            | 73.00 Kg                    |
|           | 25 to 10 mm metal                              | 0.57m <sup>3</sup>          |
|           | 10 to 5 mm                                     | 0.57m <sup>3</sup>          |
|           | 5mm and below                                  | 0.28m <sup>3</sup>          |
| <b>e)</b> | <b>Bituminous Concrete</b>                     | <b>For one cubic Metre</b>  |
|           | Bitumen VG 30 grade<br>Minimum bitumen content | 5% by weight of total mix   |
|           | Aggregates and filler                          | As per mix design           |

## LIST OF DRAWINGS

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