



# **COCHIN PORT TRUST**

**COCHIN-682009, KERALA, INDIA**

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## **TENDER DOCUMENT FOR PROVIDING AND LAYING CC PAVER BLOCK AT DRISHTY BUILDING JUNCTION.**

(e-Tendering Mode)

Website:[www.tenderwizard.com/CoPT](http://www.tenderwizard.com/CoPT)

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

**TENDER No.T6/T-1908/2019 -C**

**PRICE: Rs.788/-**

**COCHIN PORT TRUST**  
**TENDER FOR “PROVIDING AND LAYING CC PAVER BLOCK AT**  
**DRISHTY BUILDING JUNCTION”**  
**(Tender No. T6/T-1908/2019 -C)**

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**SIGNATURE OF TENDERER**

**COCHIN PORT TRUST****CHIEF ENGINEER'S OFFICE,  
COCHIN – 9****No. T6/T-1908 /2019-C****Dated: 16-10-2019****1. TENDER NOTICE**

- 1.1 Electronic tenders (e-tenders) in “Single Cover System” for “**Providing and laying CC paver block at Drishty building junction**” are invited by the Executive Engineer(CM-I), Cochin Port Trust, Willingdon Island, Cochin- 9 and will be received **up to 14.30 hrs. on 23-12-2019**. The tenders shall be submitted in accordance with the ‘Instruction to Tenderers’ and ‘General Description and Special Conditions of Contract’ etc. as detailed in the Tender Documents. The tenders will be opened by the Executive Engineer(CM-I), Cochin Port Trust at this office on the same day at **15.00 hrs.**

**Estimated cost : Rs.8,11,510/-**

- 1.2 The Tender Document can be down loaded from the e-tendering portal [www.tenderwizard.com/COPT](http://www.tenderwizard.com/COPT) from **10.00hrs. on 16/12/2019 to 14.30hrs on 23/12/2019** by making online requisition & submission of Demand Draft / Banker’s Cheque for **Rs.750/-+GST@5%(ie,Rs.788/-)** drawn in favour of the FA & CAO, Cochin Port Trust, payable at Kochi, being the cost of single copy of the Tender Document. **Scanned copy of the DD/ Banker’s Cheque shall be attached with the e-tender.**
- 1.3 The Tender Documents are also available at Port’s website **[www.cochinport.gov.in](http://www.cochinport.gov.in)** or Government of India (CPP) tender portal for reference.
- 1.4 The bidders need to obtain the one time User ID & password for log-in to e-Tendering Portal [www.tenderwizard.com/COPT](http://www.tenderwizard.com/COPT) from the service provider M/s.KEONICS by paying registration amount of Rs.1124/- through online payment using Credit/Debit Card/Net banking or DD, in favour of “KSEDCL, Bangalore”.
- 1.5 The tender shall be submitted by an individual or by a registered Partnership firm or by a Limited Company. 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 the 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 authorised 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. **Joint Venture is not allowed in the tender.**

1.6 **The tenders shall be submitted “on line” strictly in accordance with the Instructions to Tenderers and General Description & Special Conditions of Contract 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 form and EMD, CoPT Registration details etc. along with e-tenders.

1.7 Original DD/Banker’s Cheque towards the cost of tender and EMD, CoPT Registration details etc. shall be submitted in a sealed cover to the **EE(CM-I), Cochin Port Trust, W/Island, Cochin-682009, KERALA**, before opening date and time of the tender. **Tenders without submitting the original documents as above shall be liable for rejection.**

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

1.9 **EARNEST MONEY TO BE DEPOSITED**

1.9.1 Each tender should be accompanied by an Earnest Money amounting to **Rs.8120/**. The Earnest Money can be deposited through Demand Draft or Banker’s Cheque or Pay Order from a Scheduled Bank in India, drawn in favour of Financial Adviser & Chief Accounts Officer, Cochin Port Trust. The original DD/Banker’s Cheque/ Pay Order shall be submitted to the Suptdg. Engineer (CM), Cochin Port Trust, Cochin - 9, before opening time of the tender. Scanned copy of the DD/ Banker’s Cheque/ Pay Order shall be attached with the tender submitted “on line”. The Earnest Money deposited will not carry any interest.

1.9.2 In case, the Earnest Money is not deposited or is not in order, the tender shall not be opened and shall be summarily rejected. Only a mention to this effect shall be made in the tender opening register.

1.10 The time schedule for various activities in connection with this tender will be as follows.

	Description of activity	Schedule time	Venue
a)	Last date & time for submission of tenders	<b>14.30 hrs on 23-12-2019</b>	Chief Engineer’s Office
b)	Public opening of Tenders	<b>15.00 hrs on 23-12-2019</b>	

1.11 **Schedule of Quantities (Price Bid) shall be submitted only ‘Online’. The name and address of the tenderer shall be necessarily entered in the space provided in the Schedule of Quantities.**

- 1.12 The right of acceptance of tender will rest with Port Trust Board who does not bind themselves to accept the lowest tender and reserves to themselves the authority to reject any or all of the tenders received without assigning any reason.
- 1.13 The Exe. Engineer 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 event of a tender being rejected, the Earnest Money paid with such unaccepted tender shall be refunded to the tenderer by the Financial Adviser and Chief Accounts Officer direct.
- 1.14 i) The tenderer should keep open the validity of the tender normally for 60 days from the date fixed for its opening. However, it is also obligatory for the tenderer to keep the validity open for another 60 days for which request in writing/ telefax/e-mail by the Chief Engineer before the expiry of the original validity would be sufficient intimation. The receipt of the intimation of the Chief Engineer should be acknowledged.
- ii) Should any tenderer withdraw his tender before these periods, or make any modification in the terms and conditions of the tender which are not acceptable to the Department, the Earnest Money deposited by the tenderer shall be forfeited.
- 1.15 The tenderer shall visit the site of work in order to acquaint himself with the conditions of the site, the locality and its environment.
- 1.16 The tenderer shall be deemed to have full knowledge of all documents, site, etc. whether he has inspected them or not. The submission of a tender by tenderer implies that he has read this notice and General Conditions of Contract and has made himself aware of the scope and specifications and other factors bearing on the tender.

**1.17 Securities:**

1.17.1 Security Deposit (SD) shall be 10% of the Contract value or value of the work done whichever is higher and it shall consist of the following two parts:

- a) **Performance Security** payable on award of the work.
- b) **Retention Money** to be recovered from Running Bills as detailed in Clause 48 of GCC.

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

1.17.2 **Performance Security:** Performance Security retained till end of contract period shall be 5% of the Contract value or cost of work done, whichever is

higher. So, initially 5% of Contract value shall be furnished as Performance Security.

1.17.3 The Performance Security shall be provided by the Contractor to the Employer not later than **14 days** from the date of receipt of work order and shall be furnished in one of the following forms:

- i) Banker's Cheque/Demand Draft/Pay Order of a Scheduled Bank.
- ii) An irrevocable Bank Guarantee(BG) enforceable and encashable at Cochin, drawn from any Scheduled Bank operating in India as per the prescribed proforma.

1.17.4. The BG furnished towards Performance Security shall be valid until a date 30 days from the date of expiry of the defect liability period stipulated as per the terms of the Contract

1.17.5 Unless Performance Security is furnished within the period as specified above or such extension of that period as may be permitted by the Engineer in writing, the Earnest Money will be liable to forfeiture and the Contract to cancellation.

1.17.6. Performance security will be released/ refunded to the contractor not later than 30 days from the date of completion of Defect liability/warranty period of the work.

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

1.17.8 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.

1.17.9 The Performance Security retained till end of Defect liability Period shall be 5% of Contract Value or Cost of Work Done, whichever is higher.

1.17.10 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.

1.17.11 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, upon completion of the Defects liability Period.

- 1.18 EMD shall be refunded to the Contractor on acceptance of Performance Security and entering into agreement.
- 1.19 In the event of the tenderer, after the issue of the communication of acceptance of offer by the Board, failing /refusing to execute the agreement as hereinafter provided, the tenderer shall be deemed to have abandoned the Contract and such an act shall amount to and be construed as the Contractor's calculated and willful breach of the Contract, the cost and consequence of which shall be to the sole account of the tenderer and upon such an event, the Board shall have full right to claim damages therefore either together with or in addition to the forfeiture of Earnest Money Deposit.
- 1.20 **Signing of Agreement:**
  - 1.20.1 The successful tenderer will be required to execute **within 21 days from the date of receipt of work order**, an Agreement at his expense on proper value Kerala State Stamp Paper in the prescribed Departmental form, consisting of:
    - a) The Tender Notice, all the documents including additional conditions/ specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto, and
    - b) General Conditions of Contract-2016 (GCC), for the due and proper fulfillment of the Contract.
  - 1.20.2 The Contractor shall make 10 copies of the Agreement and submit to CoPT within 7 days following the date of signing of Agreement.
- 1.21 Till signing of agreement, the tender together with the acceptance letter shall constitute a binding Contract between the Contractor and Cochin Port.
- 1.22 Failure to comply with conditions **1.14, 1.17 and 1.20** above will entail forfeiture of the Earnest Money.
- 1.23 Tender Documents can be seen at Chief Engineer's Office during working hours on all days except on Sundays, second and fourth Saturdays and Public Holidays.
- 1.24 **The Tender Document will be issued only to the registered Contractors under Class 'D' and above in Cochin Port Trust.**
- 1.25 The tenderer shall specify the PAN No. allotted to him so that Chief Engineer/ Executive Engineer can ascertain his liability to the Income Tax Department.
- 1.26 Canvassing in connection with tender is strictly prohibited and tenders submitted by the Contractors who resort to canvassing will be liable to rejection.
- 1.27 Tenders which do not fulfill all or any of the above conditions or which contain any other condition of any sort including conditional rebates or are incomplete

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

1.28 The tenderer shall furnish documentary evidence in support of Valid Service Tax Registration.

**1.29 Taxes and Duties:**

1.29.1 Deductions towards statutory taxes as per the rules, prevailing in force at the time of payment of bills shall be made while releasing the bill amount.

1.28.2. GST for the work will be paid extra by the Port. The GST applicable as per law can be billed on the Port Trust, which will be paid to the Contractor by the Board along with the bills, for which the Contractor holds valid GST Registration number and the GST is being collected. The following are also to be considered while claiming payment towards GST:

- i. Invoice in specific format should be provided by the Contractor for every payment.
- ii. GST Registration Number of Cochin Port Trust and the Contractor is to be clearly mentioned with all the bills.
- iii. Invoice should be attached along with the running bills.
- iv. The Contractor shall comply all the GST regulations, viz.; timely uploading of invoices and issue of debit/ credit notes.

1.29.3 Any stipulation by a tenderer that taxes and duties deductible from these bills should be borne by the Port Trust will result in the summary rejection of his /their tender.

1.30 Cess as per Building and other Construction Workers Welfare Cess Act (Act 28 of 1996) at the rate of one percent or at the rates prevailing in force at the time of payment of bills, of the cost of construction should be borne by the Contractor and the same will be deducted from Contractor's bills while making payment or when crediting amount to Contractor's account.

1.31 The undersigned reserves the right to reject/cancel/postpone any one or all tenders at any stage of the tender, which will be binding on all bidders.

1.32 This Tender Notice shall form part of the Contract.

**Chief Engineer  
Cochin Port Trust  
For and on behalf of the Board of Trustees of the Cochin Port Trust**



## 2. TENDER FOR WORKS

To

The Board of Trustees of the Cochin Port Trust.

**Through**

The Chief Engineer  
Cochin Port Trust, Cochin -9

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

### M E M O R A N D U M

- |  |   |  |
|--|---|--|
| a) General description of work   | : | <b>Providing and laying CC paver block at Drishty building junction.</b>   |
| b) Estimated cost  | : | Rs.8,11,510 /-   |
| c) Earnest Money   | : | <b>Rs.8,120 /-</b>   |
| d) Security Deposit  | : | 10% of the value of the Contract awarded or value of the work done whichever is higher. (Performance Security @ 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) <b>Time allowed for commencement of work from the date of receipt of work order</b> | : | <b>7 days</b>  |
| g) <b>Time allowed for the work from the date of commencement of work.</b>             | : | <b>1 Month.</b>  |
| h) <b>Schedule, specifications, conditions, drawings etc.</b>                          | : | As per ' <b>Contents</b> ' sheet attached.   |

Should this tender be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said Conditions of Contract annexed here to so far as applicable or in default thereof forfeit and pay to the Board the sum of money

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

Dated the ..... day of ..... 2019

**Signature of Tenderer**

Address :

Witness :

Address :

Occupation :

**ACCEPTANCE**

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

Dated the .....day of .....2019

Dated.....

**Chief Engineer  
Cochin Port Trust**

### 3.CONTRACT DATA

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

Sl. No.	Description	Reference Cl.No. of GCC												
1	<i>The following documents are also part of the Contract</i>	-												
	The Schedule of other Contractors ----- i)	(8.2) N/A												
	The Schedule of Key personnel	(9) N/A												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Qualification of Staff</th> <th style="text-align: center;">No.</th> <th style="text-align: center;">Min. Experience (Years)</th> <th style="text-align: center;">Rate of recovery in case of non-compliance</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Graduate Engineer or</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Rs.15,000/- p.m</td> </tr> <tr> <td style="text-align: center;">Diploma Engineer</td> <td style="text-align: center;">1</td> <td style="text-align: center;">5</td> <td style="text-align: center;">Rs.15,000/- p.m</td> </tr> </tbody> </table>	Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non-compliance	Graduate Engineer or	1	2	Rs.15,000/- p.m	Diploma Engineer	1	5	Rs.15,000/- p.m	
Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non-compliance											
Graduate Engineer or	1	2	Rs.15,000/- p.m											
Diploma Engineer	1	5	Rs.15,000/- p.m											
2	The Employer is	(1)												
	<b>The Board of Trustees, Cochin Port Trust, Cochin -682009.</b>													
	Name of Authorized Representative:													
	Name: <b>Dr. M. Beena, Chairperson, Cochin Port Trust, Cochin -682009.</b>													
3	The Engineer is:													
	Name : <b>Shri. G. Vaidyanathan, Chief Engineer, Cochin Port Trust, Cochin-9.</b>													
	The Nominee/ Engineer-in-Charge is:													
	Name : <b>Smt. C.S. Rekha, Exe. Engineer-CM-I</b>													
4	Name of Contract: <b>Providing and laying CC paver block at Drishty building junction.</b>  Tender No : T6/T-1908/2019-C	(1)												

Sl. No.	Description	Reference Cl.No. of GCC						
5	10 copies of Contract Agreement shall be furnished by the Contractor	[7.1]						
6	Tender Document and other data are available at : <b>Chief Engineer's Office, Cochin Port Trust, W/Island, Cochin – 682009, KERALA.</b>	(7.2)						
7	The Intended Completion period for the whole Contract Work is <b>1 Month</b> .	(17.28)						
8	Milestone dates: <table border="1" data-bbox="342 663 1081 858"> <tr> <td data-bbox="342 663 716 779">Physical works to be completed</td> <td data-bbox="716 663 1081 779">Period from the date of receipt of LoA to proceed with the work</td> </tr> <tr> <td data-bbox="342 779 716 816">1 Month</td> <td data-bbox="716 779 1081 816">7 days</td> </tr> <tr> <td data-bbox="342 816 716 858"></td> <td data-bbox="716 816 1081 858"></td> </tr> </table>	Physical works to be completed	Period from the date of receipt of LoA to proceed with the work	1 Month	7 days			N/A
Physical works to be completed	Period from the date of receipt of LoA to proceed with the work							
1 Month	7 days							
9	The following shall form part of the Contract Document: (1) Form of Agreement (2) Letter of Acceptance (3) Contractor's Bid (4) Contract Data (5) General Conditions of Contract (GCC) (6) Instructions to Tenderers (7) General Description and Special Conditions of Contract (8) Drawings (if any) (9) Schedule of quantities (10) Any other documents listed in the Contract Data as forming part of the Contract and (11) 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	(2.3)						
10	The Contractor shall submit a Program for the Works within <b>7 days</b> of date of the Letter of Acceptance.	(27)						
11	The site possession date: The site will be handed over within <b>7 days</b> after receipt of LoA and the site is free from encumbrances.	(21)						
12	The Start Date shall be within <b>7 days</b> from the date of receipt of the Letter of Acceptance (LoA) by the Contractor.	(1)						
13	The site is located at W/ Island							

Sl. No.	Description	Reference Cl.No. of GCC
14	The Defects Liability Period is: One year from the date of completion of work.	(35)
15	The minimum insurance cover for physical property, injury and death is <b>Rs. ....lakhs (Rupees .....lakhs)</b> per occurrence with the number of occurrences unlimited. After each occurrence, Contractor will pay additional premium necessary to make insurance valid always.	(13) N/A
16	The following events shall also be Compensation Events: -----	(44) N/A
17	The period between Programme updates shall be <b>30 days</b>	(27) N/A
18	The amount to be withheld for late submission of an updated Programme shall be Rs..... (Rupees.....)	(27) N/A
19	The language of the Contract documents is <b>English.</b>	(3)
20	The law, which applies to the Contract, is the law of Union of India.	(3)
21	The currency of the Contract is <b>Indian Rupees.</b>	(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 value of the work done whichever is higher.	(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 : The advance payments as applicable to the Contract are:	[51] N/A
25	Repayment of advance payment for mobilization	[51] N/A
26	Repayment of advance payment for Construction and Equipment	[51]N/A
27	Repayment of Secured Advance	N/A
28	The date by which “As Built Drawings” are required is within --90 days of issue of certificate of completion of whole or section of the work, as the case may be.	(58) N/A
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..... (Rupees -----)-	(58) N/A
30	Schedule of Rates Applicable: CPWD DSR 2018 + 55% Cost Index X 0.8768 to eliminate GST	

Sl. No.	Description	Reference Cl.No. of GCC
31	Base Rate for materials to be considered for price variation :----- (i) Cement consumed for various items of work : Rs..... .....per tonne (ii) Reinforcement steel used under various items : Rs..... ..... per tonne (iii) Structural Steel used under various items: Rs..... per tonne (iv) Bitumen under various items in: Rs..... per tonne (v) Bitumen Emulsion (MS&RS) under various items in: Rs..... per tonne	} (47) N/A } -----
32	Permissible wastage on theoretical quantities of (a) Cement : 2% (b) Steel Reinforcement and structural steel sections for each diameter, section and category : 5.99% (c) Bitumen/Bitumen Emulsion : 2.5%	} (47) } ----- }

#### **4. INSTRUCTIONS TO TENDERERS**

- 4.1 Electronic Tenders (e-tenders) on percentage basis under Single Cover system are invited for **“Providing and laying CC paver block at Drishty building junction”**.
- 4.2 The tenderer shall submit the tender **“online”**.
- 4.3 The Tender Document will be available as three separate files in the e-tendering Portal:
- (i) Tender Document (as per Sl. No.1 to 7 of the ‘Contents’ sheet)
  - (ii) Price Bid: Schedule of Quantities
  - (iii) General Conditions of Contract-2016
- 4.4 The tenderer shall upload the documents indicated in 4.3 (i) & (iii) above and also the Schedule of Quantities, as per Cl.4.3(ii), duly filled in, **“online”**.
- 4.5 The following documents shall be attached with the tender submitted **“online”**:
- a) A covering letter from the tenderer enlisting the enclosures/ attachments.
  - b) Original Tender Document(Technical Bid) except Schedule of quantities( Price Bid)
  - c) Copy of the CoPT Registration document.
  - d) Copy of PAN Card, ESI/EPF & GST Registration documents.
  - e) Any other relevant document.
- 4.6 Scanned copies of EMD and Cost of Tender Form & all documents as per Clause 4.5, shall be submitted as Tender online.
- 4.7 Original documents towards Cost of Tender form, EMD and other documents as per Clause 4.5 except document under clause 4.5(b) shall be submitted to the Exe. Engineer (CM-I), Cochin Port Trust, before the opening date & time of the Tender. In no case shall filled in “Price Bid-Schedule of Quantities to be done on Contract” be submitted in hard copy, as it shall result in rejection of the Tender.**
- 4.6 The submission of a tender by the tenderer implies that he has read the whole Tender Documents including GCC-2016.
- 4.7 The tenderer is advised to visit and examine the site of work and its surroundings, discuss with connected agencies and collect all necessary information on his own responsibility for preparing the tender.
- 4.8 The tenderer is expected to examine the Tender Documents including all conditions, specifications, forms etc and also conditions in the G.C.C. Failure to furnish the information required in the Tender Documents/ G.C.C. or submission of a tender not conforming to the requirements in every respect, is likely to result in the rejection of the tender.

- 4.9 The tenderer shall quote for the work on percentage basis. The departmental rate for each item of work is given in the Schedule of Quantities. The tenderer shall fill the percentage above or below the Departmental rate, in the column provided for the purpose in the Schedule.
- 4.10 In case of discrepancy between the specifications and the drawings, the following order of preference shall be observed:
- a. Conditions & Specifications of tender
  - b. Drawings.
  - c. B.I.S Specifications.
  - d. Sound Engineering Practice.
- 4.11 If there are varying or conflicting provisions made in any document forming part of the Contract, the Chief Engineer, Cochin Port Trust, Cochin-682 009 shall be the deciding authority with regard to the intention of the document which will be binding on the tenderer/ Contractor.
- 4.12 Any error in description, any omissions there shall not vitiate the Contract or release the Contractor from the execution of whole or any part of the works comprised therein according to specifications or from any of his obligation under the Contract.
- 4.13 The Chief Engineer, Cochin Port Trust shall have the right to omit or suspend certain items of work or revise or amend the Tender Documents at any time prior to the due date of submission of the tender. Such revisions or amendments or extensions if any, shall be communicated to all the bidders who have downloaded the Tender Documents, in the form of an addendum by telefax /e-mail / writing. In order to afford the Bidders with reasonable time to take addendum into account, or for any other reason, the Port Trust may, at its discretion, extend the due date for submission of tender.
- 4.14 All payments due to the Contractor under this Contract will be made in Indian Rupees only.
- 4.15 Tenders received after the date specified for submission shall not be opened.

**SIGNATURE OF TENDERER.**



## **5. GENERAL DESCRIPTION AND SPECIAL CONDITIONS OF CONTRACT**

### **1. SCOPE OF WORK**

1.1 The proposed work is for “**Providing and laying CC paver block at Drishty building junction**”. The work consists of the following:

- Earth work excavation.
- Providing, laying and spreading Wet Mix macadam.
- Providing and laying 100mm thick M40 grade Paver blocks.
- Transporting surplus materials.

### **2. WORK SITE**

The work site is Drishty building junction on the road to CFS near CISF Barrack.

### **3. TIME SCHEDULE AND MONITORING OF PROGRESS**

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

### **4. MATERIALS / FACILITIES TO BE PROVIDED BY DEPARTMENT**

#### **4.1. CONTRACTOR'S WORK AREA**

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

### **5. CONTRACTOR'S RESPONSIBILITY**

5.1. The tenderer shall visit the area before tendering. It will be deemed that the tenderer has visited the site and studied the site conditions before submitting the tender. The tenderer should get himself acquainted with the nature and extent of the work. No claim whatsoever will be entertained on the plea of ignorance of difficulties involved in execution of work or carriage of materials etc.

5.2. All materials, plants and equipments, required for the work shall be provided by the Contractor at his own cost, and shall conform to relevant I.S. Specification unless otherwise specified.

- 5.3. Samples of all materials, to be incorporated in the work shall be got approved by the Engineer's Nominee before procurement.
- 5.4. The Contractor shall thoroughly study the specifications and errors / omissions/modifications if any shall be brought to the notice of the Engineer – in-Charge well in advance so that a final decision in the matter could be given in time.
- 5.5 All labour, skilled or unskilled shall be provided by the Contractor. Settling any dispute with the labour will be Contractor's responsibility. Insurance as per Indian Workmen's Compensation Act for the Contractors' workmen and Public Liability Policy shall be provided by the Contractor at his own cost.
- 5.6. The Contractor shall be solely responsible for any damage or injury to the persons or things caused or suffered during the execution of the work and shall be made good or compensated at his own cost.
- 5.7. The Contractor shall take all care and precautionary measures for avoiding any kind of damage/accidents in the work site due to any of his reasons. The Contractor shall indemnify the Port against any compensation whatsoever payable to the workmen for accident or loss arising out of and in the course of their employment under this Contract.
- 5.8. The work shall be arranged by the Contractor without causing any damage to Port structures. Any damage or accident caused by the Contractor's operation shall be compensated / made good at Contractor's risk and cost to the satisfaction of the Engineer's Nominee of the works, failing which department will do the rectification work and the cost incurred will be recovered from his bill or from security deposit.
- 5.9. The Contractor shall not construct any structure, even of temporary nature, for any purpose at site, except with the written permission of the Engineer's Nominee of the work and any construction so put up shall be removed by the Contractor whenever the Engineer's Nominee calls upon the Contractor to do so.
- 5.10. The Contractor shall remove all temporary works, clear and make good the site, at his cost to the satisfaction of the Engineer's Nominee before the site is returned to the Port Trust. All materials shall be disposed to any place as pointed out by the Engineer's Nominee of the work and site shall be cleared in every respect at no extra cost after completion of work.
- 5.11. The Contractor shall remove all materials brought to work site / stacked at the work site or anywhere else within the Port area and clear the site at his cost to the full satisfaction of the Engineer's Nominee before the site is returned to the Port Trust. All such materials including debris, tools & plants etc. shall be disposed off to any place as pointed out by the Engineer's Nominee or be taken away from the location and shall be cleared in every respect and to reinstate to

its original condition at no extra cost to the Port Trust 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 Trust, for the rent applicable for open storage space for commercial purpose, for the period for which the area had been occupied by the Contractor. In addition to the above, in case the Port requires the area immediately for its use, Port will repossess the land after restoring it to its original condition, material will be confiscated and disposed off at the risk and cost of the Contractor, after issuing two notices giving 15 days' time each for removing the material. All expenses incurred in this shall be recovered by disposing off the material if any confiscated. If any balance amount still remains to be realized that will be recovered from the Contractor by appropriate means.

- 5.12 The Contractor shall ensure that no labourers with criminal background are engaged for the work.
- 5.13 The contractor shall take all precautions for not to damage any cables, pipelines etc. passing through the area of work.
- 5.14. **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.**
- 5.15 **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, as applicable under the act.  
If the number of employees proposed to be engaged in the work is less than the threshold limit under ESI/ EPF act, an undertaking to this effect shall be included in the tender submission.**
- 5.16. The Contractor shall provide, at every work place, at which 20 or more women workers are ordinarily employed, crèches of reasonable size and with adequate facility for the use of their children under the age of six years at his risk and cost.
- 5.17 The Contractor shall also be responsible for arranging and carrying out works as mentioned in Clauses 1.1 above.

## **6. POWER AND WATER**

- 6.1 Electric power required for the work can be supplied by the department from the nearest existing line of the Port Trust at prevailing rates. The cost of drawing temporary lines/ cables/ providing switches and making connection

and metering arrangements etc, shall be borne by the Contractor. If there is any disruption in the power supply due to supply failure/ restrictions imposed by the Kerala State Electricity Board, the department shall not be held responsible and the Contractor has to make suitable alternative arrangements at their cost.

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

## **7. WORKMANSHIP**

- 7.1 All the works shall be done strictly according to relevant B.I.S. specifications unless otherwise specified. Whenever special conditions and other specifications deviate from the B.I.S. the former shall prevail.
- 7.2 The whole work shall be completed in a diligent manner within the Contract period and defect or imperfection if any, observed during the Defect Liability Period/ guarantee period the same shall be rectified at Contractor's cost to the full satisfaction of the Engineer's Nominee within the time allowed.
- 7.3 Precautions shall be taken for not to damage cables/ pipe lines etc.
- 7.4 The work shall be arranged in the order of preference and as directed by the Engineer's Nominee of work.

## **8. TEMPORARY WORKS**

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

## **9. TIME FOR COMPLETION**

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

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

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

**10. WORKING TIME**

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

**11. RATES FOR VARIOUS ITEMS**

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

**12. ALTERATIONS / ADDITIONS / OMISSIONS**

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

**13. MEASUREMENT**

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

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

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

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

**Measurements of Work Done:**

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

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

All measurements and levels shall be taken jointly by the Engineer's Nominee or his authorised representative and by the Contractor or his authorised representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer's Nominee and the Contractor or their representatives in token of their acceptance. If the Contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.

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

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

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

The Contractor shall give not less than seven days' notice to the Engineer's Nominee or his authorised representative in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before

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

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

It is also a term of this Contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the Contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

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

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

**Clause 80-Taxes and Duties Income Tax** The Contractor and his staff shall be responsible for payment of all personal income taxes to the concerned authorities as per the law in force from time to time. Deduction of Income Tax shall be made by the Employer from each certificate of payment to the Contractor at the rate of 2% plus surcharge or such other rates as may be

specified by the Central Government from time to time, on the gross amount of the Contractor's bill for payment. The Contractor shall comply all the GST Regulations viz. timely uploading of bills, issue of debit/ credit notes etc.

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

- 43.2 Payment of bills for Civil Works shall be regulated as detailed hereunder:
- 43.2.1 Any Interim/Final bill which is incomplete in any respect shall be returned to the Contractor within 5 days of date of submission of bill to the Engineer or his Nominee.
  - 43.2.2 Interim bills shall be paid within 21 days of date of submission of bills in full shape, by the Contractor, as detailed below.
  - 43.2.3 Clarifications/corrections if any required on an Interim bill submitted, shall be sought from the Contractor within 4 days of submission of the bill and also, all such clarifications/corrections required shall be sought at one go except in exceptional circumstances. The Contractor shall submit the clarifications including carrying out corrections in the bill, if required, within 4 days thereafter. The clarified / corrected bill shall be verified and forwarded to Finance Department within the next 4 days. Clarifications if any required by the Finance Department shall be sought within 3 days and the Engineer/Nominee shall clear it on top priority within the next 3 days and, finally, the bill shall be paid to the Contractor within 3 days thereafter, i.e., within a total 21 days of date of submission of bills in full shape, as indicated above.
  - 43.2.4 However, on request by the Contractor, 75% of the bill amount shall be paid within 7 days of submission of the bill. Balance amount of the verified bill shall be paid within 21 days of the submission of the bill, on completion of all contractual requirements as brought out at sub clause 43.2.3. above.
  - 43.2.5 Final bill shall be paid within 3 months of issue of Taking Over Certificate by the Engineer / Nominee, as detailed below.
  - 43.2.6 The Contractor shall submit the Final bill to the Engineer / Nominee within 20 days of issue of Taking Over Certificate by the Engineer / Nominee. The bill shall be checked and all clarifications/corrections required on the bill submitted, shall be sought from the Contractor within 15 days thereafter. The Contractor shall submit the clarifications including carrying out corrections in the bill, if required, within the next 10 days. The clarified / corrected bill shall be verified and forwarded to Finance Department within the next 15 days. Thereafter, clarifications if any required by the Finance Department shall be



sought within 10 days and the Engineer/Nominee shall clear it on top priority within the next 10 days and, finally, the bill shall be paid to the Contractor within 10 days thereafter, i.e., within a total 3 months of issue of Taking Over Certificate by the Engineer / Nominee, as indicated above.

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

**SIGNATURE OF TENDERER**

## **6.DETAILED SPECIFICATIONS FOR MATERIALS TO BE USED ON WORK**

### **1. GENERAL**

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

### **2. MATERIALS FOR WET MIX MACADAM**

- 2.1 Aggregates: Coarse aggregate shall be crushed stone.
- 2.2 The aggregates shall conform to the physical requirements set forth in Table 400.10 of MORT&H's Specification for Road and Bridge works.
- 2.3 Grading requirements: The aggregates shall conform to the grading given in Table 2.1 below:

**TABLE 2.1**  
**(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
53.00mm	100
45.00mm	95-100
26.50mm	-
22.40mm	60-80
11.20mm	40-60
4.75mm	25-40
2.36mm	15-30
0.600mm	8-22
0.750mm	0-5

Materials finer than 425 micron shall have Plasticity Index (PI) not exceeding 6. The final gradation approved within these limits shall be 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.

## **2.4 WATER**

- 2.4.1 Clean fresh water free from oils, acids, alkalies, salt, sugar, organic materials or other harmful materials shall be used. The water used shall comply with clause 5.4 of IS: 456-2000.
- 2.4.2 Cochin Port Trust will not supply water for the work. Water has to be arranged by the contractor himself for the construction works at his own risk and cost.
- 2.1.1 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.

## **3. 6 MM SIZE AGGREGATE**

- 3.1. 6mm size graded aggregate conforming to IS 383 shall be used which are not perfectly clean shall be washed in clean water to the entire satisfaction of the Engineer-in-Charge.

## **4. CEMENT CONCRETE HEAVY DUTY INTER LOCKING PAVER BLOCKS**

- 4.1. The cement concrete paver blocks are of M-40 grade heavy duty interlocking blocks of size 220mm x110mm or nearest available size and the thickness of the blocks shall not be less than 100mm and loading capacity shall be not less than 400kg/cm<sup>2</sup>. The concrete paver blocks are suitable to carry heavy loaded moving container trucks.

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

- 5.1 Sampling and testing of the material supplied by the contractor for use on the Work shall be done as per the provisions of the relevant BIS codes/specifications. In the absence of BIS specification in a particular case, the sampling and testing shall be done as directed by the Engineer-in-Charge as per sound engineering practice. Material conforming to the specifications and approved by the Engineer-in-Charge shall only be used by the Contractor.
- 5.2 All the sampling and testing shall be done at the Contractor's cost.

**SIGNATURE OF CONTRACTOR**

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

### **1. GENERAL**

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

### **2. EARTH WORK EXCAVATION**

2.1 Contractor shall be responsible for the true and proper setting out of the work in relation to original points, lines and levels of reference and for corrections of the level dimension and alignment of all parts of the work.

2.2 All excavations shall be carried out to give exact length, width and depth as per the profiles indicated in the drawings or as directed by the Engineer-in-Charge. The phasing and method of excavation for all foundations and earthwork shall be to the approval of Engineer-in-Charge. The contractor shall provide suitable arrangements to prevent water from any source entering into foundation pits at his cost.

2.3 Necessary shoring and timbering shall be provided as per IS: 3764 for preventing slipping of the soil in trenches and for protecting the safety and stability of the existing structures. Dewatering, if required shall also be carried out at no extra cost to keep the excavated surface dry for construction. Excavation taken wider or deeper than required shall be filled back with sand or selected materials approved by the Engineer-in-Charge, thoroughly compacted in layers of thickness not more than 20 cm or as decided by the Engineer-in-Charge.

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

3.1 The work consists of providing, laying and compacting clean, crushed, graded aggregate and granular material, premixed with water, to a dense mass for required thickness in two layers over Soling/sub base to lines and grades as per directions of the Engineer-in-Charge.

#### **3.2 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 407.4.1 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 the 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.

**3.3 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.

**3.4 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.

**3.5 Measurement for payment**

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

**3.6 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.

**4. PROVIDING AND LAYING HEAVY DUTY CEMENT CONCRETE INTER LOCKING PAVER BLOCKS**

4.1 The cement concrete paver blocks are of M40 grade interlocking type. The thickness of the blocks are not less than 100mm and is used for paving in the heavy loaded container truck moving/ parking areas. The loading capacity of the blocks shall be not less than 400kg/cm<sup>2</sup>.

4.2 The paver blocks shall be neatly stacked as per standard practice and as directed by the Engineer- in- charge.

4.3 6 mm metal required for the work shall be stacked near to work site and shall be pre measured before using it on the work.

4.4 Before spreading 6mm graded granite metal, the existing surface shall be scarified, leveled and rammed using a hand roller. The scarified material shall be disposed of and leveled within a lead of 1 km as per the direction of Engineer-in-Charge. Payment for this item shall be paid under separate item.

- 4.5 6mm metal supplied shall be spread over the rammed surface for an average thickness of 50mm and it shall be rammed and compacted with plate vibrator as directed by the Engineer-in-charge. The blocks shall be set hand tight and the surface shall be rammed and vibrated with plate vibrator properly to bring out joints not more than 2 to 3mm wide between blocks. After compacting, the fine sand/ good quality crusher sand shall be brushed in to joints.
- 4.6 Measurement shall be made in square meters for the gross quantity of work done including providing compact bed with 6mm metal. The rate quoted shall include cost of all materials, labour etc. required for completion of work including cost of 6mm metal.

**SIGNATURE OF TENDERER**